



THE ARIZONA BOARD OF REGENTS

for and on behalf of

NORTHERN ARIZONA UNIVERSITY

**REQUEST FOR QUALIFICATIONS
for
CONSTRUCTION MANAGER AT RISK SERVICES**

**FORESTRY RENOVATIONS
Project No. 09.820.252**

DUE DATE/TIME: SEPTEMBER 18, 2025, AT 2:00 PM

**ARIZONA BOARD OF REGENTS TRI UNIVERSITY MASTER CONTRACTS
STANDARD FORM 2021 EDITION**

Time and Date of Pre-Submittal Conference

SEPTEMBER 2, 2025, AT 2:00 PM

Deadline for Inquiries

SEPTEMBER 15, 2025, AT 12:00 PM

Time and Date Set for Submittal

SEPTEMBER 18, 2025, AT 2:00 PM

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DIVISION I – ADVERTISEMENT

Arizona Board of Regents (“ABOR”), for and on behalf of Northern Arizona University (“University” and/or “Owner”), extends an invitation to interested Construction Manager at Risk (CMAR) firms to submit in writing their qualifications (Statement of Qualifications or SOQ) to provide pre-construction and construction services for the **Forestry Renovations project, NAU Project #09.820.252** on the NAU Flagstaff Mountain Campus. This solicitation follows the methodology prescribed by Section 3-804 of the ABOR Policy Manual.

This Request for Qualifications (RFQ) is for the CMAR’s pre-construction and construction services for renovation work in the Southwest Forest Science Complex (“Forestry”, Building 82). Work will include improvements to aging building mechanical systems. The building has been beset by various mechanical system failures over the past few years. Current work by the Design Professional EAPC Architects Engineers has settled on a solution for the mechanical issues that entails a comprehensive HVAC retrofit, replacing the existing boiler and wet-wall system and connecting the building to the South Campus centralized heating and cooling network. Work will include upgrades to mechanical distribution, controls integration, and related plumbing and electrical systems. While this procurement concerns itself with mechanical system upgrades, NAU is considering additional building improvements to include roofing, hallway lighting, and flooring. These additional improvements may be added to the project scope along with associated budget at a later date or may be the subject of a separate procurement once the initial mechanical project scope has been completed. The Forestry Building was constructed in 1992 and consists of 72,137GSF. It is located at 200 E. Pine Knoll Drive, Flagstaff, AZ 86011.

Owner is seeking a CMAR with experience in construction/renovation of similar projects in a higher education environment. Firms submitting a Statement of Qualifications (SOQ) in response to this RFQ must demonstrate comparable project-type experience and capability utilizing the Construction Manager at Risk (CMAR) delivery method, or comparable capability. The successful firm awarded a contract may be awarded additional work at Owner’s discretion for any other modifications or renovations at the project site through the warranty period of the project.

The proposed construction budget is \$4,000,000.

Any Offeror proposing to perform pre-construction and construction services must be appropriately licensed and registered, or in the process of obtaining licensure and registration, in the State of Arizona at the time of submission of the Qualifications.

An optional pre-submittal conference will be held on Tuesday, September 2, 2025, at 2:00 PM, Arizona local time, via Teams video conference. Information on how to join the video conference is located in Division III of the RFQ.

SCHEDULE OF DEADLINES (All times are Arizona Local Time)

Advertise for Services:	<u>August 28, 2025</u>
Optional Pre-Submittal Conference via Teams:	<u>September 2, 2025, at 2:00PM</u>
Statement of Qualifications Due:	<u>September 18, 2025, at 2:00PM</u> Facility Services Building (Bldg. 77) Main Reception Desk, Northern Arizona University Flagstaff, Arizona 86011
Interviews with Shortlisted Firms (Optional):	October 7, 2025 (Tentative)
Begin Contract Period:	November 2025

RFQ packages may be obtained from the NAU Planning, Design & Construction Bids & RFQs webpage at <https://in.nau.edu/facility-services/pdc/bids-rfqs/> after 3:00 PM. on Thursday, August 28, 2025.

Sealed Statements of Qualifications are due no later than 2:00 PM Arizona time on Thursday, September 18, 2025. Responses to the RFQ shall be received at Facility Services (Bldg. #77), at the Front Reception Desk, 501 E. Pine Knoll Drive, Flagstaff, Arizona 86011 (<https://in.nau.edu/university-transit-services/maps/>) or by mail to: Northern Arizona University, Box 6016, Flagstaff, Arizona, 86011. **Attention: Judith Scholar Winfield, Contracts Analyst, Sr., PDC.** If mailing the SOQ by courier (e.g., FedEx or UPS), please use the street address noted above.

Received sealed SOQs will be opened immediately following the 2:00 PM deadline, and Planning, Design & Construction shall publicly announce the names of those firms submitting a response to this RFQ on the Teams meeting link provided in Division VI of this RFQ. In-person attendance at this meeting shall not be permitted.

No telephonic, electronic, or facsimile SOQ shall be considered. SOQs received after the date and time set for opening will be rejected. The University reserves the right to extend the time and date set for opening.

The Board of Regents reserves the right to reject any or all SOQs, to waive irregularities in any SOQ, or to withhold the award for any reason it may determine. Women-owned and minority-owned firms are encouraged to apply. Persons with a disability may request a reasonable accommodation.

All correspondence relating to this project should be addressed to:

NAU Facility Services
Attention: Judith Scholar Winfield
PO Box 6016
Northern Arizona University
Flagstaff, Arizona 86011
Email: judith.scholarwinfield@nau.edu

ARIZONA BOARD OF REGENTS

By: Jeff McKay
VP of Capital Planning and Campus Operations

DIVISION II – PROJECT DESCRIPTION AND SCOPE OF SERVICES

ARIZONA BOARD OF REGENTS NORTHERN ARIZONA UNIVERSITY REQUEST FOR QUALIFICATIONS (RFQ)

Arizona Board of Regents (“ABOR”), for and on behalf of Northern Arizona University (“Owner” and/or “University”) extends an invitation to interested Construction Manager at Risk (“CMAR”) firms (“Offeror”) to submit a Statement of Qualifications (“SOQ” or “Qualifications”) for pre-construction and construction services for the **Forestry Renovations project – NAU Project #09.820.252** on the NAU Flagstaff Mountain Campus. This solicitation follows the methodology prescribed by Section 3-804 of the ABOR Policy Manual.

Any Offeror proposing to perform Construction Manager at Risk services must be appropriately licensed and registered in the State of Arizona by the Registrar of Contractors at the time of submission of the Qualifications.

This project will be built using Construction Management at Risk services. The Owner intends to form a team (consisting of the Owner, the Design Professional, and the contracted Construction Manager at Risk firm (CMAR)) that will work together in a cooperative and mutually supportive manner for the benefit of all the members of the team. Owner is looking specifically for an Offeror with the demonstrated ability to operate as a team member in a Construction Manager at Risk project delivery method arrangement.

Well-qualified CMAR teams will also have specific pre-construction and construction experience within the last ten (10) years, which includes successfully completing projects on a university campus with similar scopes of work.

PROJECT DESCRIPTION

The project involves renovation work in the Southwest Forest Science Complex (“Forestry”, Building 82). Work will include improvements to aging building mechanical systems. The building has been beset by various mechanical system failures over the past few years. Current work by the Design Professional EAPC Architects Engineers has settled on a solution for the mechanical issues that entails a comprehensive HVAC retrofit, replacing the existing boiler and wet-wall system and connecting the building to the South Campus centralized heating and cooling network. Work will include upgrades to mechanical distribution, controls integration, and related plumbing and electrical systems. While this procurement concerns itself with mechanical system upgrades, NAU is considering additional building improvements to include roofing, hallway lighting, and flooring. These additional improvements may be added to the project scope along with associated budget at a later date or may be the subject of a separate procurement once the initial mechanical project scope has been completed. The Forestry Building was constructed in 1992 and consists of 72,137GSF. It is located at 200 E. Pine Knoll Drive, Flagstaff, AZ 86011.

Owner is seeking a CMAR with experience in construction/renovation of similar projects in a higher education environment. Firms submitting a Statement of Qualifications (SOQ) in response to this RFQ must demonstrate comparable project-type experience and capability utilizing the Construction Manager at Risk (CMAR) delivery method, or comparable capability. The successful firm awarded a contract may be awarded additional work at Owner’s discretion for any other modifications or renovations at the project site through the warranty period of the project.

The proposed construction budget is \$4,000,000.

PROJECT SCHEDULE

Guaranteed Maximum Price (GMP)	February 27, 2026
Construction Begins	March 1, 2026
Substantial Completion:	July 10, 2026
Final Completion:	October 9, 2026

PROJECT LOCATION AND SITE DESCRIPTION

Northern Arizona University is located on a volcanic plateau at the base of the San Francisco Peaks, the highest mountains in Arizona. The 829-acre main campus is located in Flagstaff, Arizona. Flagstaff is a four-season city located at an elevation of 7,000 feet. Because the campus is at an elevation of 7,000 feet, the climate is vigorous, with cold winters and mild summers. Diurnal temperature changes are considerable, resulting in average first and last occurrences of 32 °F in September and June. Temperature extremes range from -32 °F to 97 °F, with average minimums in January of 14 °F. The mountain campus includes approximately 170 buildings with more than 6.9 million square feet, including buildings in the Arizona Normal School Historic District, which exceeds 90 years of age. The University is governed by the Arizona Board of Regents (ABOR) and is a fully accredited institution of higher learning supported by the State of Arizona.

SCOPE OF SERVICES

Proposed services for this project include design phase construction management (pre-construction) and construction services.

The contracted Construction Manager at Risk will begin in an agency support role for design phase services. At some point prior to construction, the CMAR will assume the risk of delivering the project through a guaranteed maximum price (GMP) contract.

After agreement on the GMP, the contract agreement shall become a contract for construction and warranty services. The University may terminate the contract if the GMP is not agreed by Owner and CMAR. The CMAR will be responsible for construction means and methods, and will be required to solicit bids from pre-qualified subcontractors to perform the work using the Owner's subcontractor selection process. The CMAR may also compete to self-perform limited amounts of work. Complete construction services include all labor and materials to provide a complete project.

Details of the scope of the required services will be furnished to the selected firm at the time a fee Statement of Qualifications is requested. However, listed below are a sample of services that may be required under this project.

A. Preconstruction/Design phase services by the CMAR may include the following:

- incorporate University design guidelines and technical standards;
- provide detailed cost estimating and knowledge of marketplace conditions;
- provide for construction phasing and scheduling that will minimize interruption to Owner operations;
- provide project planning and scheduling;
- advise the team on choosing sustainable building materials in an effort to meet Owner's commitment to its [Carbon Neutrality Action Plan](#);
- provide alternate systems evaluation and constructability studies;
- advise the Owner of ways to gain efficiencies in project delivery;
- provide long-lead procurement studies and initiate procurement of long-lead items;
- prepare GMP package(s);
- assist in the permitting processes;

- participate with the Owner in a process to set goals and prequalification meetings for subcontractor participation;
- select subcontractors/suppliers for this project;
- protect the Owner's expectations of quality and safety, and sensitivity to environmental factors.

B. Construction phase services by the CMAR shall include at a minimum, but are not limited to:

- incorporate University design guidelines and technical standards;
- construct the project on schedule and in budget;
- bond and insure the construction;
- coordinate with various Owner departments, other agencies, utility companies, etc.;
- arrange for procurement of materials and equipment;
- schedule and manage site operations;
- bid, award, and manage all construction related contracts while meeting the Owner bid requirements including subcontractor participation goals;
- provide quality controls;
- prepare meeting minutes and maintain records up-to-date;
- address all Owner, state, and federal permitting requirements;
- work in a cooperative manner to address any changes that may arise during construction;
- provide all required close-out documents, and;
- maintain a safe work site for all project participants.

DIVISION III – PRE-SUBMITTAL CONFERENCE

An **optional Pre-Qualifications Conference** will be held online as follows:

DATE:	Tuesday, September 2, 2025 (pre-registration required)
TIME:	2:00 PM Arizona time
LOCATION:	https://events.teams.microsoft.com/event/43aa82c8-e9ff-4aab-8272-a918500027cf@27d49e9f-89e1-4aa0-99a3-d35b57b2ba03

The conference may be recorded and information on accessing the recording may be posted as soon as possible following the conference on the following webpage: <https://in.nau.edu/facility-services/pdc/bids-rfq/>.

At this pre-submittal conference, University staff will discuss the scope of work, general contract issues, and respond to questions from the attendees. As University staff will not be available to respond to individual inquiries regarding the project outside of this pre-submittal conference, it is strongly recommended that interested firms attend the pre-submittal conference.

Neither Offerors, nor members of their team, shall communicate concerning this project with selection committee members, students, and employees of the University, except as stipulated above. **Failure to abide by this requirement may result in the rejection of the Offeror's Statement of Qualifications.**

DIVISION IV – SELECTION CRITERIA

The Owner intends to utilize a Construction Manager at Risk project delivery method for this project. In this delivery method, the CMAR team is selected using a qualifications-based selection process. It is the Owner's intent to select the Offeror, which is most favorable in all respects, as assessed through the following selection criteria, to achieve the successful realization of this project.

Upon ranking the most-qualified Offeror, the Owner will negotiate a fee for Pre-Construction Phase services. During the Pre-Construction Phase, a Guaranteed Maximum Price (GMP) will be prepared by the CMAR and negotiated with the Owner.

A selection committee will evaluate the Statement of Qualifications submitted in response to this RFQ.

Basis of award: The selection committee will evaluate the Statement of Qualifications submitted in response to this RFQ based on a series of criteria identified under Evaluation Criteria. Offerors determined to be most qualified to perform the specified CMAR services will be short-listed and may be sent an invitation to attend an interview. Interviews, if held, will be conducted in accordance with the requirements set out in Section 3-804 of the ABOR Policy Manual and may be held by Teams video conference or in person.

Evaluation Criteria:

The evaluation criteria will relate to the qualifications of the Offeror to perform the services under this RFQ. This evaluation will be based on the following:

<u>Criteria</u>	<u>Maximum Points</u>
(A) Introduction	5
(B) Prime Firm Project Experience	30
(C) Additional Project Experience	15
(D) Prime Team Member Experience	25
(E) Understanding of the Project	40
(F) Project Management Controls and Team Approach	20
(G) Work Location	5
(H) Overall Evaluation of the Firm	10
(I) Submittal Certification	0
(J) Résumés	0
TOTAL	150

The Statement of Qualifications submitted should be fully self-contained and include the information requested below, **listed in order and index tabbed** the same. Additional response formatting requirements are outlined in Division V – Submittal Requirements.

(A) INTRODUCTION (5 points maximum)

- 1) Please provide an introduction highlighting the prime firm's, or if a legal joint venture, prime team's qualifications for this particular project.
 - a) If your firm is teaming with another firm, the relationship needs to be clearly identified in this section. Only legal teaming relationships will be recognized. Teams that are arranged as a single prime firm are preferred.
 - b) Any firms that are submitting as a joint venture or another legal partnering agreement must submit the contract for the formal arrangement before an interview, if shortlisted (do not submit as part of the Qualifications package).

- 2) Indicate the following information for the primary point(s)-of-contact of the prime firm for this procurement process. If the primary point of contract during the operation of the project will be different, please indicate this and provide this second person's contact information.
 - a) Name
 - b) Telephone number
 - c) Direct e-mail address – ***e-mail with this point-of-contact will be Owner's primary form of communication with the firm so ensure accuracy.***
- 3) List the Arizona professional and contractor licenses held by the firm/team and the key personnel who will be assigned to this project. Provide the license number and explain if held by an individual or the firm.
- 4) Provide an organization chart that represents the intended roles, responsibilities, authorities, and relationships. Please include all key members of the team.
- 5) Identify any contract or subcontract held by the firm or officers of the firm, which has been terminated within the last five years. Identify any claims arising from a contract which resulted in litigation or arbitration within the last three years. Briefly describe the circumstances and the outcomes.
- 6) Provide a statement on surety letterhead from an A- or better surety company describing the Company's bonding capacity, as a separate page to the introduction section. This bonding letter shall be included in the total page count allowed for the SOQ.

(B) PRIME FIRM PROJECT EXPERIENCE (30 points maximum)

- 1) Identify a **minimum of three (3) and a maximum of five (5)** comparable projects in which the firm served as the CMAR during design and construction.

The listed projects must demonstrate, through previously completed work, that the firm has developed expertise to provide pre-construction and construction services as required for this project.

For each project listed, please provide:

- a) A description of the project, including the name of the owner, the project square footage, the project location, the year it was constructed/renovated, and at least one picture. The description must include relevant details of the project scope, and if the project site was occupied during construction or adjacent an occupied building.
- b) The role of the firm on the project, specifying services provided during pre-construction phase, (i.e. cost estimating, scheduling, value engineering, etc.)
- c) The original construction budget per the construction agreement, actual bid or GMP amount, and the final construction amount. If final construction amount is greater than bid/GMP amount, differentiate between owner-requested change orders and those attributable to construction costs. Also indicate the amount of all contractor's contingency (including both design and construction contingencies) used on the project.
- d) The original project schedule by listing design phase start date, construction start date, and Substantial Completion date. Compare the ***contractual*** dates with ***actual*** respective dates. Explain any differences between original and actual project schedule milestones.
- e) The name and role of individuals from the proposed team who worked on each project listed in this section.

- f) The name and current email of the owner's project manager or other owner representative for the project.

A higher evaluation weighting will be applied to those firms who can substantiate successful, demonstrated experience on:

- Comparable projects utilizing a CMAR project delivery method.
- Comparable projects with similar mechanical scope
- Comparable projects that were sustainably constructed.
- Comparable projects with institutions of higher education.
- Comparable projects at similar climates and elevations.
- Comparable projects which were completed **5** or fewer years ago.
- Comparable projects which were of a similar size and programming.

(C) ADDITIONAL PROJECT EXPERIENCE (15 points maximum)

- 1) List all CMAR projects awarded to your firm by Northern Arizona University, Arizona State University and the University of Arizona during the last two years; all CMAR projects awarded by any owner currently ongoing; and/or all projects awarded by any owner within the past two years for which your firm has been selected but are not yet under contract. For each project provide the project description, award date (note if pending), construction cost, status of completion, and estimated completion date. As part of the selection process, the University has the responsibility of taking into account the size and complexity of the project under consideration, the resource investment of the Offeror in current work, and the amount or quality of previous work recently performed for the University, in order to extend CMAR project delivery method opportunities to a broad representation of qualified firms.

(D) PRIME TEAM MEMBER EXPERIENCE (25 points maximum):

- 1) Identify the specific individuals from the prime construction firm who are proposed to be assigned to this project. Clearly identify the following specific individual(s) responsible for the following roles:
- a) the person who will be responsible for day-to-day management of the project, and coordination and communication with the University during all phases of design and construction;
 - b) the person(s) who will lead the pre-construction phase;
 - c) the person(s) who will lead the construction phase;
 - d) the superintendent;
 - e) the person(s) who will lead the project documentation efforts;

A higher evaluation weighting will be applied to those firms who can substantiate and ensure that the same person will lead the design and construction phase.

- 2) For each key person identified, list their length of time with the firm and at least two comparable projects in which they have played a primary role. If a project selected for a key person is the same as one selected for the firm in Section B above, provide just the project name and the role of the key person.

For other projects provide the following:

- a) Description of project
- b) Role of the person
- c) Contractor method (i.e., Job Order Contract, Construction Manager at Risk, Design-Build)
- d) Project's original contracted construction cost and final construction cost
- e) Construction start and completion dates

f) Project owner

g) Reference information (current name with email for each project listed)

- 3) Describe the current workload and availability of key staff to service the project (include existing projects, pending projects, and this proposed project). Also, complete the following chart for a visual depiction of the workload. Expand as necessary.

Team Member	Role	Preconstruction	Construction
Name	Project Director	xx%	xx%
Name	Preconstruction Manager	xx%	xx%
Name	Construction Project Manager	xx%	xx%
Name	Superintendent	xx%	xx%
Name	Other Roles	xx%	xx%

Note that your firm will need to notify Owner of any substantial change in anticipated workload. Further, substituting different team members at any point in the project will require both notification and approval of Owner.

- 4) Describe the experience this proposed team has working together on previous projects. Include the following chart for a visual depiction of past experience. Expand as necessary.

Team Member	Role	Project 1	Project 2	Project 3	Additional projects as needed
Name	Project Director	Indicate what percentage of time was spent on project and in what role			
Name	Preconstruction Manager				
Name	Construction Project Manager				
Name	Superintendent				
Name	Other Roles				

A higher evaluation weighting will be applied to those firms who can substantiate the proposed team has experience working together on past similar projects.

(E) UNDERSTANDING OF THE PROJECT (40 points maximum):

In addition to demonstrating general CMAR qualifications, firms should address the following project-specific requirements to ensure alignment with the technical, financial, and collaborative challenges of the Forestry Renovations project:

1) District Energy Integration and Decarbonization

Demonstrate understanding of the project's primary goal to eliminate natural gas by connecting the Forestry Science Complex to the South Campus distributed system for hot and chilled water. Provide examples of projects where your firm successfully managed the transition of buildings from traditional boiler/heating systems to district or central energy systems, including coordination of design teams, subcontractors, and controls integration.

2) Project Leadership on Complex System Upgrades

Provide examples of prior experience where your firm oversaw major building system conversions, such as upgrades to HVAC, plumbing, or electrical infrastructure, with an emphasis on managing multiple trades and ensuring minimal disruption to building operations.

3) Stakeholder Coordination

Describe your approach to coordination among multiple owners and stakeholders, including Northern Arizona University (NAU) and the U.S. Forest Service, with emphasis on shared building elements (e.g., roofing and heating systems) requiring matched specifications and joint decision-making.

4) Collaboration with 3rd-Party Commissioning Agent

Explain how your team will work with a separate commissioning agent engaged by the Owner. Provide examples of successful coordination with commissioning professionals, including facilitating access, resolving deficiencies, and supporting monitoring-based commissioning tools.

5) Urgent Operational Needs and Phasing

Provide your methodology for addressing urgent operational needs during construction, such as maintaining heating and cooling service through temporary solutions (e.g., wet wall removal). Describe how you will phase construction to minimize disruptions to University and U.S. Forest Service operations.

(F) PROJECT MANAGEMENT CONTROLS AND TEAM APPROACH (20 points maximum):

1) Attachment D to this Request for Qualifications contains a link to the Northern Arizona University Construction Manager at Risk Contract, which includes requirements on subcontractor selection (General Conditions, Section 2.2.4.6).

- a) Describe how you intend to implement this subcontractor selection plan, including your recommendations for subcontractor trades to be selected by qualifications only vs. qualifications and bids, and discuss the benefit that your subcontractor selection plan provides to the project.
- b) Which subcontractors/trades would you intend to select during the pre-construction phase and why?

2) Budget Methodology and Cost Control

- a) Define how estimates of probable construction cost are established and maintained with respect to the Owner's project budget. Describe how estimates are calculated and updated in real time.
- b) Explain how constructability reviews, value engineering, and other design phase cost controls will be utilized.
- c) Define how change orders and other potential add-on costs during the construction phase will be avoided and controlled. Describe how change order requests from subcontractors will be reviewed and processed quickly.

- 3) Quality Control
 - a) How does your team minimize the knowledge gap amongst team members as the project moves from preconstruction to construction?
 - b) Summarize your approach to quality control and quality assurance during construction of the project, especially as these relate to design and construction under Flagstaff's climate conditions and with regard to the University's *Design Guidelines and Technical Standards*.
- 4) Schedule Control
 - a) Summarize your firm's schedule control process to be used in order to meet the Owner's project schedule.
 - b) Highlight any potential impacts to the schedule your team envisions that may be due to Owner's Technical Standards, permit process, general construction procedures, or other. Do you envisage any problematic stages or conflicts in the schedule for this project?
 - c) Detail your familiarity with using PMWeb for data management (e.g., RFIs, ASIs, submittals).
- 5) Sustainability
 - a) Summarize your firm's approach to sustainability, in particular, with regard to constructing projects that are durable, maintainable and provide solutions that are realistic from a budgetary standpoint.
 - b) Describe how your team will assist in incorporating life cycle planning, energy efficiency, durability, water conservation, and other sustainable design aspects into this project.
- 6) Site Logistics
 - a) Highlight any key points or challenges the CMAR will need to address with regard to the logistics of this project site.
 - b) Detail your intended approach to construction laydown for this project (identifying appropriate storage locations, managing inventory, and coordinating material deliveries to avoid delays).
 - c) Explain your strategies for managing site security and safety.
- 7) Describe your firm's program for Veteran employment.
- 8) Describe what makes your firm stand out above your peers, and why your firm should be chosen as the most qualified Offeror for this project.

(G) WORK LOCATION (5 points maximum):

- 1) Indicate the proximity of the Offeror's office to the Northern Arizona University campus in Flagstaff, Arizona and the home office location of key staff on this project. Detail any logistical challenges your current location presents as related to the project location and describe how those challenges would be addressed.
- 2) Define the team's familiarity with the project area and its knowledge of the local labor and materials markets.

(H) OVERALL EVALUATION OF THE FIRM (10 points maximum): This is the overall evaluation of the firm/team and its perceived ability to provide the required services, as determined by the selection panel members along with any client references obtained by the committee or given by the Design Professional. No submittal response is required.

(I) SUBMITTAL CERTIFICATION. (0 points – not included in maximum page count)
Include **Attachment A – RFQ Submittal Certification** and **Attachment B – Boycott of Israel Certification** found in Part II of this Request for Qualifications as the last item in this section.

(J) RESUMES (no separate points – points to be attributed to project team scores):

Resumes will help determine the level of skills and qualifications of each proposed individual related to this specific type of project. Resumes for each key team member, shall contain employee information only and no additional company information. Resumes should include the individual's project experience, including projects' size, brief description, and cost. **Resumes shall be limited to a maximum length of ONE (1) page per person.** Resumes should not include project pictures or general firm information.

DIVISION V – SUBMITTAL REQUIREMENTS

Firms interested in the above project should submit a Statement of Qualifications (SOQ) using the format listed in Division IV in order and index tabbed to match. Failure to follow instructions regarding format may result in rejection of Offer.

The SOQ should be submitted as:

- One (1) complete document in letter (8.5" x 11") format, using double-sided printing, spiral bound, and clearly marked as original, and two (2) copies clearly marked as copies, for a total of three (3).
- One (1) digital copy of the complete SOQ in a single PDF file on a USB flash drive.
- Use a font size no less than 10 points.
- Limit SOQ to twenty-five (25) pages. Included in the page count are a cover letter (if Offeror chooses to submit one) and responses to Division IV items A through G. Item H - Overall Evaluation of the Firm, does not require a response. Item I - Submittal Certification, and Item J – Resumes, are excluded from the twenty-five (25) page count. A page is defined as any side of the paper that has content (i.e., a piece of paper printed with information on both sides is considered two pages). Front and back covers, Table of Contents pages, and tabbed divider pages will not be counted if they do not contain submittal information (photo captions, descriptive information, etc.). Resumes should not include project pictures or general firm information.
- On the outside of the sealed submittal package or envelope, display the Offeror's name, along with the NAU Project title and project number.

RFQ responses to be sent or delivered to:

Facility Services Building, Building No. 77
Front Reception Desk
Flagstaff, Arizona (southwest corner of Pine Knoll Drive and San Francisco Drive)

- or -

NAU Facility Services
PO Box 6016
Flagstaff, Arizona, 86011

- or for FedEx/UPS/Other Courier -

NAU Facility Services
501 E. Pine Knoll Dr.
Building 77, Main Entrance Reception Desk
Flagstaff, Arizona, 86011

Attention: Judith Scholar Winfield, Contracts Analyst, Sr., Planning, Design & Construction

Note: **THE DESIGN PROFESSIONAL SHALL NOT SUBMIT OR COMMUNICATE, IN ANY FORM TO THE UNIVERSITY, ANY INFORMATION ON FEES, PRICE (HOURLY RATES), MAN-HOURS OR ANY OTHER ASSOCIATED COST INFORMATION. ARIZONA LAW PROHIBITS THE UNIVERSITY FROM CONSIDERING ANY INFORMATION ON FEES, PRICE (HOURLY RATES), MAN-HOURS OR ANY OTHER COST INFORMATION DURING THE REQUEST FOR QUALIFICATIONS (RFQ) COMPETITION.** Accordingly, any sealed formal qualifications that contain any information of this type will be deemed non-responsive, will not be considered, and will be returned to the Offeror. This exclusion of information applies to the Offeror's formal sealed qualifications, to any discussion/interview and to all other aspects of the RFQ competition.

Please be advised that failure to comply with the following criteria may be grounds for disqualification:

- The number of originals and/or copies of the RFQ response specified.
- Adherence to the maximum page requirement for the SOQ.
- Deposit of qualifications in correct location.
- Submitting pricing information, which is not allowed at the RFQ stage.
- Failure to provide required information
- Inappropriate communication (see Division VII – Restriction on Communications)

DIVISION VI – THE SELECTION PROCESS AND PROJECT SCHEDULE

SELECTION PROCESS. A Selection Committee will evaluate and score each submitted Statement of Qualifications to arrive at a shortlist of no less than three (3) and no more than five (5) Offerors to participate in interviews. The University reserves the right to determine the interview process an optional component and proceed, at its discretion, to verify references. If an interview is held, the Selection Committee may secure additional information and additional reference checks or visit completed projects following the interview.

SCHEDULE OF DEADLINES (all times Arizona Local Time)

Advertise for Services:	August 28, 2025
Pre-Submittal Meeting:	September 2, 2025, at 2:00 PM
Qualifications Due:	September 18, 2025, by 2:00 PM
Interviews with Short-listed Firms (optional):	October 8, 2025 (Tentative)
Begin Contract Period:	November 2025
Construction Start:	March 2026
Construction Complete (Substantial Completion)	July 2026

DIVISION VII – GENERAL INFORMATION

DEFINITIONS. All definitions are per ABOR Policy, the Construction Agreement, and NAU's Design Guidelines and Technical Standards, unless otherwise defined within.

SOLICITATION OF STATEMENT OF QUALIFICATIONS BY FACILITY SERVICES. All solicitations are performed in accordance with University policies and procedures.

INFORMAL QUESTIONS. If you have informal questions about technical formatting regarding your Request for Qualifications or if you have informal questions about the purchasing process, please contact:

Judith Scholar Winfield

Tel: (928) 523-4468

NAU will answer informal questions verbally. NAU makes no warranty of any kind as to the correctness of any verbal answers and uses this process solely to provide minor clarifications rapidly. Verbal statements or instructions shall not constitute an amendment to this RFQ. Offerors shall not rely on any verbal responses from NAU. If you have formal questions about any part of this Request for Qualifications, which could result in a material issue or a formal amendment to this RFQ, see INTERPRETATIONS AND ADDENDA below.

INTERPRETATIONS AND ADDENDA. Should an Offeror find any ambiguity, inconsistency or error in the Request for Qualifications, or should the Offeror be in doubt as to its meaning, he/she shall at once notify the Contract Analyst, Sr., in writing, who will send a written addendum by email to all Offerors who are on record with Facility Services as having requested to be on the NAU Design Professional or Contractor Listserv, as appropriate for this RFQ. . All addenda will also be posted on NAU's website <https://in.nau.edu/facility-services/pdc/bids-rfqs/>. Neither NAU nor its representatives will be responsible for verbal instructions or information. Interpretation or correction of the RFQ will be made only by written addendum. The University is not responsible for any other explanations or interpretations of the RFQ.

If an Offeror on the Final Shortlist fails to receive any addendum, or should fail to acknowledge receipt of same, the Offeror shall have the option of staying on the Final Shortlist under the terms of the Request for Qualifications or of withdrawing from the Final Shortlist in which event the next most qualified Offeror may be added to the Final Shortlist. The Owner is not responsible for assuring delivery of addenda to any Offeror. Failure to receive addenda or failure to acknowledge receipt shall not constitute a basis for claim, protest, or reissue of the Request for Qualifications.

This RFQ, the Qualifications of the successful Offeror(s) and any addenda issued by the Owner during the RFQ period are to be included in and will become a part of the agreement when awarded. Offeror to acknowledge receipt of addenda on the Certification form in the space provided, on the RFQ Qualifications Certification, see Attachment A.

All formal inquiries or requests for significant or material clarification or interpretation, or notification to NAU of errors or omissions relating to this RFQ must be directed, in writing, by email, to:

Judith Scholar Winfield, Contracts Analyst, Sr.
Planning, Design and Construction
Facility Services
Northern Arizona University
P.O. Box 6016
Flagstaff, AZ 86011
Email address: judith.scholarwinfield@nau.edu

Such requests must be submitted on a copy of the Qualifications Inquiry Form in Attachment C of this RFQ. All formal inquiries must be submitted before the time and date set for this RFQ. Failure to submit inquiries by the deadline may result in the inquiry not being answered.

RESTRICTION ON COMMUNICATIONS. Neither Offerors nor members of their team shall communicate concerning this Project with Selection Committee members, students, and employees of NAU, except as stipulated above. **Failure to abide by this requirement may result in rejection of the Offeror's Statement of Qualifications.**

PROPRIETARY INFORMATION. If Offeror submits any information considered proprietary, it must be placed in a separate envelope and marked "Proprietary Information". If Owner concurs, this information will not be considered public information. Owner's Legal Counsel is the final authority as to the extent to which material is considered proprietary or confidential. The Owner assumes no liability for disclosure or use of unmarked data. Unless identified, information submitted in response to this RFQ may be disclosed pursuant to the applicable Arizona Public Records Law and applicable Arizona Revised Statutes.

PROFESSIONAL LICENSE/REGISTRATION IN ARIZONA. Any individual or firm that is proposing to perform pre-construction and construction services must be appropriately licensed / registered in the State of Arizona at the time of submission of the Statement of Qualifications.

ARIZONA OFFICE. The successful Offeror will be required to establish an office, if one does not already exist, in the State of Arizona. Compliance with this requirement can be satisfied in either of two ways.

- 1) Before the Offeror submits a Statement of Qualifications in response to this Request, it may associate with a firm having an office within the state of Arizona, to be evidenced by a written association agreement and included with the RFQ response
- 2) After an Offeror is selected and prior to execution of the Agreement, the Offeror will have established an office in Arizona. An office within the state is evidenced by a mailing address, telephone number, payment of utilities, registration with the Corporation Commission, and possession of appropriate business licenses.

RELATED WORK. The successful firm awarded a contract may be awarded additional work at Owner's discretion for any other modifications or renovations at the project site through the warranty period of the project, which may be authorized under a separate contract.

OFFERORS INTERESTED IN MORE THAN ONE RFQ RESPONSE. No person, firm, partnership, or corporation shall be allowed to submit as a prime firm/team member on more than one (1) Statement of Qualifications for pre-construction and/or construction services on the same project. A person, firm, partnership, or corporation, who has submitted as a sub-consultant/subcontractor to an Offeror, is disqualified from submitting a Statement of Qualifications for the project as a prime Offeror. A person, firm, partnership, or corporation shall be allowed to submit a sub-contractor Statement of Qualifications to more than one (1) Offeror.

OBLIGATIONS. This RFQ does not obligate the Owner to pay any costs incurred in the preparation and submission of Statement of Qualifications nor to enter into an agreement with any of the applicants.

WITHDRAWAL OF STATEMENT OF QUALIFICATIONS. Statement of Qualifications may be withdrawn either personally or by written request any time before the scheduled date and time set for receipt.

RETURN OF STATEMENT OF QUALIFICATIONS. The University will not return any Statement of Qualifications that are submitted.

AWARD OR REJECTION OF STATEMENT OF QUALIFICATIONS. Owner has the right to cancel this Request for Qualifications, to reject any or all Statement of Qualifications, and to waive or decline to waive any irregularities in any submitted Statement of Qualifications, or to withhold the award for any reason it may

determine in the best interest of Owner and also reserves the right to hold open any or all Statement of Qualifications for a period of NINETY (90) DAYS after the date of opening thereof and the right to accept a Statement of Qualifications not withdrawn before the scheduled opening date.

ACCEPTANCE OF CONTRACT DOCUMENTS. NAU has developed standard forms of Design Professional Contracts. If selected, as the Design Professional for this Project, a Respondent agrees to execute this form of Contract Documents. Provisions in a Response that conflict with, and/or exceptions to, and/or requests for changes in, NAU's contract terms, Special Conditions, Exhibits and/or other Contract Documents, may result in a Response being considered nonresponsive and rejected. By submitting a Response, Respondent also acknowledges its understanding and agreement that NAU may make changes in the standard form of contract documents and that therefore the form of contract documents presented to the successful Respondent may be different from the form of contract documents referenced above, in which case the successful Respondent will be given the opportunity to review the changes.

CONTRACT DOCUMENTS: The Contract Documents may include, without limitation, this RFQ, any addenda to this RFQ issued by NAU, the SOQ of the successful Respondent, and such other terms as NAU determines are in its best interest and appropriate for the Project.

NEGOTIATION OF THE AGREEMENT. Owner may proceed to negotiate a contract for services at a compensation which the Owner determines to be fair and reasonable. In making this decision, Owner may take into account the estimated value of the scope of services, the complexity, and the professional nature of the services to be rendered. If Owner is unable to negotiate a satisfactory contract with the Offeror considered to be the most qualified, at a price determined to be fair and reasonable, negotiations with that Offeror will be formally terminated. Owner may then undertake negotiations with the next most qualified Offeror in sequence until an agreement is reached or a determination is made to reject all Statements of Qualifications. The Owner will negotiate a fee for total services, along with a fee break down per each individual phase of the work. The Owner will negotiate Reimbursable Expenses, along with a breakdown of each expense category per each individual phase of the work.

DELIVERY OF INSURANCE POLICIES OR CERTIFICATES AND EXECUTION OF AGREEMENT. Promptly after negotiation of the priced Statement of Qualifications, Owner will deliver to the successful Offeror the Construction Manager at Risk Agreement to be executed by the successful Offeror. This Agreement will be the form in Attachment D or the University's then current form of agreement. The successful Offeror shall execute and return to Owner the Agreement within ten (10) days after receipt of the Agreement. Failure to return the executed copies of the Agreement may result in rejection of the successful Offeror's Qualifications and withdrawal of the award. Within three (3) days of issuance of the Agreement, the successful Offeror shall deliver to Owner the required insurance policies or certificates in a form satisfactory to the University. Failure to do so may result in rejection of the successful Offeror's Qualifications and withdrawal of the award.

SITE VISIT. In advance of negotiating an agreement for preconstruction services, the highest ranked Offeror will be requested to participate in a site visit with representatives of the Owner to become familiar with the project site and to discuss the Owner's needs. The Offeror's key team members for the project shall attend the meeting. Prior to the meeting, the highest ranked Offeror will have received from the Owner available project documentation, which may include estimates budgets, DP project deliverables, drawing formats and other relevant information that the Owner deems appropriate.

REGULATIONS. Should fee negotiations result in an agreement, the agreement will be subject to all the provisions of the University Procurement Code as issued by the Arizona Board of Regents, and will include all the terms, clauses, and conditions required by the University Procurement Code.

AIR POLLUTION. In accordance with an executive order titled 'Air Pollution Emergency Proclamation' modified by the Governor of Arizona on July 16, 1996, the Owner requests that all products used in the

performance of any agreement that results from this solicitation be of low- or no-content reactive organic compounds, to the maximum extent possible.

SMALL AND DISADVANTAGED BUSINESS. The University is committed to the development of Small Business and Small Disadvantaged Business (SB & SDB) suppliers. If subcontracting is necessary, the successful Offeror will make every effort to use SB & SDB in the performance of any contract resulting from this Request for Qualifications. Include a statement within your firm's Statement of Qualifications as to whether or not any of your sub-consultants falls under into either of these categories.

POLICIES. Owner's policies are held online <https://nau.edu/>. Offeror to abide by Owner's policies when performing work on behalf of Owner.

CORONAVIRUS. Contractors and suppliers shall be aware of Owner's policies with regards to Coronavirus. Information can be found online at: <https://in.nau.edu/contracting-purchasing-services/contractors-and-suppliers/>

PROTESTS. Owner believes that it can best maintain its reputation for treating contractors and/or suppliers in a fair, honest, and consistent manner by conducting solicitations in good faith and by granting competitors an equal opportunity to win an award. If Offeror feels that Owner has fallen short of these goals, Offeror may submit a protest pursuant to the Arizona Board of Regents procurement procedures, Section 3-809, in particular Section 3-809C. This paragraph does not include all of the provisions of the Regents procedures, but it does provide the information to initiate a protest. First, the individual or group has to be an "interested party". "An interested party" is an actual or prospective Offeror submitting a Statement of Qualifications whose direct economic interest may be affected by the issuance of a solicitation, the award of a Then agreement, or by the failure to award a Then agreement. Whether an actual prospective contractor has a *direct* economic interest will depend upon the circumstances in each case. At a minimum, the interest must be substantial and must be tangibly affected by the administrative action or proposed action concerned in the case. Second, the protest must be submitted in a timely manner. In procurements requesting Statements of Qualifications, protests based upon alleged errors, irregularities or improprieties in a solicitation that are apparent before the closing date for receipt of initial Statement of Qualifications shall be filed before the closing date for receipt of initial Statement of Qualifications.

Protests concerning improprieties that do not exist in the initial solicitation, but that are subsequently incorporated into the solicitation, shall be filed by the next closing date for receipt of Statement of Qualifications following the incorporation. In cases other than those just covered, protests shall be filed no later than ten (10) days after an agreement is awarded in connection with the procurement action. Failure to file a protest in a timely manner shall be deemed a waiver of all rights. Third, and finally, protests shall be in writing and shall include the following information: (1) The name, address, area code, telephone number, and fax number of the protestor; (2) The signature of the protestor or its representative; (3) Identification of the solicitation or Then agreement number; (4) Detailed statement of the legal and factual grounds of the protest including copies of relevant documents; and (5) The response or relief requested. Protests should be directed to:

Becky McGaugh
Associate Vice President
Procurement & Stores
Contracts, Purchasing, and Risk Management
Northern Arizona University
Building 98B
Box 4124
545 E. Pine Knoll Drive
Flagstaff AZ 86011

Tel: (928) 523-6415

Email address: **becky.mcgaugh@nau.edu**

Please note that as Owner takes protests very seriously, we expect Offerors to do so as well. Frivolous protests will not result in gain for the Offeror And shall not be considered.

COOPERATIVE PURCHASING AGREEMENTS. An award of contract resulting from this RFQ may be extended for use to other municipalities and government agencies of the state. Any such usage by other municipalities and government agencies must be in accordance with the ordinance, charter and/or rules and regulations of the respective political entity. Any public agencies not identified within this RFQ who wish to cooperatively use the contract are subject to the approval of Proposer.

Owner is a member of S.A.V.E. (Strategic Alliance for Volume Expenditures), which consists of numerous municipalities, counties, universities, colleges, schools, cities, and other Arizona State agencies. These cooperatives are achieved through Intergovernmental Agreements (IGA) in accordance with provisions allowed by A.R.S. § 11-952 and § 41-2632. The IGAs permit purchases of material, equipment and services from proposers at the prices, terms and conditions contained in contracts originated between any and all of these agencies and a successful Respondent.

PART II: ATTACHMENTS

Attachment A:	RFQ Submittal Certification
Attachment B:	No Participation in Boycott of Israel Certification
Attachment C:	RFQ Inquiry Form
Attachment D:	Construction Manager At Risk Agreement
Attachment E:	Owner Project Requirements
Attachment F:	Facility Condition Assessment Report

ATTACHMENT A: RFQ SUBMITTAL CERTIFICATION

(Date)

Facility Services
Northern Arizona University
Flagstaff, AZ 86011

The undersigned certifies that to the best of his/her knowledge: Check one.

- ☐ There is no officer or employee of Northern Arizona University who has, or whose relative has, a substantial interest in any contract resulting from this request.
- ☐ The names of any and all public officers or employees of Northern Arizona University who have, or whose relative has, a substantial interest in any agreement award subsequent to this Statement of Qualifications are identified by name as part of this submittal.

The undersigned further certifies that their firm ☐ IS or ☐ IS NOT currently debarred, suspended, or proposed for debarment by any federal entity. The undersigned agrees to notify the University of any change in this status, should one occur, until such time as an award has been made under this procurement action.

The undersigned further agrees that their firm or individual warrants to the University that they have completed an internal manpower loading plan and their firm has the personnel and resources to complete this project, should their firm or an individual be awarded this project.

In compliance with **NAU PROJECT 09.820.252 – Forestry Renovations** and after carefully reviewing all the terms, conditions, and requirements contained therein, the undersigned agrees to furnish such goods/services in accordance with the specifications/scope of work.

THE FOLLOWING ADDENDUMS ARE HEREBY ACKNOWLEDGED AS FOLLOWS:

ADDENDUM NUMBER: _____ DATED: _____ ADDENDUM NUMBER: _____ DATED: _____

ADDENDUM NUMBER: _____ DATED: _____ ADDENDUM NUMBER: _____ DATED: _____

FORM OF AGREEMENT. The undersigned certifies that the undersigned has read Owner's current Standard Form Agreement Between Owner and Construction Manager at Risk (including the CMAR General Conditions), which contain provisions applicable to the construction manager at risk, all of which are attached to the RFQ. If selected as the construction manager at risk for this project, the undersigned agrees to execute this agreement, subject only to the exceptions listed in the space below. The undersigned understands that any exceptions taken to the agreement that are not accepted and/or approved by the Owner may be a basis for rejection of the undersigned's Qualifications as non-responsive. The undersigned also understands that Owner may make changes in the standard form of agreement and that therefore the form of agreement presented to the successful Offeror may be different from the agreement attached to the RFQ, in which case the successful Offeror will be given the opportunity to review the changes.

List any objections to agreement here or attach a separate sheet behind this certification:

(Firm)

(Signature required)

(Print name)

(Title)

(Address)

(Phone number)

(Email)

(Federal TIN)

ATTACHMENT B: NO PARTICIPATION IN BOYCOTT OF ISRAEL CERTIFICATION

No Boycott of Goods or Services from Israel. If the Goods/Services provided under this Agreement include the acquisition of services, supplies, information technology, or construction with a value of at least \$100,000 and Supplier is engaged in for-profit activity and has 10 or more full-time employees, then, to the extent required by ARS § 35-393.01, Supplier certifies it is not currently engaged in, and during the term of this Agreement will not engage in, a boycott of goods or services from Israel.

Name of Offeror		
Name of Contact		Title of Contact
Address 1		Address 2
City	State	Zip Code
		-
Telephone Number		Email address, if available
() -		@ .
Print Name of Offeror's Authorized Agent		Signature of Offeror's Authorized Agent
Title of Offeror's Authorized Agent		Date
AN AUTHORIZED AGENT OF THE OFFEROR SHALL SIGN THE NO PARTICIPATION IN BOYCOTT OF ISRAEL CERTIFICATION		

ATTACHMENT C: SUBMITTAL INQUIRY FORM
(Pre-submittal Questions, General Clarifications, etc.)

PROJECT NAME: Forestry Renovations

PROJECT NUMBER: 09.820.252

INQUIRY DEADLINE: Monday, September 15, 2025, at 12:00 PM

QUESTIONS ON (circle one): ORIGINAL RFQ PACKAGE or ADDENDUM #

SECTION NUMBER: _____

SUBMITTER NAME: _____

EMAIL: _____ PHONE NUMBER: _____

COMPANY: _____

COMPANY EMAIL: _____

DATE: _____

QUESTION(S):

ATTACHMENT D: CONSTRUCTION MANAGER AT RISK AGREEMENT

The current Construction Manager at Risk Standard Form Agreement and General Conditions are available for review at: <https://in.nau.edu/facility-services/pdc/dp-contract/> under “Contracts”.

ATTACHMENT E: OWNER PROJECT REQUIREMENTS

Owner's Project Requirements (OPR)

Forestry Science Complex Renovations

Project No. 09.820.252

Executive Summary

The Forestry Science Complex will undergo a major HVAC retrofit to replace outdated boiler and wet-wall systems and connect to the South Campus centralized hot water and chilled water network. The project emphasizes sustainability by eliminating natural gas, improving reliability, and aligning with campus carbon neutrality goals. Commissioning will ensure the system meets the Owner's intent.

Key Priorities:

- Reliable heating and cooling for research, classrooms, and offices.
- Eliminate natural gas, reduce GHG emissions, and optimize energy efficiency.
- Maintain comfort (69°F heating minimum; cooling based on 46°F chilled water).
- Meet 2021 Building Code and ASHRAE standards.
- Meet NAU Design and Technical standards
- Provide maintainable, resilient systems with redundancy in critical areas.
- Engage a third-party Commissioning Authority early through closeout.

Pending Decisions: Confirm lab humidity needs, occupancy loads, emergency power requirements, and budget limits.

Full Technical OPR

1.0 Project Overview

1.1 Project Description

The Forestry Science Complex is undergoing a significant HVAC retrofit to remove the existing boiler and wet-wall system. The project will tie into the South Campus distributed system for hot water and chilled water supply. This approach will help meet current and future thermal needs while complying with the 2021 Building Code requirements. Commissioning is required to confirm that the system's installation and performance align with the project's objectives.

1.2 Project Goals

1. Reliability: Ensure uninterrupted heating and cooling appropriate to the building's function as a forestry science education and research facility.

2. **Energy Efficiency:** Optimize system performance to reduce energy use and operating costs.
 3. **Code Compliance:** Adhere to the 2021 Building Code (and other relevant jurisdictional codes).
 4. **Sustainability:** Eliminate natural gas from the building, reduce greenhouse gas emissions, and incorporate sustainable design features where possible.
 5. **Occupant Comfort:** Provide a comfortable environment conducive to research, classrooms, and office spaces.
 6. **Maintainability:** Install systems that are accessible for routine maintenance and repairs without affecting normal building operations.
 7. **Commissioning:** Involve a third-party Commissioning Authority (CxA) early in the design and throughout construction to validate that the final system meets OPR and BOD.
-

2.0 Building Description and Use

- **Primary Use:** Labs, classrooms, research offices, seminar rooms, and common areas.
 - **Occupant Load:** Peak occupancy to be defined by the design team based on student, faculty, and visitor counts.
 - **Operational Hours:** Typically Monday–Friday, 8am–6pm, with labs requiring 24/7 operation. Specialized research spaces may need extended hours and specific temperature/humidity control.
-

3.0 HVAC & Mechanical Systems

3.1 Scope of Work

- Remove existing boiler plant and wet-wall system.
- Connect new piping to centralized heating and cooling.
- Upgrade internal distribution to meet performance requirements.
- Integrate controls into the BAS.

3.2 Performance Requirements

- **Heating:** Campus supply 160°F; building loop capped at 140°F. Indoor winter heating setpoint: 69°F.
- **Cooling:** Sized for 46°F chilled water. Maintain occupant comfort. Some labs may require humidity augmentation similar to existing wet wall.

- **Ventilation:** Meet ASHRAE 62.1; fume hoods and 24/7 exhaust required in certain labs.

3.3 Controls: BAS integration with alarms, scheduling, trend logging, and efficiency strategies.

3.4 Resilience: Redundancy in pumps, controls, and distribution; evaluate emergency power needs for critical labs.

3.5 Commissioning: Independent CxA from design through occupancy; TAB, functional testing, and documentation required.

5.0 Plumbing Systems

- Wet-wall removal requires changes to risers/distribution.
 - Replace existing natural gas domestic water heater with a heat pump or system connected to campus hot water.
 - Prevent cross-connection with campus utilities.
-

6.0 Electrical & Controls

- Evaluate new electrical loads (pumps, HVAC, lab equipment).
 - BAS must include alarms, trend logging, and setpoint control.
 - Provide staff training on BAS interface.
-

7.0 Sustainability & Energy Efficiency

- Establish an EUI target consistent with campus carbon neutrality goals.
 - Remove all natural gas systems.
 - Evaluate opportunities for heat recovery/free cooling.
 - Minimize water use in hydronic distribution.
-

8.0 Code and Regulatory Requirements

- Comply with 2021 Building Code and ADA.
- Reference ASHRAE 90.1 (energy) and ASHRAE 62.1 (ventilation).
- Address local jurisdictional amendments.

9.0 Commissioning & Project Delivery

- Engage CxA early for design review and testing oversight.
- Commissioning Plan to cover responsibilities, schedule, and reporting.
- Provide O&M manuals, as-builts, and staff training at turnover.

11.0 Project Budget & Schedule

- Include contingency for unforeseen demolition conditions.
- Coordinate construction with academic calendar.
- Align commissioning milestones with construction phases.

12.0 Outstanding Questions

- Confirm lab humidity requirements.
- Define occupancy loads.
- Confirm emergency power needs.
- Establish project budget limits.

13.0 Approval

Signature & Date:

- Building Owner / Authorized Representative
 - Project Manager / Design Team Lead
 - Commissioning Authority
-

ATTACHMENT F: FACILITY CONDITION ASSESSMENT



Southwest Forestry Services Complex

Northern Arizona University

FACILITY CONDITION ASSESSMENT

FLAGSTAFF, ARIZONA
AUGUST 7, 2023

Together, Building a Thriving Planet



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Contacts

Key Contact Information

McKinstry Contacts

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720.408.4573
devinb@mckinstry.com

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Commissioning Engineer
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jonathanh@mckinstry.com

Josh Phillips
Facility Assessment Consultant
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joshph@mckinstry.com

Mark Radel
Senior Facility Assessment Consultant
480.405.6470
markrad@mckinstry.com

Corly Fernandez
Senior Project Manager
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corlyf@mckinstry.com

Ed Ball
Business Development Manager, Technical Services
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edb@mckinstry.com

Northern Arizona University Contacts

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Stephanie.Bauer@nau.edu



Executive Summary

Executive Summary

Project Goals

The contents of this report present the results of the Facility Condition Assessment (FCA) performed at Southwest Forestry Services Complex within the Northern Arizona University (NAU) campus on August 1, 2023. NAU intends to utilize the findings of this report to inform both capital and operating budgets, prioritize maintenance efforts, and optimize planning processes as replacements and upgrades of assets and facility systems become necessary in the future.

Facility List

The scope of the FCA project included the assessment of the following campus.

FACILITY NAME	AREA (SF)	YEAR(S) BUILT
Southwest Forestry Services Complex	72,137	1992
TOTAL	72,137	

Facility Summary

Southwest Forestry Services Complex is located at 200 E Pine Knoll Dr, Flagstaff, AZ 86011. This 72,137 SF facility consists of three levels and was initially constructed in 1992.

The building includes separate portions owned by NAU and the United States Forest Service. The scope of this assessment includes only the NAU owned portions, which entails the eastern half of the building. There have not been any major renovations of the space since its initial construction; however, a portion of the building's HVAC controls and equipment are currently being replaced and upgraded.



Figure 1-1: Southwest Forestry Services Complex



Executive Summary

Assessment Summary

The assessment was conducted on August 1, 2023 and included an inspection of the building's exterior enclosure, interior construction/finishes, conveyance system, plumbing system, HVAC system, and electrical system. Approximately \$3,799,257 in capital expenditure needs were identified for the next 5 years.

Capital Plan Summary

The estimated replacement costs for equipment expected to fail within the next ten years are shown below, divided into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the cost for replacement of equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment.

Replacement costs include inflation at 3% year over year.

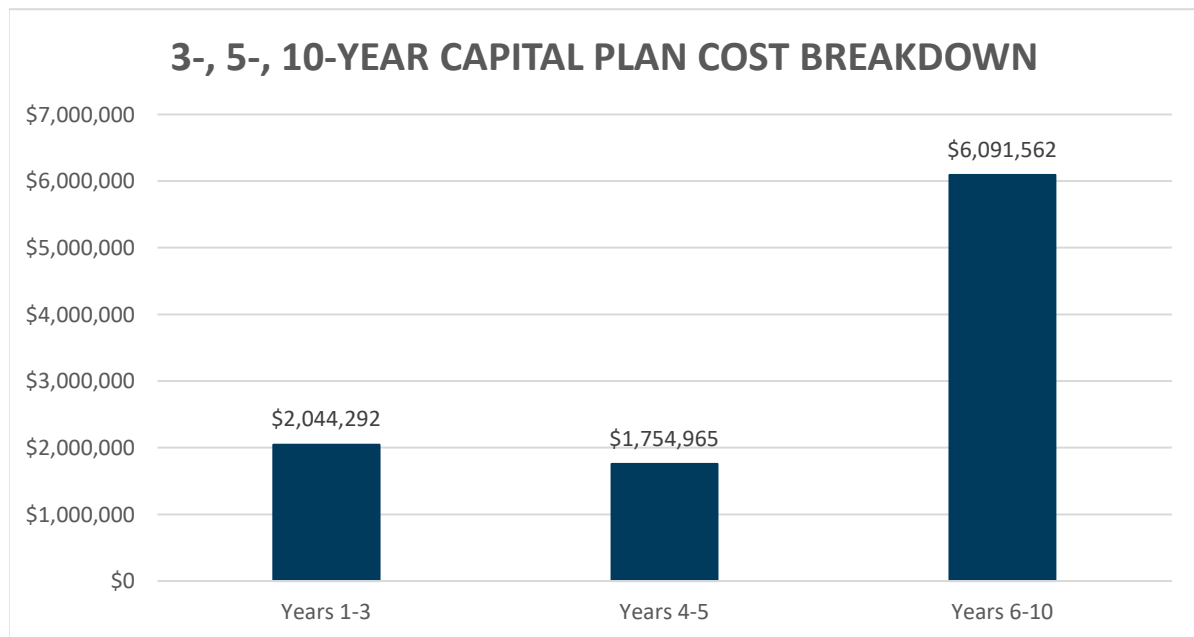


Figure 1-2: 3-, 5-, 10-Year Capital Plan Cost Breakdown

Executive Summary

Annual Capital Expenditure (20 Years)

Figure 1-3 and Table 1-1 below show the estimated replacement costs for equipment expected to fail within the next twenty years, and are displayed both by year and by subsystem.

Replacement costs include inflation at 3% year over year.

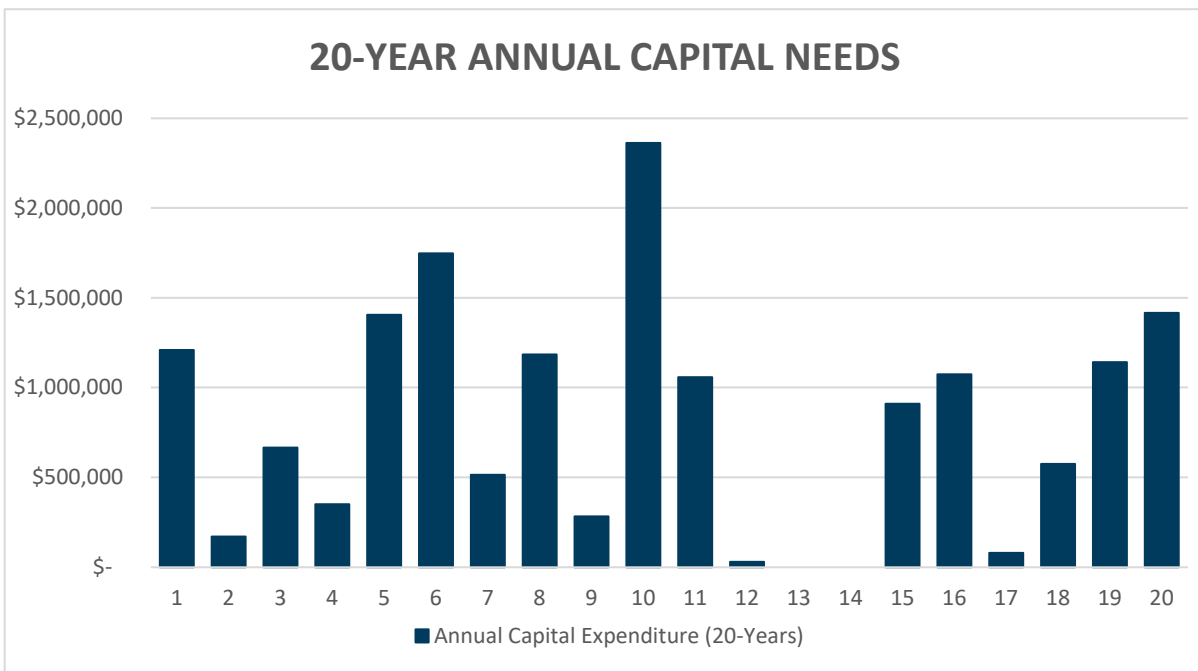


Figure 1-3: Annual Capital Expenditure 20 Years – by Year

Table 1-1: 20-Year Annual Capital Expenditure by Subsystem

Subsystem	Years 1-5	Years 6-10	Years 11-15	Years 15-20
A10 - Foundations	\$0	\$0	\$0	\$0
B20 - Ext. Enclosure	\$39,111	\$338,092	\$0	\$0
B30 - Roofing	\$275,859	\$0	\$0	\$0
C10 - Int. Construction	\$0	\$43,273	\$616,789	\$979,065
C20 - Stairs	\$0	\$0	\$0	\$516,620
C30 - Int. Finishes	\$716,902	\$577,614	\$285,831	\$671,330
D10 - Conveying	\$0	\$134,453	\$0	\$0
D20 - Plumbing	\$193,623	\$477,050	\$1,077,823	\$340,372
D30 - HVAC	\$2,018,240	\$108,427	\$0	\$1,149,404
D40 - Fire Protection	\$0	\$1,394,050	\$0	\$24,071
D50 - Electrical	\$531,285	\$2,996,634	\$10,966	\$604,469
E10 - Equipment	\$24,237	\$21,968	\$0	\$0
G20 - Site Improv.	\$0	\$0	\$0	\$0
G40 - Elec. Sitework	\$0	\$0	\$4,629	\$0
Total:	\$3,799,257	\$6,091,562	\$1,996,038	\$4,285,330

Section

2

Scope and Approach

Scope and Approach

Scope and Approach

SCOPE OF WORK

The scope of this facility condition assessment includes the building enclosure and interiors, as well as all major mechanical, electrical, and plumbing and fire protection assets. Electrical site items (such as transformers and switchgear) are also included within this assessment. Notable exclusions from the scope of this assessment includes security systems, information technologies cables and servers, and non-building attached sitework.

The following table lists the general asset types included within the scope of this assessment. Also shown is the corresponding Uniformalt code, which has been used to catalog equipment based on type and intended use.

Table 2-1: UniFormat Classification of Building Systems

UNIFORMAT CODE	CATEGORY DESCRIPTION
A10	Foundations
B20	Exterior Enclosure (i.e., doors, walls, windows)
B30	Roofing (i.e., roof coverings, skylights)
C10	Interior Construction (i.e., walls, interior doors)
C20	Interior Stairwells
C30	Interior Finishes (i.e., flooring, wall/ceiling finishes)
D10	Conveying (i.e., elevators)
D20	Plumbing (i.e., water heating, pumps, compressors)
D30	Heating, Ventilation, and Air Conditioning
D40	Fire Protection (i.e., fire suppression/sprinklers)
D50	Electrical (panelboards, transformers, switchgear)
E10	Equipment, Kitchen Hoods, Walk-in Units, etc.
G40	Select Electrical Sitework (i.e., electric meters)

Scope and Approach

RATINGS, METHODS AND SCORING

To allow Northern Arizona University more flexibility in prioritizing capital planning efforts, McKinstry has developed the following metrics which assign various scores to each asset.

Asset Condition

Condition ratings are presented for each asset as a score of 1 – 5. Scores are based upon a visual inspection during the building evaluation period. A score of 1 signifies that the asset is in great, “like new” condition. A score of 2 indicates that the asset is in good condition. A score of 3 signifies that the asset is in expected “average” condition based on function and the age of the asset. A score of 4 signifies that the asset is in poor condition, in need of repair, and will require replacement in the near future. A score of 5 signifies that the asset is in very poor or failed condition and in need of imminent replacement.

SCORE	CONDITION ASSESSMENT
1	Asset is in great condition, no action required.
2	Asset is in good condition, regular maintenance expected.
3	Asset is in expected condition, regular replacement/maintenance expected.
4	Asset is in poor condition, maintenance/replacement recommended soon.
5	Asset is in very poor condition, urgent replacement needed.

Occupant Impact

Occupant Impact scores are presented for each asset on a scale of 1 – 5 (low to high impact). This metric considers the occupancy impact caused if the equipment were to fail. Assets serving critical areas or systems related to life safety will receive scores of 2-5, as they can reduce the ability to safely occupy the building upon failure. Assets that have no impact to occupant safety upon failure area assigned a score of 1.

SCORE	STUDENT/TEACHER IMPACT
1	Failure poses no significant occupant impact.
2	Failure poses low occupant impact.
3	Failure poses moderate impact. Asset serves critical area, but has backup.
4	Failure poses high occupant impact.
5	Failure poses severe impact. Asset serves critical area and has no backup.

Energy Cost Impact

The Energy Impact score is presented for each asset on a scale of 1-5 (low to high impact). Each of the asset types within the scope of this assessment were evaluated based on their impact to energy cost and consumption (including electrical, natural gas, and liquid fuels). Assets with a higher Energy Cost Impact score indicate that the asset has a large contribution to the overall energy costs of the facility. A sample of Energy impact scores is shown below:

Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)
Air Handling Unit	less than 10,000 CFM	3
	between 10,000 CFM – 50,000 CFM	4
	greater than 50,000 CFM	5
Chiller	less than 200 tons	3
	between 200 – 500 tons	4
	greater than 500 tons	5
Computer Room AC Condensing Unit Heat Pump	less than 10 tons	2
	greater than 10 tons	3
Cooling Tower	less than 200 tons of rejection	2
	greater than 200 tons of rejection	3
Dust Collector	less than 5 HP	2
	between 5 HP and 25 HP	3
	greater than 25 HP	4
Exhaust Fan	less than 5000 CFM	2
	greater than 5000 CFM	3
Fan Coil Unit	greater than 3000 CFM	2
Fuel Fired Boiler	less than 200 MBH	2
	between 200 – 1000 MBH	3
	between 1000 – 2000 MBH	4
	greater than 2000 MBH	5
Furnace	less than 100 MBH	2
	between 100 and 500 MBH	3
	greater than 500 MBH	4
Generator	less than 500 KW	2
	greater than 500 KW	3
Lighting, Exterior	LED	2
	Fluorescent	3
	HID/Incandescent	4
Lighting, Interior	LED	2
	Fluorescent	4
	HID/Incandescent	5
Make-Up Air Unit	less than 5,000 CFM	3
	between 5,000 and 25,000 CFM	4
	greater than 25,000 CFM	5
Pumps	less than 25 HP	2
	between 25 -150 HP*	3
	greater than 150 HP*	4
Return Fan Supply Fan	less than 20 HP	2
	greater than 20 HP*	3

Scope and Approach

ASSET TYPE	ASSET SIZE	ENERGY COST IMPACT (1-5)
Rooftop Unit	less than 5 ton	2
	between 5 and 20 tons	3
	between 20 and 50 tons	4
	greater than 50 tons	5
Transformer	greater than 200 kVA	2
VFD	greater than 50 HP	2
Air Compressor	All sizes	2
Air Curtain		
Air Dryer		
Cabinet Unit Heater		
Dehumidifier		
Electric Duct Heater		
Humidifier		
Unit Heater		
Unit Ventilator		
Walk-In Condenser		
Walk-In Unit		
All Other	All sizes	1

*Add 1 for direct drive motors

Critical Collection Item

This metric identifies assets serving critical areas on the NAU campus, such as the Cline Library Critical Collection. Failure of an asset serving a critical area can cause significant damage to high value and historical assets. Assets are assigned a score of "1" if they serve a critical area, and a score of "0" if they do not.

Asbestos Risk

The Asbestos Risk metric assesses the risk of asbestos containing materials being exposed in the event of an asset replacement, which can inflate replacement costs. An example of such event includes asbestos piping insulation, asbestos containing "popcorn" ceiling, or asbestos containing composite tiles.

RISK	DESCRIPTION
Minimal	There is minimal risk of asbestos containing materials being exposed during replacement of this asset; however, it cannot be completely ruled out.
Possible	There is a high chance of asbestos containing materials being exposed during replacement of the asset.
Known	The asset or a sub-component is known to contain asbestos. Plan for additional abatement costs.

Industry Life Expectancy

The design life expectancy for a given asset is determined using a combination of widely accepted industry standards including ASHRAE and BOMA, as well as a manufacturers' database of equipment life expectancies. This value is expressed in number of years.

Scope and Approach

Observed Remaining Life

The Observed Remaining Life is also expressed in number of years and takes into consideration the function and operating environment of the asset, as well as a determination based upon a visual inspection of the asset. The Observed Remaining Life value may vary from the Design Life value. For example, a secondary heat exchanger that has been well maintained may have an Observed Remaining Life that is greater than the expected Design Life. Likewise, a primary chilled water pump that has not been well maintained, and shows visual signs of premature wear and tear, may have an Observed Remaining Life that is less than the expected Design Life.

Cost Estimating

Each asset receives an Estimated Replacement Cost, presented in dollars. The Estimated Replacement Cost includes both the material cost of the asset and the installation of that asset. This information is intended to assist in the prioritization and resource allocation associated with maintenance and capital replacement projects. Cost estimates are determined using specific characteristics of each asset (tonnage, motor size, capacity, etc.) along with one of several cost information data sets. These data sets include industry standards, RSMeans, and data sourced through McKinstry's construction division. Additionally, site specific construction and equipment invoices have been utilized as available. All estimated costs are in 2023 dollars.

Data-Driven Maintenance Approach

Included with the submission of this report is the FCA Data Collection Workbook, which includes all data collected for each asset. The Workbook can be used to quickly sort through equipment and prioritize maintenance and replacement efforts. Additional observations and equipment details are provided within the workbook for each asset. Each asset is classified according to building system, size, capacity, and other standards, as well as ratings of current condition and impact of failure. Such organization and classification facilitate searching and sorting the data for maintenance and replacement priorities.

As mentioned above, the impact ratings help to compare one asset to another. Based on observed condition and impact scores, the future maintenance priorities for each building are described further in later sections.

As each of the components identified in the workbook is repaired or replaced, the information can be revised to reflect the new conditions. Remaining useful life values can also be manually iterated one year from the assessment date to reflect fewer remaining years of life. Assets no longer in service can be removed from the list. Similarly, assets that have been newly installed can be added to the list. Following the impact guidelines, relative priority can be calculated for these assets.

Section

3

Condition Assessment

Condition Assessment

SYSTEMS DESCRIPTION

This section summarizes the building systems at Southwest Forestry Services Complex and describes the general condition observed based on the assessment. Specific findings and recommendations are detailed later in this report.

A10 - FOUNDATIONS

The building's foundation consists of concrete supports. While the foundation could not be directly inspected; there were no obvious signs of major settling or movement of the structure indicating deficiencies.

B20 - EXTERIOR ENCLOSURE

The building's exterior enclosure includes masonry brick exterior walls, aluminum windows, and a combination of aluminum, glass, and hollow metal exterior doors. Additionally, there is a wood soffit surrounding the perimeter of the building. Overall, the exterior enclosure has not had many major upgrades since the building was construction, but is currently in fair condition.

B30 - ROOFING

The building's roofing consists of a sloped shingled surface. The roofing does not appear to have been replaced since the building's construction; however, while currently in fair condition further investigation and identification of deficiencies is recommended over the next 5 years.

C10 - INTERIOR CONSTRUCTION

The building's interior construction includes a combination of drywall, masonry brick, and wood paneling. Generally these assets have not been updated in the past 30 years, but are in overall fair condition.

C20 - STAIRS

There are a total of four (4) stairwells within the building. This includes one (1) wood/steel staircase located in the main lobby, as well as three (3) concrete and steel stairwells located throughout. These stairwells are generally in good condition, but may need minor updates to treads and handrails within the next 10 years.

C30 - INTERIOR FINISHES

The interior flooring includes carpeting, vinyl tiling, wood flooring, and ceramic tiling. Other finishes include acoustic ceiling tiles, wood paneling, and wall tiles. Overall, the interior finishes are in fair condition but dated. A portion of the carpeting in the main lecture hall is in poor condition and in need of replacement.

D10 - CONVEYANCE

There is one (1) elevator in use in the building serving four levels (including the mechanical penthouse). The elevator is original to the building's 1992 construction, and in fair condition.

D20 - PLUMBING

The building's domestic hot water system includes multiple tank type natural gas and electric water heaters, generally installed in 2010. There were no major deficiencies noted with the domestic hot water system. The building utilizes a combination of Zurn flush valve toilets and urinals, which appear to have been updated in the early 2010s. Lavatory sinks include manual Delta faucets, which are in fair condition. Additional plumbing equipment include eyewash/shower stations, pumps, and a reverse osmosis and deionized water (RO/DI) treatment system. The RO/DI system was installed in 2010, and is in fair condition.

Condition Assessment

D30 - HVAC

The building's heating, ventilation, and air conditioning (HVAC) system consists of separate hot and cold air handling decks supplying ventilation to multiple variable volume mixing boxes throughout the building. Heating is provided to the hot deck by a combination of three (3) natural gas fired hydronic boilers installed in 1992. These boilers are nearing the end of their recommended lifespan and in poor condition. Cooling is provided to the cold deck by the combination of a direct evaporative cooling section and a cooling water coil supported by one (1) cooling tower. The evaporative cooling section ("wet wall") failed in 2022, and has undergone recent repairs. The cooling tower and associated cooling water pumping equipment are outdated, and in poor condition. Additional HVAC equipment includes exhaust fans, ventilation hoods, pumping equipment and various supporting assets. Overall, the HVAC system is in poor condition; however, several upgrades have been made over the last year including controls and drives.

D40 - FIRE PROTECTION

The fire sprinkler system has not received any major renovation since the building was constructed.

D50 - ELECTRICAL & LIGHTING

The building's electrical distribution equipment includes both 120/208V and 277/480V panels, transformers, and switchgear. The main service entry (SES) has a capacity of 600A at 15 kV. The vast majority of the distribution assets are original to the 1990s, and will be due for replacement within approximately 10 years. The building's lighting includes mostly linear fluorescent and compact florescent fixtures, with a few high intensity discharge (HID) fixtures located in the main lobby. To reduce the building's energy costs, consider upgrading these fluorescent and HID fixtures to light emitting diode (LED) fixtures. The fire alarm system was partially updated in 2015, and is currently in fair condition.

E10 - EQUIPMENT

Additional equipment includes a compressed air and vacuum system for the lab spaces. These assets were found to be in relatively poor condition, with many components being nearly 30 years old.

G40 - ELECTRICAL SITE IMPROVEMENTS

There are two (2) electric meters in the building, serving the separate electrical feeds for the NAU and USFS portions of the building.

Condition Assessment

PRIORITIES

SPECIFIC PRIORITIES

The top capital measures have been detailed in the following tables. Each measure receives a priority level of 1, 2, or 3. A priority level of 1 indicates that the measure is considered an immediate concern or a potential hazard and should be addressed as soon as possible. A priority level of 2 indicates that the measure is considered urgent, but not a potential hazard or there is a less severe impact to occupants. A priority level of 3 indicates that the assets associated with the measure are nearing end of life, but have not yet failed or have a mild to moderate impact on occupant safety and comfort.

Southwest Forestry Services Complex

1. Replace the Heating Water System

The three (3) natural gas fired heating water boilers were installed in 1992, during the building's initial construction. These assets, along with supporting heating water equipment, have surpassed their recommended lifespan and were observed to be in poor condition. To ensure the heating system is operating at full capacity and efficiently, these boilers are recommended to be replaced within the next 1-3 years.

The following assets are included within this measure:

- B-1 (FCAID-820010)
- B-2 (FCAID-820011)
- B-3 (FCAID-820012)
- HWP-1 (FCAID-820013)
- HWP-2 (FCAID-820014)
- HWP-3 (FCAID-820015)
- Heating Water Piping: Penthouse (FCAID-820037)
- Heating Water Air Separator (FCAID-820016)
- Heating Water Bypass Feeder (FCAID-820017)
- Heating Water Expansion Tank (FCAID-820018)
- Heating Water Expansion Tank (FCAID-820019)

Priority Level: 1
Estimated Cost: \$644,870
Remaining Life: 1-3 years



Condition Assessment

2. Refurbish the Air Distribution System

A portion of the building's air distribution assets have been upgraded over the last year. This includes several variable frequency drives (VFDs) and fan motors. However, several assets do appear to be outdated and in poor condition. Further refurbishment should be considered for these assets over the next 1-3 years to ensure efficient operation, and to reduce the possibility of leaks from outdated pumping equipment used for the heat recovery loop.

The following assets are included within this measure:

- Air Handler: Cold Deck (SF2-1; SF2-2) (FCAID-820023)
- Air Handler: Hot Deck (SF-2-3) (FCAID-820022)
- RF-2 (FCAID-820024)
- EF2-1 (FCAID-820032)
- EF2-2 (FCAID-820033)
- HRP-3 (FCAID-820020)
- HRP-4 (FCAID-820021)
- EF-5 (FCAID-820034)
- EF-8 (FCAID-820035)
- EF-9 (FCAID-820036)
- EC-2 (FCAID-820040)
- (98) Terminal Units (FCAIDs vary)
- Heat Recovery Piping: Penthouse (FCAID-820039)

Priority Level: 2
Estimated Cost: \$1,149,430
Remaining Life: 1-3 years



3. Refurbish the Cooling System

Cooling is provided to the facility by one (1) cooling tower, which provides cooled water to the cold deck of the ventilation system. The cooling tower along with pumping and glycol equipment date back to the building's initial construction in 1992, and are in poor condition. Refurbishment or replacement of these assets is recommended in the next 1-5 years to improve the overall system performance and efficiency, while reducing the risk of leaks.

The following assets are included within this measure:

- FCP-2 (FCAID-820028)
- F-2 (FCAID-820029)
- FP-2 (FCAID-820030)
- GCP-1 (FCAID-820031)
- Cooling Water Piping: Penthouse (FCAID-820038)
- Glycol Feeder, Boiler Room (FCAID-820270)
- Expansion Tank, Glycol Loop (FCAID-820271)

Priority Level: 2
Estimated Cost: \$170,980
Remaining Life: 1-5 years



Condition Assessment

4. Replace the Lecture Hall Carpeting

While the majority of the carpeting was found to be in fair condition, the carpet in the main lecture hall was found to be in poor condition. Multiple areas of tears, split seams, and fraying carpet fibers were identified which can present a possible tripping hazard. Due to the high usage of this room, replacement of the carpeting is recommended as soon as possible.

The following assets are included within this measure:

- Carpeting, Lecture Hall (FCAID-820288)

Priority Level: 2
Estimated Cost: \$20,880
Remaining Life: 2 years



5. Replace Compressed Air and Vacuum Equipment

The building utilizes two (2) compressed air loops (one for HVAC controls, and one for lab spaces) and a vacuum system for lab use. The majority of the compressed air and vacuum equipment date back to the 1990s, and are in very poor condition with several assets failed or abandoned in place. Repair and refurbishment of the system may be needed within 4 years to ensure that the system is functioning reliably and with the minimal amount of maintenance costs.

The following assets are included within this measure:

- Air Compressor, Controls (FCAID-820009)
- Air Dryer, Controls (FCAID-820280)
- Air Compressor, Lab (FCAID-820281)
- Air Dryer, Lab (FCAID-820282)
- Vacuum Pump, Lab (FCAID-820283)

Priority Level: 2
Estimated Cost: \$79,230
Remaining Life: 1-4 years

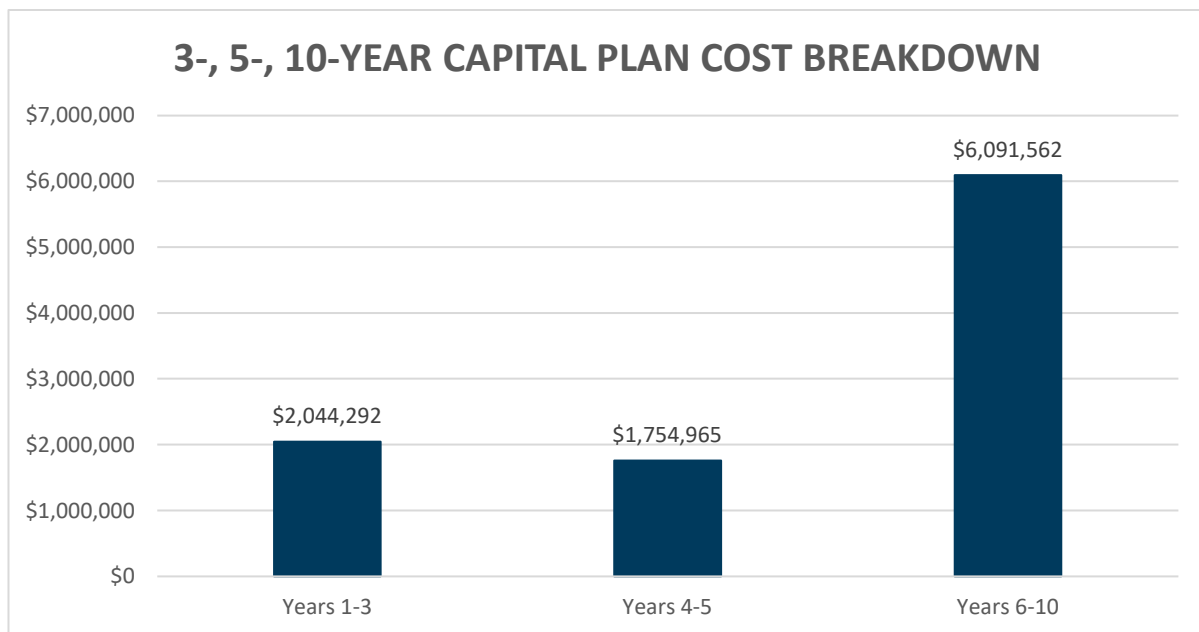


Condition Assessment

3-, 5-, 10-YEAR PLANS

The following sections present the expected equipment replacement costs over the next ten years, broken into three separate plans. These plans are the 3-Year Plan, 5-Year Plan, and the 10-Year Plan. Each plan includes the equipment expected to fail during these periods, based on the observed condition of the equipment at the time of the assessment. Note, the 3-Year Plan includes assets failing within the next three years, the 5-Year Plan includes assets failing between four and five years, and the 10-Year Plan includes assets failing between in the next six to ten years from the assessment date.

The chart below presents the total expected replacement costs for each plan. Note that these values represent current year (2023) replacement costs.



Future Capital Plan

The table below displays replacement costs for the campus, and the number of associated assets expected to fail within the next ten years. Assets requiring replacement or extensive maintenance in this plan are presented in Appendices A, B, and C.

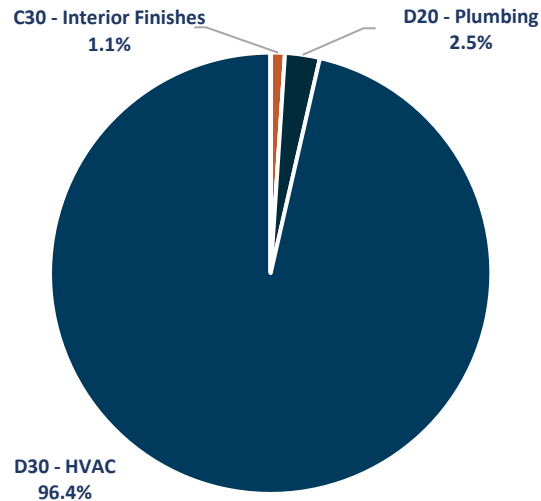
REPLACEMENT PERIOD	ASSET QUANTITY	CUMULATIVE REPLACEMENT COST
3-Year Plan	126	\$2,044,292
5-Year Plan	22	\$1,754,965
10-Year Plan	119	\$6,091,562
Total	267	\$9,890,819

Condition Assessment

3-YEAR PLAN BREAKDOWN

The three-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 1-3, or between 2023 and 2025. The sum of the anticipated capital needs is \$2,044,292. The specific assets that will reach end of life in this period are listed in Appendix A.

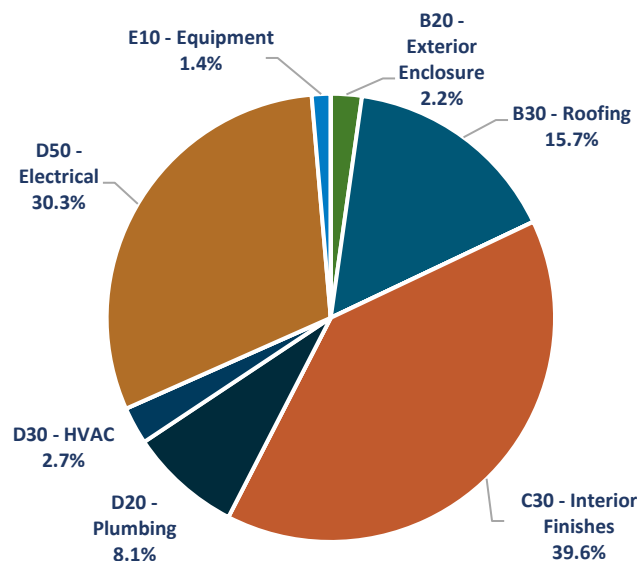
SUBSYSTEM	Years 1-3	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$0	0%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$21,506	1%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$51,621	3%
D30 - HVAC	\$1,971,165	96%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$0	0%
E10 - Equipment	\$0	0%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



5-YEAR PLAN BREAKDOWN

The five-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 4-5, or between 2026 and 2027. The sum of the anticipated capital needs is \$1,754,965. The specific assets that will reach end of life in this period are listed in Appendix B.

SUBSYSTEM	Years 4-5	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$39,111	2%
B30 - Roofing	\$275,859	16%
C10 - Int. Construction	\$0	0%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$695,396	40%
D10 - Conveying	\$0	0%
D20 - Plumbing	\$142,003	8%
D30 - HVAC	\$47,075	3%
D40 - Fire Protection	\$0	0%
D50 - Electrical	\$531,285	30%
E10 - Equipment	\$24,237	1%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%

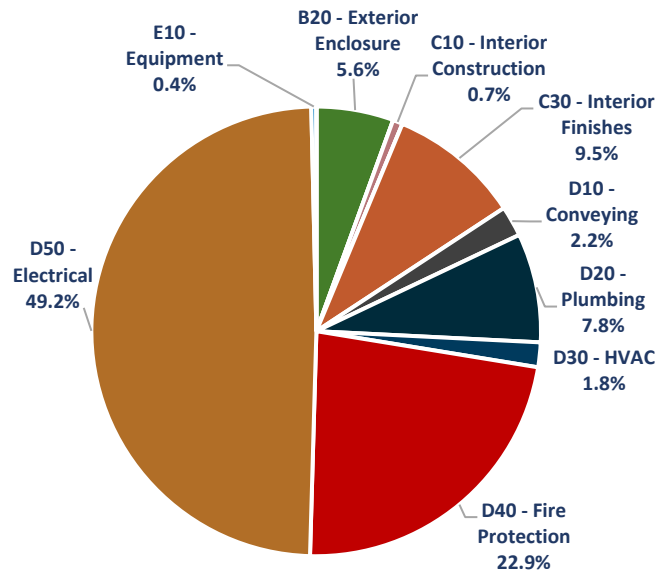


Condition Assessment

10-YEAR PLAN BREAKDOWN

The ten-year plan includes the estimated capital expenditure needed to replace assets reaching end of life in years 6-10, or between 2028 and 2032. The sum of the anticipated capital needs is \$6,091,562. The specific assets that will reach end of life in this period are listed in Appendix C.

SUBSYSTEM	Years 6-10	Percent
A10 - Foundations	\$0	0%
B10 - Superstructure	\$0	0%
B20 - Exterior Enclosure	\$338,092	6%
B30 - Roofing	\$0	0%
C10 - Int. Construction	\$43,273	1%
C20 - Stairs	\$0	0%
C30 - Interior Finishes	\$577,614	9%
D10 - Conveying	\$134,453	2%
D20 - Plumbing	\$477,050	8%
D30 - HVAC	\$108,427	2%
D40 - Fire Protection	\$1,394,050	23%
D50 - Electrical	\$2,996,634	49%
E10 - Equipment	\$21,968	<1%
G20 - Site Improvements	\$0	0%
G40 - Site Electrical	\$0	0%



Condition Assessment

PRIORITY SUMMARY

The summary below assigns a composite Overall Priority Score to the campus as of the assessment date. Priority Scores range from 5 (low priority) to 25 (high priority), and are based on asset condition, student/teacher impact, energy impact, estimated replacement cost, and observed remaining life.

In addition to the Overall Priority Score, each Subsystem category within the site is assigned a Priority Score. This score can differentiate systems that may need more attention than others, due to condition or impact on occupants or operations. Each Subsystem category includes a general narrative section under the Description column.

Future Capital Plan

The Subsystem scores are color coded to reflect the level of priority: ≤ 10 = Green, 10-16 = Yellow, ≥ 16 = Red. Higher priority scores indicate that a system should be considered for maintenance or capital improvements before other systems with lower scores. The rating scale for Priority Score is visualized below.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
5	10	15	20	25

Condition Assessment

PRIORITY SCORE SUMMARY - SOUTHWEST FORESTRY SERVICES COMPLEX

 SOUTHWEST FORESTRY SERVICES COMPLEX BUILDING TYPE: Academic YEAR BUILT: 1992 GROSS AREA (SF): 72,137 DATE ASSESSED: August 1, 2023 PRIORITY SCORE: 13.9		
SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
A10 - Foundations	The building's foundation consists of concrete supports. While the foundation could not be directly inspected; there were no obvious signs of major settling or movement of the structure indicating deficiencies.	14.0
B20 - Ext. Enclosure	The building's exterior enclosure includes masonry brick exterior walls, aluminum windows, and a combination of aluminum, glass, and hollow metal exterior doors. Additionally, there is a wood soffit surrounding the perimeter of the building. Overall, the exterior enclosure has not had many major upgrades since the building was construction, but is currently in fair condition.	12.0
B30 - Roofing	The building's roofing consists of a sloped shingled surface. The roofing does not appear to have been replaced since the building's construction; however, while currently in fair condition further investigation and identification of deficiencies is recommended over the next 5 years.	15.8
C10 - Int. Construction	The building's interior construction includes a combination of drywall, masonry brick, and wood paneling. Generally these assets have not been updated in the past 30 years, but are in overall fair condition.	11.6
C20 - Stairs	There are a total of four (4) stairwells within the building. This includes one (1) wood/steel staircase located in the main lobby, as well as three (3) concrete and steel stairwells located throughout. These stairwells are generally in good condition, but may need minor updates to treads and handrails within the next 10 years.	10.0
C30 - Interior Finishes	The interior flooring includes carpeting, vinyl tiling, wood flooring, and ceramic tiling. Other finishes include acoustic ceiling tiles, wood paneling, and wall tiles. Overall, the interior finishes are in fair condition but dated. A portion of the carpeting in the main lecture hall is in poor condition and in need of replacement.	12.1
D10 - Conveying	There is one (1) elevator in use in the building serving four levels (including the mechanical penthouse). The elevator is original to the building's 1992 construction, and in fair condition.	13.0
D20 - Plumbing	The building's domestic hot water system includes multiple tank type natural gas and electric water heaters, generally installed in 2010. There were no major deficiencies noted with the domestic hot water system. The building utilizes a combination of Zurn flush valve toilets and urinals, which appear to have been updated in the early 2010s. Lavatory sinks include manual Delta faucets, which are in fair condition. Additional plumbing equipment include eyewash/shower stations, pumps, and a reverse osmosis and deionized water (RO/DI) treatment system. The RO/DI system was installed in 2010, and is in fair condition.	12.8

System priority scored from 5 (lowest priority) to 25 (highest priority) based on condition, student/teacher impact, energy impact, maintenance impact, estimated replacement cost, and observed remaining life. [≤ 10 = green, 10-16 = yellow, ≥ 16 = red]

Continues on next page...

Condition Assessment

SUBSYSTEM:	DESCRIPTION	PRIORITY SCORE
D30 - HVAC	The building's heating, ventilation, and air conditioning (HVAC) system consists of separate hot and cold air handling decks supplying ventilation to multiple variable volume mixing boxes throughout the building. Heating is provided to the hot deck by a combination of three (3) natural gas fired hydronic boilers installed in 1992. These boilers are nearing the end of their recommended lifespan and in poor condition. Cooling is provided to the cold deck by the combination of a direct evaporative cooling section and a cooling water coil supported by one (1) cooling tower. The evaporative cooling section ("wet wall") failed in 2022, and has undergone recent repairs. The cooling tower and associated cooling water pumping equipment are outdated, and in poor condition. Additional HVAC equipment includes exhaust fans, ventilation hoods, pumping equipment and various supporting assets. Overall, the HVAC system is in poor condition; however, several upgrades have been made over the last year including controls and drives.	17.3
D40 - Fire Protection	The fire sprinkler system has not received any major renovation since the building was constructed.	16.9
D50 - Electrical	The building's electrical distribution equipment includes both 120/208V and 277/480V panels, transformers, and switchgear. The main service entry (SES) has a capacity of 600A at 15 kV. The vast majority of the distribution assets are original to the 1990s, and will be due for replacement within approximately 10 years. The building's lighting includes mostly linear fluorescent and compact florescent fixtures, with a few high intensity discharge (HID) fixtures located in the main lobby. To reduce the building's energy costs, consider upgrading these fluorescent and HID fixtures to light emitting diode (LED) fixtures. The fire alarm system was partially updated in 2015, and is currently in fair condition.	13.1
E10 - Equipment	Additional equipment includes a compressed air and vacuum system for the lab spaces. These assets were found to be in relatively poor condition, with many components being nearly 30 years old.	11.6
G40 - Site Electric	There are two (2) electric meters in the building, serving the separate electrical feeds for the NAU and USFS portions of the building.	7.0

System priority scored from 5 (lowest priority) to 25 (highest priority) based on condition, student/teacher impact, energy impact, maintenance impact, estimated replacement cost, and observed remaining life. [≤ 10 = green, 10-16 = yellow, ≥ 16 = red]

Appendices

A. 3-YEAR PLAN ASSETS LIST

B. 5-YEAR PLAN ASSETS LIST

C. 10-YEAR PLAN ASSETS LIST

Appendix A

APPENDIX A: 3-YEAR PLAN ASSETS LIST

The individual assets associated with the 3-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 3%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
5	10	15	20	25

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

SOUTHWEST FORESTRY SERVICES COMPLEX

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
820023	Air Handler: Cold Deck (SF2-1; SF2-2)	D30 - HVAC	1	\$348,480	23
820012	B-3	D30 - HVAC	3	\$183,000	21
820011	B-2	D30 - HVAC	3	\$183,000	21
820022	Air Handler: Hot Deck (SF-2-3)	D30 - HVAC	1	\$174,240	21
820010	B-1	D30 - HVAC	3	\$183,000	21
820024	RF-2	D30 - HVAC	1	\$110,160	17
820032	EF2-1	D30 - HVAC	1	\$55,490	17
820033	EF2-2	D30 - HVAC	1	\$55,490	17
820029	F-2	D30 - HVAC	2	\$120,590	16
820036	EF-9	D30 - HVAC	1	\$15,670	16
820021	HRP-4	D20 - Plumbing	1	\$18,770	16
820009	Air Compressor, Controls	D30 - HVAC	1	\$10,650	15
820014	HWP-2	D30 - HVAC	1	\$12,700	15
820035	EF-8	D30 - HVAC	1	\$6,460	15
820020	HRP-3	D20 - Plumbing	1	\$18,770	15
820040	EC-2	D30 - HVAC	1	\$32,670	15
820030	FP-2	D20 - Plumbing	2	\$9,350	15
820015	HWP-3	D30 - HVAC	1	\$12,700	15
820034	EF-5	D30 - HVAC	1	\$6,460	15
820013	HWP-1	D30 - HVAC	1	\$12,700	15
820280	Air Dryer, Controls	D30 - HVAC	1	\$5,220	14
820272	DHW Circulation Pump	D20 - Plumbing	1	\$4,450	14
820288	Carpeting, Lecture Hall	C30 - Int. Finishes	2	\$20,880	14
820107	Terminal Unit 2S09	D30 - HVAC	1	\$5,320	13
820091	Terminal Unit 2L33	D30 - HVAC	1	\$1,860	13

820123	Terminal Unit 2S25	D30 - HVAC	1	\$1,860	13
820044	Terminal Unit 2G04	D30 - HVAC	1	\$1,590	13
820099	Terminal Unit 2S01	D30 - HVAC	1	\$1,590	13
820045	Terminal Unit 2G05	D30 - HVAC	1	\$1,590	13
820115	Terminal Unit 2S17	D30 - HVAC	1	\$1,860	13
820046	Terminal Unit 2G05A	D30 - HVAC	1	\$1,590	13
820131	Terminal Unit 2S33	D30 - HVAC	1	\$1,590	13
820047	Terminal Unit 2G06	D30 - HVAC	1	\$1,590	13
820095	Terminal Unit 2L37	D30 - HVAC	1	\$1,860	13
820048	Terminal Unit 2G07	D30 - HVAC	1	\$3,990	13
820103	Terminal Unit 2S05	D30 - HVAC	1	\$1,590	13
820049	Terminal Unit 2G08	D30 - HVAC	1	\$2,220	13
820111	Terminal Unit 2S13	D30 - HVAC	1	\$2,220	13
820050	Terminal Unit 2G09	D30 - HVAC	1	\$3,370	13
820119	Terminal Unit 2S21	D30 - HVAC	1	\$3,370	13
820051	Terminal Unit 2G10	D30 - HVAC	1	\$2,220	13
820127	Terminal Unit 2S29	D30 - HVAC	1	\$7,970	13
820052	Terminal Unit 2G11	D30 - HVAC	1	\$1,860	13
820042	Terminal Unit 2G02	D30 - HVAC	1	\$5,320	13
820053	Terminal Unit 2G12	D30 - HVAC	1	\$2,220	13
820093	Terminal Unit 2L35	D30 - HVAC	1	\$1,860	13
820054	Terminal Unit 2G13	D30 - HVAC	1	\$1,590	13
820097	Terminal Unit 2L39	D30 - HVAC	1	\$1,860	13
820055	Terminal Unit 2G14	D30 - HVAC	1	\$1,860	13
820101	Terminal Unit 2S03	D30 - HVAC	1	\$5,320	13
820056	Terminal Unit 2G15	D30 - HVAC	1	\$2,220	13
820105	Terminal Unit 2S07	D30 - HVAC	1	\$1,860	13
820057	Terminal Unit 2G16	D30 - HVAC	1	\$3,370	13
820109	Terminal Unit 2S11	D30 - HVAC	1	\$2,220	13
820058	Terminal Unit 2G17	D30 - HVAC	1	\$2,220	13
820113	Terminal Unit 2S15	D30 - HVAC	1	\$1,860	13
820059	Terminal Unit 2L01	D30 - HVAC	1	\$1,860	13
820117	Terminal Unit 2S19	D30 - HVAC	1	\$2,220	13
820060	Terminal Unit 2L02	D30 - HVAC	1	\$7,970	13
820121	Terminal Unit 2S23	D30 - HVAC	1	\$3,370	13
820061	Terminal Unit 2L03	D30 - HVAC	1	\$7,970	13
820125	Terminal Unit 2S27	D30 - HVAC	1	\$1,590	13
820062	Terminal Unit 2L04	D30 - HVAC	1	\$6,650	13
820129	Terminal Unit 2S31	D30 - HVAC	1	\$2,220	13
820063	Terminal Unit 2L05	D30 - HVAC	1	\$1,860	13
820025	UH-2	D30 - HVAC	3	\$3,870	13
820064	Terminal Unit 2L06	D30 - HVAC	1	\$1,590	13
820090	Terminal Unit 2L32	D30 - HVAC	1	\$1,860	13
820065	Terminal Unit 2L07	D30 - HVAC	1	\$1,590	13
820092	Terminal Unit 2L34	D30 - HVAC	1	\$1,860	13
820066	Terminal Unit 2L08	D30 - HVAC	1	\$5,320	13
820094	Terminal Unit 2L36	D30 - HVAC	1	\$2,220	13

820067	Terminal Unit 2L09	D30 - HVAC	1	\$3,990	13
820096	Terminal Unit 2L38	D30 - HVAC	1	\$1,860	13
820068	Terminal Unit 2L10	D30 - HVAC	1	\$1,860	13
820098	Terminal Unit 2L40	D30 - HVAC	1	\$1,860	13
820069	Terminal Unit 2L11	D30 - HVAC	1	\$3,370	13
820100	Terminal Unit 2S02	D30 - HVAC	1	\$5,320	13
820070	Terminal Unit 2L12	D30 - HVAC	1	\$2,220	13
820102	Terminal Unit 2S04	D30 - HVAC	1	\$5,320	13
820071	Terminal Unit 2L13	D30 - HVAC	1	\$3,370	13
820104	Terminal Unit 2S06	D30 - HVAC	1	\$1,590	13
820072	Terminal Unit 2L14	D30 - HVAC	1	\$1,860	13
820106	Terminal Unit 2S08	D30 - HVAC	1	\$5,320	13
820073	Terminal Unit 2L15	D30 - HVAC	1	\$1,860	13
820108	Terminal Unit 2S10	D30 - HVAC	1	\$3,370	13
820074	Terminal Unit 2L16	D30 - HVAC	1	\$2,220	13
820110	Terminal Unit 2S12	D30 - HVAC	1	\$2,220	13
820075	Terminal Unit 2L17	D30 - HVAC	1	\$3,370	13
820112	Terminal Unit 2S14	D30 - HVAC	1	\$2,220	13
820076	Terminal Unit 2L18	D30 - HVAC	1	\$2,220	13
820114	Terminal Unit 2S16	D30 - HVAC	1	\$1,860	13
820041	Terminal Unit 2G01	D30 - HVAC	1	\$1,860	13
820116	Terminal Unit 2S18	D30 - HVAC	1	\$5,320	13
820078	Terminal Unit 2L20	D30 - HVAC	1	\$1,860	13
820118	Terminal Unit 2S20	D30 - HVAC	1	\$15,660	13
820079	Terminal Unit 2L21	D30 - HVAC	1	\$3,370	13
820120	Terminal Unit 2S22	D30 - HVAC	1	\$2,220	13
820080	Terminal Unit 2L22	D30 - HVAC	1	\$1,590	13
820122	Terminal Unit 2S24	D30 - HVAC	1	\$2,220	13
820081	Terminal Unit 2L23	D30 - HVAC	1	\$1,860	13
820124	Terminal Unit 2S26	D30 - HVAC	1	\$2,220	13
820082	Terminal Unit 2L24	D30 - HVAC	1	\$7,970	13
820126	Terminal Unit 2S28	D30 - HVAC	1	\$1,860	13
820084	Terminal Unit 2L26	D30 - HVAC	1	\$1,860	13
820128	Terminal Unit 2S30	D30 - HVAC	1	\$7,970	13
820085	Terminal Unit 2L27	D30 - HVAC	1	\$7,970	13
820130	Terminal Unit 2S32	D30 - HVAC	1	\$7,970	13
820086	Terminal Unit 2L28	D30 - HVAC	1	\$3,990	13
820132	Terminal Unit 2S34	D30 - HVAC	1	\$1,860	13
820087	Terminal Unit 2L29	D30 - HVAC	1	\$6,650	13
820017	Heating Water Bypass Feeder	D30 - HVAC	1	\$970	13
820088	Terminal Unit 2L30	D30 - HVAC	1	\$1,860	13
820043	Terminal Unit 2G03	D30 - HVAC	1	\$2,220	13
820089	Terminal Unit 2L31	D30 - HVAC	1	\$1,860	13
820077	Terminal Unit 2L19	D30 - HVAC	1	\$6,650	13
820083	Terminal Unit 2L25	D30 - HVAC	1	\$9,750	13
820037	Heating Water Piping: Penthouse	D30 - HVAC	3	\$29,140	12
820271	Expansion Tank, Glycol Loop	D30 - HVAC	1	\$3,950	12

820282	Air Dryer, Lab	D30 - HVAC	3	\$11,600	12
820038	Cooling Water Piping: Penthouse	D30 - HVAC	2	\$14,570	12
820270	Glycol Feeder, Boiler Room	D30 - HVAC	1	\$1,710	12
820016	Heating Water Air Separator	D30 - HVAC	3	\$10,890	11
820019	Heating Water Expansion Tank	D30 - HVAC	3	\$5,580	11
820018	Heating Water Expansion Tank	D30 - HVAC	3	\$11,190	11
820039	Heat Recovery Piping: Penthouse	D30 - HVAC	3	\$5,830	11

Appendix B

APPENDIX B: 5-YEAR PLAN ASSETS LIST

The individual assets associated with the 5-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 3%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
5	10	15	20	25

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

SOUTHWEST FORESTRY SERVICES COMPLEX

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
820264	Lighting, Fluorescent	D50 - Electrical	5	\$448,400	19
820005	Roofing - Shingle	B30 - Roofing	4	\$252,450	17
820298	Lighting, HID	D50 - Electrical	5	\$8,230	16
820281	Air Compressor, Lab	D30 - HVAC	4	\$29,580	14
820286	Carpeting, Offices	C30 - Int. Finishes	5	\$169,860	13
820283	Vacuum Pump, Lab	E10 - Equipment	4	\$22,180	13
820284	VCT Flooring	C30 - Int. Finishes	5	\$294,120	13
820279	RO/DI Water Treatment Units	D20 - Plumbing	5	\$77,000	12
820163	Water Heater 3001	D20 - Plumbing	5	\$9,280	12
820293	Wall Paint	C30 - Int. Finishes	5	\$153,870	12
820177	Water Heater 1004	D20 - Plumbing	5	\$4,040	12
820266	Exterior Lighting	D50 - Electrical	5	\$8,160	12
820004	Exterior Doors - Glass	B20 - Ext. Enclosure	5	\$34,750	12
820028	FCP-2	D20 - Plumbing	5	\$11,460	12
820031	GCP-1	D20 - Plumbing	5	\$9,350	12
820172	Gas Meter 2	D30 - HVAC	4	\$6,750	11
820170	Mop Sinks, All Levels	D20 - Plumbing	5	\$10,690	11
820164	DCW Meter	D20 - Plumbing	4	\$2,830	11
820171	Gas Meter 1	D30 - HVAC	4	\$6,750	11
820205	Lighting Control 020-2	D50 - Electrical	5	\$2,420	10
820204	Lighting Control 020-1	D50 - Electrical	5	\$4,830	10
820188	Backflow Preventer - Fire Suppression	D20 - Plumbing	5	\$1,600	10

Appendix C

APPENDIX C: 10-YEAR PLAN ASSETS LIST

The individual assets associated with the 10-Year Plan are shown below, sorted from highest to lowest priority score. The priority score key is shown below for convenience.

Note that these values represent current replacement costs expressed in 2023 dollar amounts and are not adjusted for Net Present Value (NPV) Inflation Rate of 3%.

LOW	MEDIUM-LOW	MEDIUM	MEDIUM-HIGH	HIGH
5	10	15	20	25

The asset ID listed for each entry has been assigned during this assessment and reflects the corresponding asset in the FCA workbook.

SOUTHWEST FORESTRY SERVICES COMPLEX

ASSET ID	DESCRIPTION	SUBSYSTEM	OBSERVED REMAINING LIFE	REPLACEMENT COST	PRIORITY SCORE
820261	Fire Suppression System	D40 - Fire Prot.	6	\$1,202,520	17
820189	Fire Alarm System	D50 - Electrical	9	\$222,430	16
820259	Piping, Natural Gas	D20 - Plumbing	7	\$292,150	15
820002	Exterior Windows - Aluminum	B20 - Ext. Enclosure	8	\$255,040	14
820250	Switchboard HNN031A	D50 - Electrical	10	\$224,440	14
820156	Elevator	D10 - Conveying	6	\$115,980	13
820260	Branch Wiring	D50 - Electrical	10	\$525,880	13
820294	Acoustic Ceiling Tiles	C30 - Int. Finishes	8	\$440,090	12
820185	FH - 217-2	D30 - HVAC	6	\$9,220	12
820251	Switchboard SESHU031	D50 - Electrical	10	\$108,550	12
820151	MCCHNN300; Sec. 8	D50 - Electrical	8	\$31,080	12
820147	MCCHNN300; Sec. 4	D50 - Electrical	8	\$31,080	12
820144	MCCHNN300; Sec. 1	D50 - Electrical	8	\$31,080	12
820248	Switchboard SESHEN031	D50 - Electrical	10	\$124,100	12
820176	Water Heater 016	D20 - Plumbing	6	\$8,250	12
820258	Transformer - USFS	D50 - Electrical	10	\$171,160	12
820178	Water Heater 107	D20 - Plumbing	6	\$8,250	12
820186	FH - 229	D30 - HVAC	6	\$9,220	12
820179	Water Heater 215	D20 - Plumbing	6	\$8,250	12
820191	ATS-N1	D50 - Electrical	7	\$39,810	12
820180	FH - 217-1	D30 - HVAC	6	\$9,220	12
820148	MCCHNN300; Sec. 5	D50 - Electrical	8	\$31,080	12
820145	MCCHNN300; Sec. 2	D50 - Electrical	8	\$31,080	12
820149	MCCHNN300; Sec. 6	D50 - Electrical	8	\$31,080	12
820146	MCCHNN300; Sec. 3	D50 - Electrical	8	\$31,080	12

820257	Transformer - NAU	D50 - Electrical	10	\$171,160	12
820183	FH - 218	D30 - HVAC	6	\$9,220	12
820150	MCCHNN300; Sec. 7	D50 - Electrical	8	\$31,080	12
820184	FH - 226	D30 - HVAC	6	\$9,220	12
820181	FH - 245	D30 - HVAC	6	\$9,220	12
820182	FH - 246	D30 - HVAC	6	\$9,220	12
820174	RO/DI Water Treatment Controller	D20 - Plumbing	7	\$22,250	12
820162	Bottle Filler 100CW	D20 - Plumbing	7	\$4,370	11
820253	Main Switch - USFS	D50 - Electrical	10	\$31,030	11
820274	UV Water Sanitizer	D20 - Plumbing	6	\$2,100	11
820285	Tile Flooring	C30 - Int. Finishes	7	\$30,450	11
820161	Bottle Filler 200CW	D20 - Plumbing	7	\$4,370	11
820249	Switchboard HNN031	D50 - Electrical	10	\$54,270	11
820169	Lab Sinks, Level 3	D20 - Plumbing	7	\$14,970	11
820160	Bottle Filler 003CW	D20 - Plumbing	7	\$4,370	11
820275	Finishing Filter	D20 - Plumbing	6	\$7,000	11
820252	Main Switch - NAU	D50 - Electrical	10	\$31,030	11
820007	Interior Walls - Penthouse Plenum	C10 - Int. Construct.	6	\$22,630	11
820187	Environmental Room	E10 - Equipment	6	\$18,950	10
820140	VAV-8	D30 - HVAC	6	\$2,220	10
820143	VAV-11	D30 - HVAC	6	\$1,860	10
820134	VAV-2	D30 - HVAC	6	\$1,860	10
820278	Water Softener, Right	D20 - Plumbing	6	\$7,000	10
820008	Heating Water Make-Up Backflow prevent	D20 - Plumbing	7	\$440	10
820276	DI Water Storage Tank	D20 - Plumbing	6	\$6,280	10
820133	VAV-1	D30 - HVAC	6	\$3,370	10
820139	VAV-7	D30 - HVAC	6	\$3,370	10
820158	Backflow Preventer - DCW - West	D20 - Plumbing	7	\$1,600	10
820141	VAV-9	D30 - HVAC	6	\$3,370	10
820135	VAV-3	D30 - HVAC	6	\$3,370	10
820003	Exterior Doors - Metal	B20 - Ext. Enclosure	8	\$19,860	10
820159	Backflow Preventer - DCW - East	D20 - Plumbing	7	\$1,600	10
820142	VAV-10	D30 - HVAC	6	\$1,860	10
820136	VAV-4	D30 - HVAC	6	\$3,990	10
820277	Water Softener, Left	D20 - Plumbing	6	\$7,000	10
820137	VAV-5	D30 - HVAC	6	\$1,860	10
820138	VAV-6	D30 - HVAC	6	\$1,860	10
820290	Tile Walls	C10 - Int. Construct.	7	\$14,270	10
820198	Panel DPLEN031GEN	D50 - Electrical	10	\$39,230	9
820254	Transformer TDPLEN031A	D50 - Electrical	10	\$15,370	9
820199	Panel DPLNN031A	D50 - Electrical	10	\$32,680	9
820256	Transformer TDPLNN031B	D50 - Electrical	10	\$15,370	9
820255	Transformer TDPLNN031A	D50 - Electrical	10	\$15,370	9
820201	Panel DPLEN031A	D50 - Electrical	10	\$32,680	9
820200	Panel DPLNN031B	D50 - Electrical	10	\$32,680	9
820219	Panel LEN210A	D50 - Electrical	10	\$3,140	8
820245	Panel HNN031A	D50 - Electrical	10	\$3,140	8

820241	Panel LEN031A	D50 - Electrical	10	\$3,140	8
820223	Panel LNN124A	D50 - Electrical	10	\$3,140	8
820195	Panel DPLNN124A	D50 - Electrical	10	\$11,890	8
820224	Panel LNN124B	D50 - Electrical	10	\$3,140	8
820212	Panel HNN231A	D50 - Electrical	10	\$3,140	8
820225	Panel LNN210B	D50 - Electrical	10	\$3,140	8
820243	Panel DCA	D50 - Electrical	10	\$2,890	8
820226	Panel LNN215	D50 - Electrical	10	\$3,140	8
820247	Panel LNN031A	D50 - Electrical	10	\$3,140	8
820227	Panel LNN226	D50 - Electrical	10	\$3,140	8
820197	Panel DPLNN231A	D50 - Electrical	10	\$11,890	8
820228	Panel LNN227	D50 - Electrical	10	\$3,140	8
820221	Panel LNN110A	D50 - Electrical	10	\$3,140	8
820229	Panel LNN231A	D50 - Electrical	10	\$3,140	8
820214	Panel LCN216	D50 - Electrical	10	\$3,140	8
820230	Panel LNN231B	D50 - Electrical	10	\$3,140	8
820242	Panel LNN031C	D50 - Electrical	10	\$3,140	8
820231	Panel LNN241	D50 - Electrical	10	\$3,140	8
820244	Panel HEN031A	D50 - Electrical	10	\$3,140	8
820232	Panel LNN242	D50 - Electrical	10	\$3,140	8
820246	Panel LNN018	D50 - Electrical	10	\$3,140	8
820233	Panel LNN243	D50 - Electrical	10	\$3,140	8
820194	Panel DPLNN110A	D50 - Electrical	10	\$4,560	8
820234	Panel LNN031B	D50 - Electrical	10	\$3,140	8
820196	Panel DPLNN210A	D50 - Electrical	10	\$11,890	8
820216	Panel LCN218	D50 - Electrical	10	\$3,140	8
820218	Panel LEN124A	D50 - Electrical	10	\$3,140	8
820217	Panel LEN110A	D50 - Electrical	10	\$3,140	8
820220	Panel LEN231A	D50 - Electrical	10	\$3,140	8
820208	Panel HEN231A	D50 - Electrical	10	\$3,140	8
820222	Panel LNN110B	D50 - Electrical	10	\$3,140	8
820192	Panel DPLEN124A	D50 - Electrical	10	\$4,560	8
820235	Panel LNN010A	D50 - Electrical	10	\$3,140	8
820207	Panel HEN124A	D50 - Electrical	10	\$2,890	8
820236	Panel LNN010B	D50 - Electrical	10	\$3,140	8
820157	Backflow Preventer - RO Fill	D20 - Plumbing	9	\$400	8
820237	Panel LNN134	D50 - Electrical	10	\$3,140	8
820193	Panel DPLEN231A	D50 - Electrical	10	\$11,890	8
820238	Panel LNN135	D50 - Electrical	10	\$3,140	8
820213	Panel LCN120	D50 - Electrical	10	\$3,140	8
820239	Panel LNN210A	D50 - Electrical	10	\$3,140	8
820215	Panel LCN217	D50 - Electrical	10	\$3,140	8
820240	Panel HNN010A	D50 - Electrical	10	\$3,140	8
820209	Panel HNN110A	D50 - Electrical	10	\$3,140	8
820210	Panel HNN124A	D50 - Electrical	10	\$3,140	8
820211	Panel HNN201A	D50 - Electrical	10	\$3,140	8
820273	Water Meter, Evaporative Section	D20 - Plumbing	9	\$400	7