



2023 LONG-RANGE PLAN



FAIRBANKS EXPERIMENT FARM

University of Alaska Fairbanks

INSTITUTE OF AGRICULTURE, NATURAL RESOURCES AND EXTENSION
AGRICULTURAL AND FORESTRY EXPERIMENT STATION

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University of Alaska Fairbanks, Fairbanks Experiment Farm Long-range Plan. 2023

Prepared by the Fairbanks Experiment Farm Long-range Plan Committee and Susan Bybee.

Special thanks to:

Georgeson Botanical Garden manager Katie DiCristina, who led the committee that developed this plan; Milan Shipka, the former director of the Agricultural and Forestry Experiment Station, who provided guidance; Debbie Carter and Julie Stricker, who edited this document and provided support to bring this project to completion; Cameron Wohlford, who resurrected this document to bring it to final approval; and Jodie Anderson, who brought this to final approval.

Committee members included:

Katie DiCristina, Kieran Gleason, Alan Tonne, Mingchu Zhang, Heidi Rader, Glenna Gannon and Debbie Carter of the Institute for Agriculture, Natural Resources and Extension; Karl Petterson and Jennifer Campbell of Facilities Services; and volunteer facilitator Jewelz Barker.



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INTRODUCTION

Chancellor's Message

The University of Alaska Fairbanks vision statement is excellence through transformative experiences. Since its founding in 1906, the Fairbanks Experiment Farm has been a hub for transformative experiences through agricultural research and outreach. As we look ahead to the future, the Fairbanks Experiment Farm has an opportunity to contribute to food security in Alaska, transforming how we provide for Alaskans.

As Alaska's research university and America's arctic university, UAF proudly supports the research and outreach conducted by the Fairbanks Experiment Farm. The farm has a long history of engaging in research and providing information to farmers and gardeners on the best agricultural production techniques for Interior Alaska. This research remains vital today as researchers determine the best growing techniques and varieties suited to a changing climate. The farm encompasses the university's mission of teaching, research and service.

This long-range plan highlights current strengths and addresses areas of need to modernize the farm. This includes repurposing or removing aging infrastructure, monetizing certain assets, and pivoting to meet modern agricultural needs. These projects will increase the farm's adaptability and sustainability in the long-term, increasing flexibility and reducing dependency on state funding. As Alaskan agriculture moves to more abundant and smaller-scale farms, the removal of inefficient structures to be replaced with a smaller, more efficient facility will meet the farm's current needs while responding to the emerging needs of Alaskans.

Thank you for taking time to review the long-range plan for the Fairbanks Experiment Farm. We hope that you consider visiting soon.

Introduction

The Fairbanks Experiment Farm is an integral part of the University of Alaska Fairbanks. Since its beginnings in 1906, the farm's primary mission has been to develop reliable, research-based information for farmers. This was a critical need at a time when Alaska's agricultural capacity to support its growing population was unknown. Today the farm continues to be a reliable source of agricultural and natural resource information. It also fulfills the university's tripartite mission of teaching, research and service.

The farm is poised to address the ever-changing needs of Alaskans, including greater food security, site-based education, and experience for an increasing number of new and beginning farmers. Researchers are shifting ideological farming methods towards more sustainable practices, such as regenerative agriculture, a conservation and rehabilitation approach to farming that addresses climate change.

A centerpiece of the farm is the Georgeson Botanical Garden, which hosts research and outreach through workshops, tours, educational programs and interpretive signage. It also serves as a demonstration garden for herbs, flowers, vegetable production, and ecological landscape design and creates a connection between UAF academic research and the community. Visitors are drawn to the botanical garden, with its showy peonies and other flowers and outdoor space. The garden hosts a weekly summer music series, weddings and other community events during the summer.

The purpose of this plan is to provide a living document to thoughtfully guide development of facilities and programs, and projects at the Fairbanks Experiment Farm, while responding to current agricultural and natural resource needs.

Historical Foundation

Beginning with Sitka in 1898, the U.S. Department of Agriculture developed seven agricultural experiment stations in Alaska. Other

stations opened in Kodiak (1898), Kenai (1899), Rampart (1900), Copper Center (1903), Fairbanks (1906) and the Matanuska Valley (1915).

Residents of Fairbanks petitioned the U.S. secretary of agriculture to develop an experiment station in the Tanana Valley. According to university historian Terrence Cole, federal agricultural agents Charles Georgeson and Fred Rader explored the Fairbanks area on horseback for three days before choosing a site halfway between Fairbanks and Chena in 1905. "Georgeson thought the gently sloping, south-facing ridge covered with spruce and birch trees was 'an admirable tract of land for an experiment station,'" Cole wrote. The site of about 1,400 acres was chosen for its soils and proximity to the railroad, which connected Fairbanks and Chena to nearby gold diggings.

Land clearing began in 1907 and J.W. Neal, the farm's first superintendent, planted the initial crops in 1908. Those included turnips, cabbages, 32 varieties of potatoes from the Rampart station, and strains of barley, oats and rye. In Georgeson's 1909 annual report, he said, "The chief object of the work at this station is to determine whether or not farming can be made to pay." Georgeson was the special agent in charge of Alaska's experiment stations.

Land-grant legislation in 1915 reserved 2,200 acres of land surrounding the agricultural experiment station for the new college. The Alaska Agricultural College and School of Mines opened in 1922. In 1931, the experiment stations were transferred from federal ownership to the college, which became known as the University of Alaska in 1935.

Work at the farm has encompassed research on a variety of livestock, including yaks, beef and dairy cattle, goats, swine, poultry and reindeer. Crops grown included grains, grasses, legumes, fruit, and potatoes and other vegetables. Through the years, research from the Fairbanks farm has benefited Alaskans who farmed, grew gardens, operated greenhouses, planted lawns,

grew turf or raised livestock.

Research on peonies has helped establish and support a promising new export crop, and grain variety trials continue, as do vegetable variety trials and greenhouse production research. Farm staff have collected weather data from 1911 to the present, an important record used by climate change researchers and others.

More than 40 cultivars of northern-adapted Alaska crops have been

developed at the agricultural experiment farms, including strawberries, potatoes and Sunshine barley, a hullless barley that withstands harsh winters. The Fairbanks farm hosted a research reindeer herd for more than 30 years, and research and outreach continues in collaboration with the Matanuska Experiment Farm and Extension Center, the only other remaining experiment farm. The other stations closed because of costs and other challenges. Stations in Copper Center and Kenai closed in 1908, Rampart in 1925 and Sitka and Kodiak in 1931.



Gentlemen gather to measure the height of grain growing at the Fairbanks Experiment Farm in the early 1900s.

Challenges and Opportunities

The Fairbanks Experiment Farm has a long history of major contributions to Alaska agriculture. In recent years, the farm has noticed a need for revised operations and a long-range plan due to resource reduction, growth in the number of visitors without a growth of accommodations, aging infrastructure and machinery, and the challenge of maintaining relevance as the needs of Alaskans change.

Capacity Reduction

Over the past 10 years, there has been a drastic reduction in research at the farm due to reduction of funding and staffing. Most notably, the USDA Agricultural Research Service is no longer in Alaska, and research faculty in horticulture, agronomy, forestry, soils and plant breeding have retired and not been replaced.

Safety and Security

Some site-specific challenges need to be addressed to allow for continued growth of public visitation and use of the farm. Parking and traffic flow are a safety concern. When the small parking lot at the farm and garden is full, the public parks along West Tanana Drive, creating potential hazards to vehicle traffic and to pedestrians on the commuter path and crossing the road. Unattended public parking in the small, existing parking area results in cars, buses and RVs blocking critical pathways for emergency vehicles. No accommodation exists for bus parking, which limits accessibility to tour and student groups. Large farm equipment that is stored at the farm must travel between the farm operations center and the agricultural fields across the street. Moving these large and slow pieces of equipment across Tanana Drive can be potentially dangerous, especially with the limited sightline of eastbound drivers on West Tanana Drive.

Security remains a challenge. Vandalism and theft are common in the summer months. As of 2020, there is no on-site manager or resident at the farm.

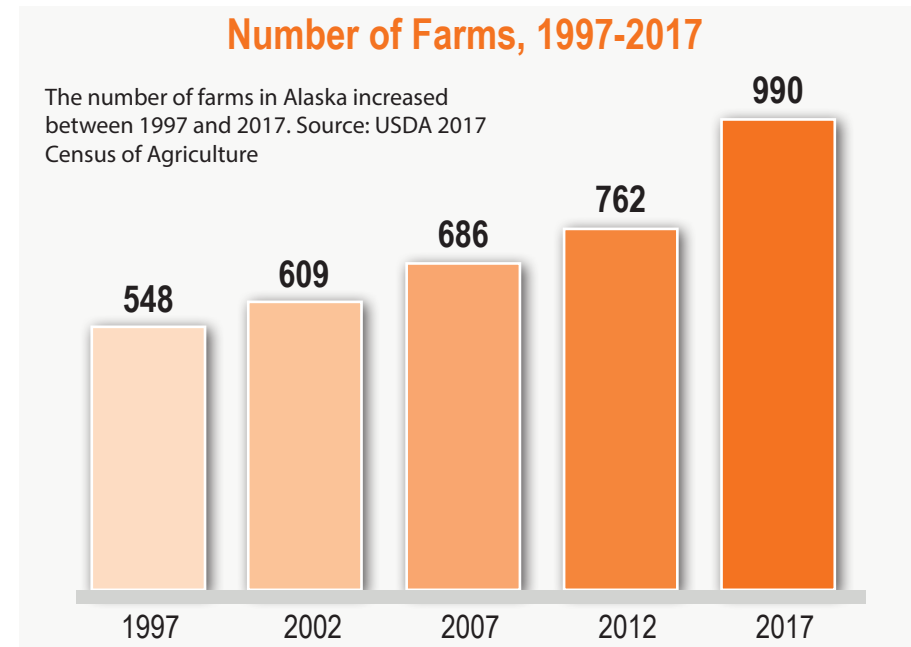
The Alaska Railroad does not allow the public to access the fields on

the other side of the tracks from the farm. Students, staff and faculty need ready access to the lower field. Development of student and research activity hinges on creation of a new access point to the lower field.

Alaska Agriculture is Poised for Growth

The climate in Fairbanks and Alaska is changing. Northern-latitude regions around the world are warming faster than temperate zones. Alaska has warmed more than twice as rapidly as the rest of the United States. Farm weather records show that its growing season has lengthened by three weeks over the past 49 years, from 1970 to 2019. The greatest warming trends in the Interior have occurred in May and September. The growing season in Interior Alaska and in many regions in Alaska is expected to continue to increase. These trends will increase the potential for agricultural activity in Alaska.

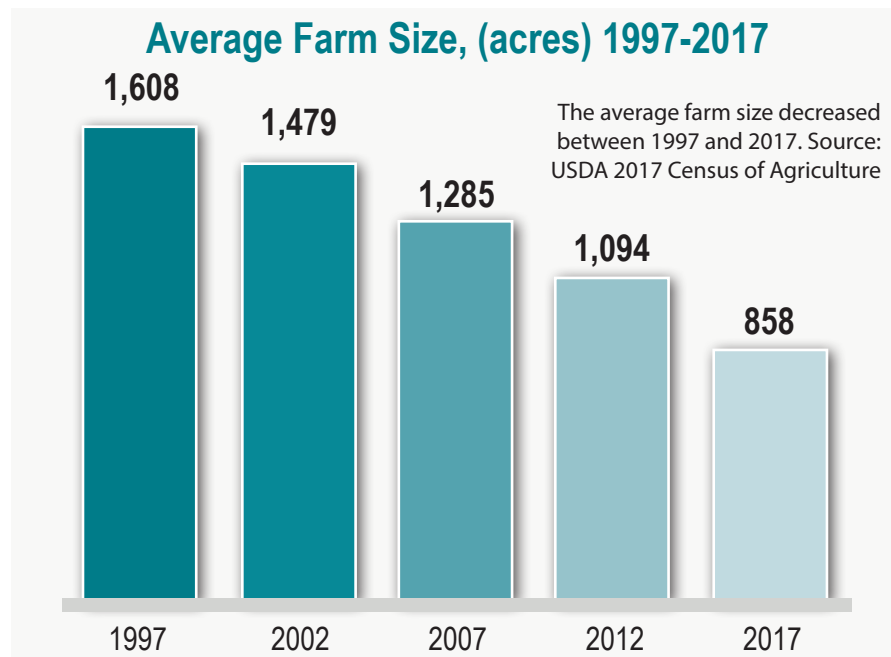
According to the 2017 Census of Agriculture, Alaska has the highest percentage of beginning farmers in the United States. Forty-six percent of Alaska's agricultural producers are beginning farmers, having



10 years or less of experience farming. The number of farms in Alaska has been increasing (30 percent more from 2012 to 2017) and the size of farms has been decreasing over the last 20 years, indicating a trend in growth of small farms. There are few experiential farmer training programs in Alaska that can prepare these new farmers.

Estimates vary but at least 90 to 95 percent of the food consumed in Alaska is imported from out of state. Alaska relies on open and affordable transportation routes for its food supply. An unexpected event that would slow or close a supply route could be devastating for Alaskans. Increasing the amount of locally produced food would help mitigate this risk.

The Governor's Food Security Taskforce Report (<https://alaska-food-systems-soa-dnr.hub.arcgis.com/>) and the Alaska Food Policy Council's Regional Food System Action Plan (<https://www.akfood-policycouncil.org/blog/2022/9/8/2022-regional-food-system-partnership-project-report-amp-food-security-action-plan-released>) describe Alaska's food system and outline action steps.



Vision

The Fairbanks Experiment Farm is poised to be the center of experiential learning, innovative research and service outreach for agriculture in Alaska. The facilities, expertise and resources at UAF and the farm offer a diversified platform for building a multidisciplinary experiential classroom and laboratory.

We envision a future co-working space at the farm, by way of removing the Horticulture (AF111) and Former Visitor Center/Forestry (AF117) buildings (see Facilities Inventory Map in the appendix on page 26) and replacing them with a new multi-use building that houses Agricultural and Forestry Experiment Station and Cooperative Extension Service employees. Sharing space leads to sharing ideas and projects. This will encourage communication and build connections between both legs of the Institute of Agriculture, Natural Resources and Extension (IANRE). It will also strengthen academic ties and advance the tripartite mission.

The farm's position within IANRE creates a platform to host projects from many disciplines and to work with faculty, staff and students from throughout the university. Farming by nature is a multidisciplinary field that includes ecology, plant biology, marketing, communications, business, culinary, trades such as small engine repair and welding, engineering and innovative design. By creating connections with students and faculty in each of these disciplines, the farm will help revitalize academic programs and strengthen multidisciplinary collaborations at UAF. The farm will also pursue suitable collaborations with individuals and groups in the local, state, national and international communities to bring in new ideas and share our discoveries beyond the university. In addition to increased community workshop and youth education opportunities, the vision includes a farmer training certificate program and a farm incubator program.

Through teaching, research and outreach, the farm will be a leader in innovation and best practices for high-latitude agriculture and healthy and sustainable food systems. The current awareness of the

importance of food security, the need to adapt to climate change, and increasing opportunities for new and beginning farmers in Alaska underscores the role of the farm in supporting this important work. The Fairbanks Experiment Farm is poised to be an important piece of the puzzle in addressing food security and sovereignty needs throughout Alaska.

ASSETS AND IDENTITY

Location

The Fairbanks Experiment Farm is on the west side of Fairbanks and in the southwest corner of the University of Alaska Fairbanks campus, on West Tanana Drive. The farm encompasses more than 250 acres of pasture and cropland and 60 acres of forested land. That includes the core farm facilities and operations center, agricultural fields, animal holding pens, the Georgeson Botanical Garden, the exotic tree plantation and the T-Field. The latter two areas of the farm are on North Campus and will not be addressed in this document.

The core facilities and operations center, the garden and the agricultural fields are the center and focus of farm activities, the face the farm presents to the community. The farm includes some of the longest continually cultivated pieces of land in the state. The AFES West Ridge Greenhouse is located nearby, on the south side of the Arctic Health Research Building. The research facility provides the facilities to propagate plants for the garden and vegetable variety trials and for outreach.

The farm is located about six miles from the center of Fairbanks, the administrative and supply center for central Alaska. It is also located close to one of the state's larger farming areas. According to the most recent USDA Census of Agriculture (2017), the Interior hosts 274 farms out of 990 in the state, with sales of more than \$10







The barn at the Fairbanks Experiment Farm was built in the 1930s.

million. The Fairbanks farm, located more than 300 miles north of the Matanuska Experiment Farm and Extension Center, has a USDA Plant Hardiness Zone rating of 2A, with minimum temperatures of 45 to 55 below zero. It has a typical subarctic continental climate. The Matanuska farm has a milder coastal climate in the 4B hardiness zone, with minimum temperatures of 20 to 25 below zero.

Fairbanks is the northernmost city in the U.S. with road access. The Fairbanks farm is situated in an area of limited transportation routes and major ports of shipping. The distance between Fairbanks and Anchorage, the closest major shipping port, is 259 miles by air, and 356 miles by road (Highway 3/Parks Highway) or train.

The farm's location on the UAF campus provides easy access to students, researchers and the Fairbanks community. In 2021, UAF had 522 faculty and 7,471 enrolled students. Eighty-seven percent of the students were undergraduates and 13 percent were enrolled in graduate studies, with 38% of first year students living on campus. In 2021, The population of Fairbanks was 32,700, and the Fairbanks North Star Borough population is estimated at 95,592.

Facilities

The Fairbanks Experiment Farm building infrastructure consists of a boiler/maintenance shop, a horticulture lab and office building, a farmhouse and two dozen farm-type facilities (barns, controlled environment agriculture laboratory, feed mill, grain bins, grain dryers, seasonal greenhouse, conex containers, kilns and equipment storage buildings). The current barn was built in the 1930s. The buildings range in age from 25 to 90 years old and have not been renovated recently. The farm's septic sewer system is less than 10 years old. Power and water are provided by campus utilities. Heat is provided by on-site oil-fired boilers. All of the farm's facilities and their maintainable equipment are included in the UAF Asset Inventory Management (AIM) database for lifecycle cost tracking and scheduling of preventive maintenance activities. Facilities audits completed in 2022 have provided a compiled list of deferred maintenance and renewal. A Facilities Condition Index (FCI), which measures the

cost of renewal against a building's replacement value, has been developed for the major facilities and will help inform capital planning decisions, renewal versus replacement, and building demolition.

Teaching, Research and Outreach

The Fairbanks Experiment Farm strives to provide a tripartite presence in teaching, research and outreach. Programs at the Fairbanks Experiment Farm are driven by the needs of gardeners, farmers, students, the general public, and by the four interwoven intentions of the land-grant college. Those include the First Morrill Act (commonly known in 1862 as the "Land-Grant Agricultural and Mechanical College Act"); the Hatch Act (1887), which funded agricultural experiment stations to be associated with every land-grant college; the Smith-Lever Act (1914), which funded the Cooperative Extension Service as the outreach arm of the land-grant college; and the UAF mission (2012).

Taken together, the Morrill Act, the Hatch Act and the Smith-Lever Act define the tripartite mission of the land-grant university. As a land-grant university, the UAF mission is not only driven by the tripartite mission but also responds to Alaskans through the UA Board of Regents and through interactions with stakeholders. The Agricultural and Forestry Experiment Station and the Fairbanks Experiment Farm are well-aligned with federal legislation creating the modern land-grant university and with the UAF mission.

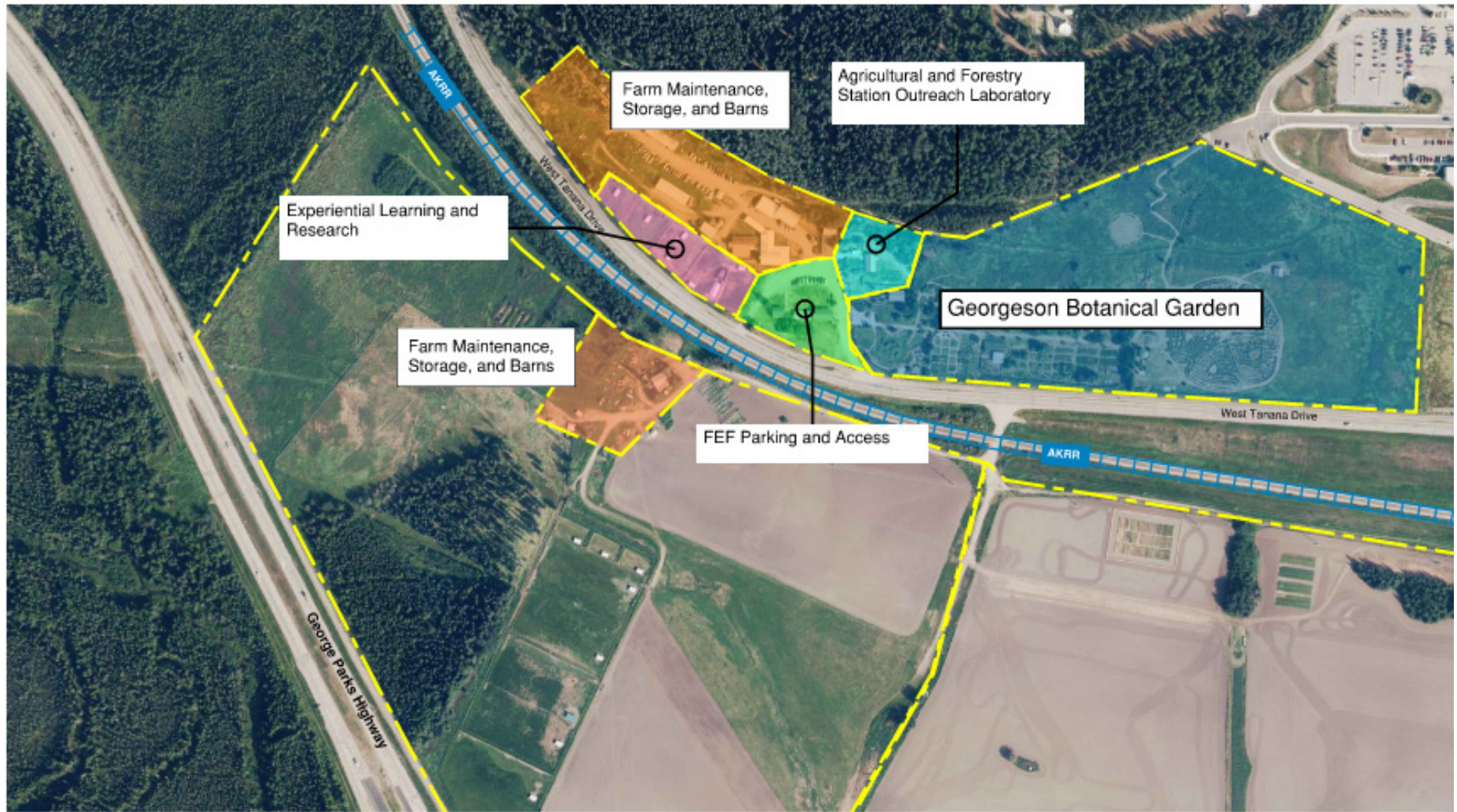
Research at the farm is conducted by a diverse group of researchers from the experiment station, other UAF research institutes and universities, and agricultural agencies.

Traditional agricultural research conducted by AFES includes vegetable variety trials, ongoing spring wheat selection trials in coordination with Washington State University (since 2012), and other trials that test small grain varieties from around the world that might be grown in Alaska. Research also includes the evaluation of cover crop mixtures. A large-scale cover crop trial was undertaken in 2020 to determine types of cover crops, rotational schedules and yield.



Fairbanks farm main operations center and Vegetable Variety trials plots in lower field.





FAIRBANKS EXPERIMENT FARM LONG-TERM PLAN
PRIMARY BUILDING ZONES



Research



Mingchu Zhang is testing early-maturing spring wheat varieties.



The National Weather Service honored the farm's weather station for being the longest continuously reporting weather site in Alaska.



Former farm manager Alan Tonne stands in the middle of the farm's weather station. The farm has been collecting weather data since 1911, which is used by researchers.



Bob Van Veldhuizen harvests wheat at the Fairbanks Experiment Farm.



Variety trials project research personnel Heidi Rader and Nicole Carter plant winter squashes in the Fairbanks Experiment Farm fields.

Vegetable variety trials have been conducted at the farm for most of its history, but the current vegetable trials moved from the Georgeson Botanical Garden to a larger area in the fields south of the garden.

Several AFES research programs use the farm's facilities. The Tree Ring Lab and its wood disc library are located in the barn and continue to be used for ongoing academic research. Forestry programs use the farm facilities for a firewood drying study and to stage materials and equipment for research or outreach activity undertaken elsewhere. In addition, several field courses use the farm facilities as a staging site for multiday field courses.

The farm's fields also host other UAF research, including the Alaska Center for Energy and Power (ACEP), solar cells; International Arctic Research Center (IARC), temperature probes in cover crops; Geophysical Institute (GI), permafrost tubes, sensors and other instrumentation; and College of Natural Science and Mathematics (CNSM) Department of Atmospheric Sciences, observing microclimate using lasers. The ongoing GI research (since the 1970s) measures changes in permafrost depth and soil temperatures. The Alaska Center for Unmanned Systems Integration, or ACUASI, uses the fields for its NASA-funded research on the development of traffic management systems. Climate scientists from IARC and other units use the farm's weather station data, which has been collected continuously in nearly the same location since 1911. In addition, grant proposals for collaborative projects between IANRE faculty and staff and other UAF units continue to be pursued. The UAF Art Department operates its ceramics kiln at the farm.

Other universities collaborate with the farm for research. Currently, researchers from Washington State University and USDA-ARS at the University of California, Davis are conducting research with the farm's peonies on thrips, botrytis and peony shipping concerns.

Other agencies also conduct research at the farm. The lower fields

and T-field contain swallow nesting boxes for a long-term study on the nesting ecology of swallows. The Alaska Songbird Institute shares this information with the Alaska Swallow Monitoring Network and the data are being analyzed by a graduate student. The Fairbanks Soil and Water Conservation District is growing and researching forage and cover crops and conducted research on native pollinators.

Graduate students conduct research at the experiment farm and the AFES West Ridge Greenhouse. Recent topics have included modeling of future wheat production and the germination and genetics of birch seedlings. Current areas of focus by UAF graduate students include growing degree days and soil temperatures, iron uptake in hydroponic systems, and identifying effective persistent pesticides to use for certified weed-free straw and invasive chokecherry. UAF students participate in hands-on student internships at the Georgeson Botanical Garden, with field crops and in the AFES greenhouse.

In addition to conducting research in its fields, the farm raises and sells hay to the Large Animal Research Station.

Georgeson Botanical Garden

The Georgeson Botanical Garden is part of the Fairbanks Experiment Farm and Institute of Agriculture, Natural Resources and Extension. It sits on approximately five acres adjacent to and east of the farm facilities and operations center. The garden was established in 1989 and provides many of the programs at the farm.

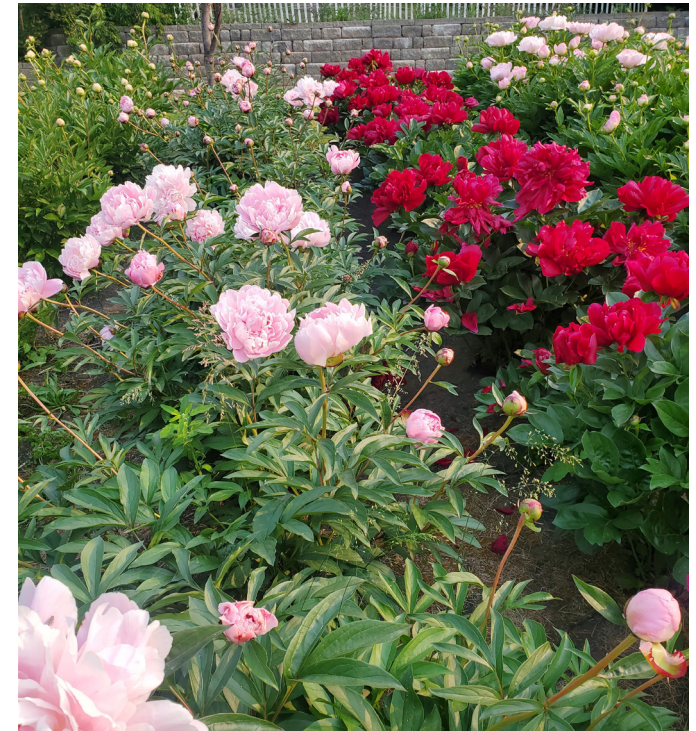
The mission of the garden is to conduct research, education and outreach in relation to high-latitude horticulture. The mission is accomplished in various ways, including youth and adult education programs, volunteer opportunities, student internships, interpretive signage, guided tours, community collaborations and special events.

The garden is used by UAF classes, Fairbanks North Star Borough schools, home schools, and preschools as a living laboratory as well

Georgeson Botanical Garden



Volunteers and staff keep the botanical garden ablaze with color.



Peonies were planted as part of peony research.



Two UAF student participants in the Harvest Project Collaborative Program at the GBG. Photo courtesy of JR Ancheta.



The Georgeson hosts a variety of youth education activities.



The popular summertime Music in the Garden series features weekly concerts by area musicians.

as with Family Centered Services of Alaska as a site for the development of workplace skills for Fairbanks youth. UAF Summer Sessions also facilitates several camps for kids in the garden and coordinates Music in the Garden, a popular weekly summer series that draws in many community members to the UAF campus.

The garden is funded by the Institute of Agriculture, Natural Resources and Extension, UA Foundation funds raised by the garden

and by the Georgeson Botanical Garden Friends (formerly known as the Georgeson Botanical Garden Society). The nonprofit's mission is to support the garden.

The Georgeson Botanical Garden Society worked with the American Society of Landscape Architects to develop a long-range site plan in 2018 to help guide development in the garden. An addendum to this document includes the plan.



BOUNDARY LIMITS OF FAIRBANKS EXPERIMENT FARM
 (NOT INCLUDING THE EXOTIC TREE PLANTATION AND T-FIELD)
 SITE OVERVIEW



VISION

Long-range Plan Objectives

The Fairbanks Experiment Farm objectives align with the objectives of the UAF Strategic Plan.

- **Provide educational outreach**

- Move the programming faculty and staff associated with the Tanana District Cooperative Extension Office to the Fairbanks Experiment Farm for cost-sharing and programming opportunities.
- Identify synergies with the Fairbanks Experiment Farm's Plan and the Governor's Food Security Taskforce Report (<https://alaska-food-systems-soa-dnr.hub.arcgis.com/>) and the Alaska Food Policy Council's Regional Food System Action Plan (<https://www.akfoodpolicycouncil.org/blog/2022/9/8/2022-regional-food-system-partnership-project-report-amp-food-security-action-plan-released>).
- Identify, connect, maintain and develop strategic partnerships that promote food security and increase the farm's relevance with the Interior Alaska community and UAF.

- **Modernize the student experience**

- Increase experiential learning opportunities at the Fairbanks Experiment Farm that complement online courses and provide virtual tours.

- **Increase Alaska Native partnerships and participation**

- Partner with the Alaska Tribes Extension Program to promote tribal food sovereignty.
- Increase relevance to and partnerships with the Alaska Native

community.

- **Promote research and technology**

- Promote research and technological innovation at the farm.

- **Prioritize diversity, safety and accessibility**

- Prioritize a diverse, safe and accessible site for the university and the public

- **Enhance academic programs**

- Develop and strengthen interdisciplinary relationships at UAF. The site and facilities at the farm offer a myriad of opportunities for students and researchers. Our goal is to highlight these opportunities and encourage unique and creative partnerships that will enhance knowledge, experience and innovation.

- **Modernize facilities**

- Identify, streamline and modify infrastructure to operate the farm efficiently and effectively.

- **Reduce Fund 1 dependence**

- Identify and pursue creative relationships and revenue sources to maintain farm operations.

Implementation Strategy

The following pages show a series of matrices with the short-, mid-, and long-term actions that will achieve the long-range plan objectives. A SWOT/PESTEL analysis identified specific action items for the farm's long-range plan and were assigned under the appropriate objective. A precise schedule is not specified to allow flexibility for programmatic or funding shifts.

Implementation Strategy: Short-term Action Items

Objectives	Provide educational outreach	Modernize the student experience	Increase Alaska Native partnerships and participation	Promote research and technology	Prioritize diversity, safety and accessibility	Revitalize academic programs	Modernize facilities	Reduce Fund 1 dependence	Action Items
									S1 Assess farm facilities for future repurposing, renovation or demolition
									S2 Identify office space to accommodate Cooperative Extension offices at the farm
									S3 Expand parking lot to increase accommodation for visitors
									S4 Determine farm equipment and vehicles for program needs
									S5 Estimates/price upgrading farm equipment
									S6 Build a storage facility in the lower field
									S7 Develop facility and farm usage plan with fee structure and develop contract policy
									S8 Increase security through property cleanup and installation of security cameras
									S9 Develop One Health programming
									S10 Rebrand and promote the Fairbanks Experiment Farm as the Fairbanks Experiment Farm and Extension Center
									S11 Address and maintain access for interest groups
									S12 Diversify funding sources
									S13 Identify possibilities and market feasibility of selling farm products
									S14 Explore opportunities for underserved communities
									S15 Explore and develop cross-departmental relationships and projects
									S16 Develop and promote farm's identity
									S17 Explore the possibility of offering a farmer training certificate program

Implementation Strategy: Short-term Action Items (continued)

Objectives	Provide educational outreach	Modernize the student experience	Increase Alaska Native partnerships and participation	Promote research and technology	Prioritize diversity, safety and accessibility	Revitalize academic programs	Modernize facilities	Reduce Fund 1 dependence	Action Items
									S18 Explore models for a working student farm and implement in stages
									S19 Offer adult community workshops
									S20 Offer educational programs for K-12
									S21 Increase connections between the Georgeson Botanical Garden (GBG), UAF research and the community
									S22 Install northern access road in GBG
									S23 Promote existing GBG programs to a wider audience
									S24 Promote rentable space and venues at GBG
									S25 Leverage GBG Friends fundraising, events and outreach
									S26 Collaborate with Extension to showcase home gardens/small farm demonstrations projects at the GBG
									S27 Increase fundraising and outreach events that promote locally grown and produced foods
									S28 Promote sponsorship opportunities at GBG
									S29 Replace underground fuel tanks

Implementation Strategy: Mid-term Action Items

Objectives	Provide educational outreach	Modernize the student experience	Increase Alaska Native partnerships and participation	Promote research and technology	Prioritize diversity, safety and accessibility	Revitalize academic programs	Modernize facilities	Reduce Fund 1 dependence	Action Items
									M1 Improve Internet access
									M2 Plan for ADA access to workshops
									M3 Create new road access to lower field
									M4 Replace GBG high tunnel with production greenhouse
									M5 Upgrade aged farm equipment
									M6 Expand educational programs for high school students
									M7 Offer professional development for teachers
									M8 Offer work development programs related to agriculture
									M9 Expand farm manager role to include programmatic roles/support/outreach/development
									M10 Launch peony festival at GBG
									M11 Host programs for peony growers or potential growers at GBG
									M12 Demolish or remove the farmhouse AF119

Implementation Strategy: Long-term Action Items

Objectives	Provide educational outreach	Modernize the student experience	Increase Alaska Native partnerships and participation	Promote research and technology	Prioritize diversity, safety and accessibility	Revitalize academic programs	Modernize facilities	Reduce Fund 1 dependence	Action Items
									L1 Maintain private crossing at railroad crossing
									L2 Build multiuse facility in the lower field
									L3 Build modern office building for farm, garden, Extension
									L4 Explore models for and develop an incubator farm
									L5 Increase number of bathroom facilities at farm
									L6 Consider building amphitheater in GBG to host Music in the Garden and other large events
									L7 After construction of new building (L3), demolish or remove the Horticulture (AF111) and Former Visitor Center/Forestry buildings (AF117)

CONCLUSION

The Fairbanks Experiment Farm is ideally suited to serve as a center of learning, discovery and research related to high-latitude agriculture, horticulture, natural resource management and the environment. The farm has a long history of service to Alaskans, and faculty

and staff will continue to innovate, drawing on strong university and community collaborations. It is important to continue building the farm's partnerships, community support, programs and infrastructure to support the university's land-grant mission. The farm is positioned to address Alaska's needs: to increase food security, support a growing community of farmers, and to identify methods to adapt agricultural methods to climate change and best practices for agricultural and natural resource stewardship.



UAF students compete in log rolling as part of the annual Forest Sports Festival.

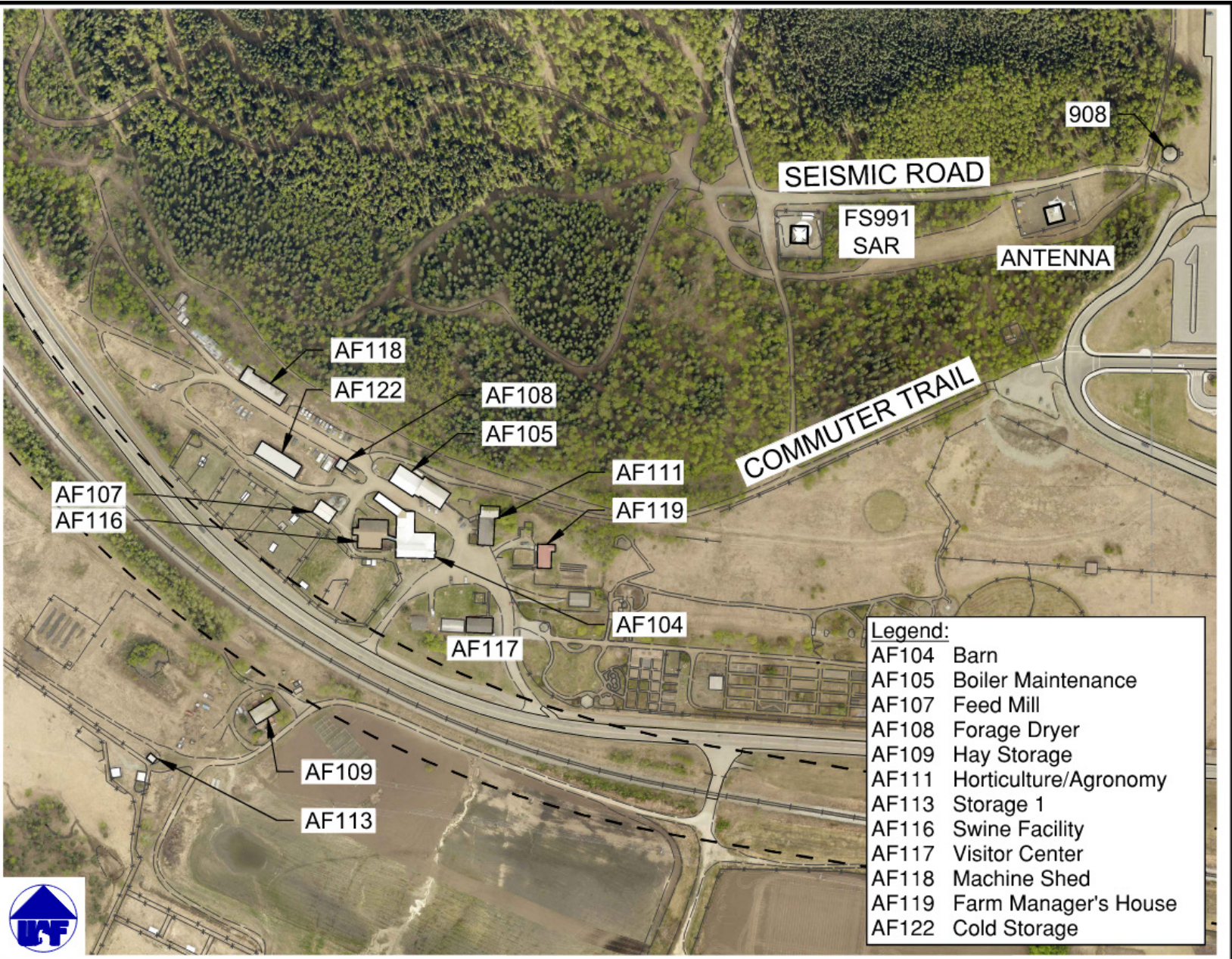


FACILITIES SERVICES
 DESIGN & CONSTRUCTION
 P.O. BOX 758160
 FAIRBANKS, AK 99775-8160
 907-474-5299
 907-474-7554 (fax)
 www.uaf.edu/dcc

Project Phase:
FACILITIES INVENTORY
 Project Title:
FACILITIES INVENTORY MAPS
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EXPERIMENTAL STATION
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 DATE: JANUARY 2022
 SCALE: AS SHOWN
 PROJECT NUMBER:
 SHEET NO.:



Georgeson Botanical Garden Long Range Plan

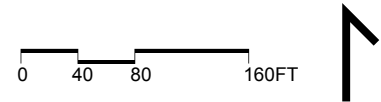


2018-03-12

This Long Range Plan was developed by volunteers representing the Alaska Chapter of the American Society of Landscape Architects. Eliza Bober Cink, Laura Minski, Taylor Keegan, and M. Elise Huggins worked with the Georgeson Botanical Garden Society and UAF Garden Staff during two workshops held in April and August of 2017 to outline priorities and design ideas shown here.

Many groups associated with the Garden were interviewed to talk about their history, their role, and their ideas for the future of the Garden. These groups included UAF staff, volunteer groups, and community members. The draft plan was presented to the UAF Master Planning Committee for feedback and received general support in October of 2017.

This plan was approved by the Georgeson Botanical Garden Society at the March 18, 2018 board meeting.



Georgeson Botanical Garden Plan


Plan Rendering

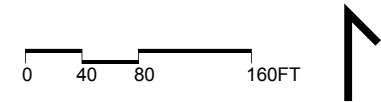
rev. 2018-03-10



Concept description:

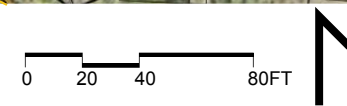
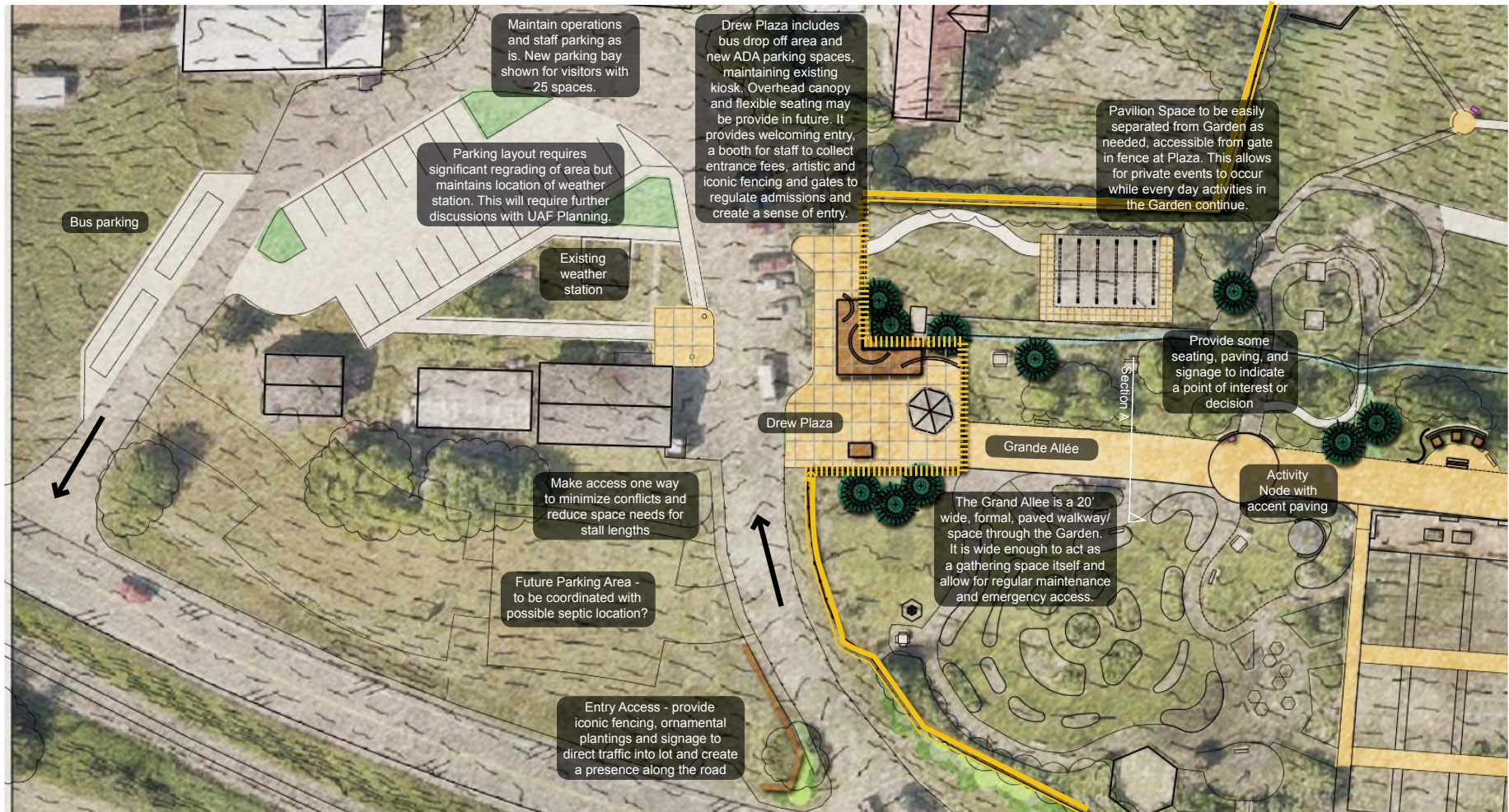
This concept is the preferred option based on two designs that were developed from the April 2017 Design Workshop with the Georgeson Botanical Garden Society, UAF Staff, and design professionals. It strengthens and plays upon the existing linear nature of the Georgeson Botanical Garden layout which is defined by the topography and West Tanana Drive. It lends itself to the creation of a formal "allée" along the existing, main, gravel pathway. The allée design is strengthened by a central Gathering Space and activity nodes along the allée.

 Node - Point of Interest or Decision



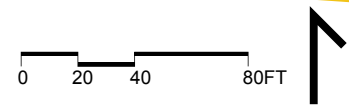
Georgeson Botanical Garden Plan

Diagram



Georgeson Botanical Garden Plan

Enlargement



Georgeson Botanical Garden Plan

Enlargement

rev. 2018-03-10



Provide mini entry way at overlook parking lot (outside of snow storage snow). Provide signage on main entry way and lockable, vandal-resistant gate.

Fence along Garden boundaries

Trail to Cloud Garden

Provide nodes with paving and signage where trails begin and end

Loop walking trails follow contours - opportunity for Sculpture Walk

Another large node to mirror Solachron node along secondary trail

0 20 40 80FT



Georgeson Botanical Garden Plan

Enlargement

rev. 2018-03-10

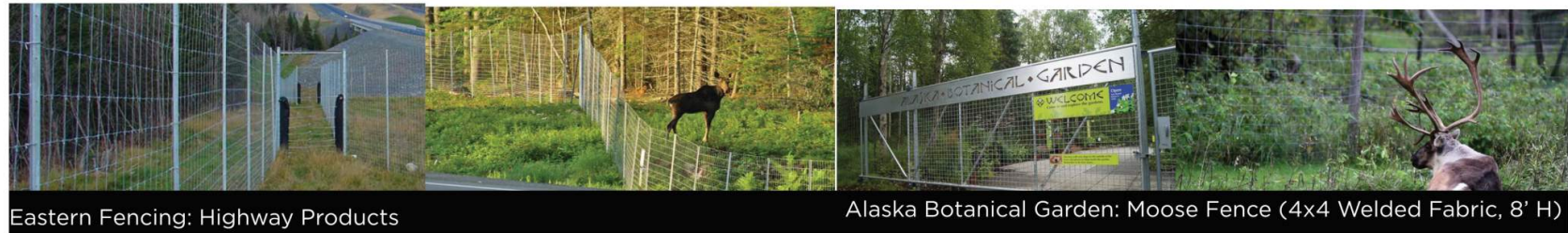
Tier One: Iconic Fence *to help users understand proximity to entrance and draw interest* 250 Linear Feet, artist designed



Tier Two: Standard Sturdy Fence *for formalized areas, that require more sturdy standard fencing* 600 Linear Feet, premanufactured



Tier Three: Standard Moose Fence *to protect the garden from moose graze* 4000 Linear Feet, protection, metal posts with infill



Metal/Sturdy/Cool ←—————→ **Natural/Pastoral/Warm**

Georgeson Botanical Garden Plan

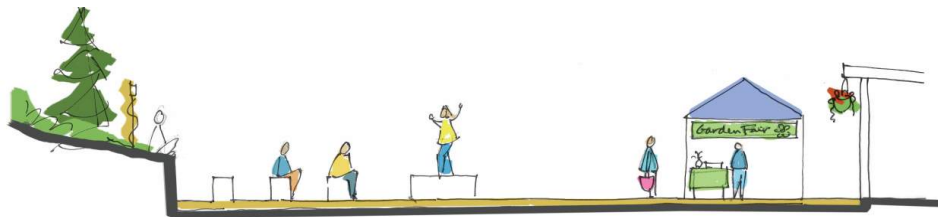
Fence Ideas



An arbor or vertical element set as a back drop for a focal space helps to bring the surrounding landscape down and make it feel more comfortable. It also provides a nice background for events and can provide support for climbing plants.



Section A - through the Grande Allée



Section - through the Gathering Space



Gabion baskets are a simple, easy to install element that can be used for retaining soil, as an amphitheater, seat walls, or even benches. The baskets can be filled with locally available gravel, rocks, or even other more artistic elements like colored aggregate.



Georgeson Botanical Garden Plan

Character Details



Cast in place concrete curb



Timber edging as curb

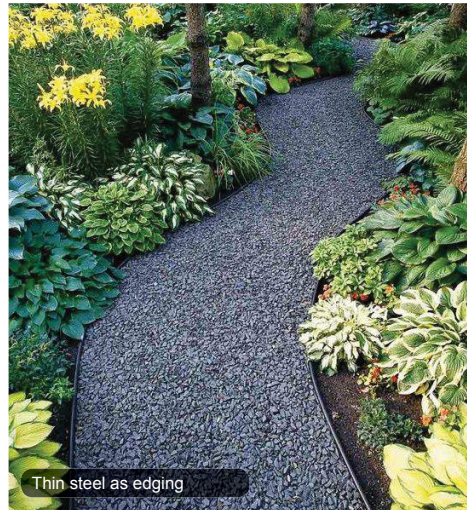


4x4 edging as curb

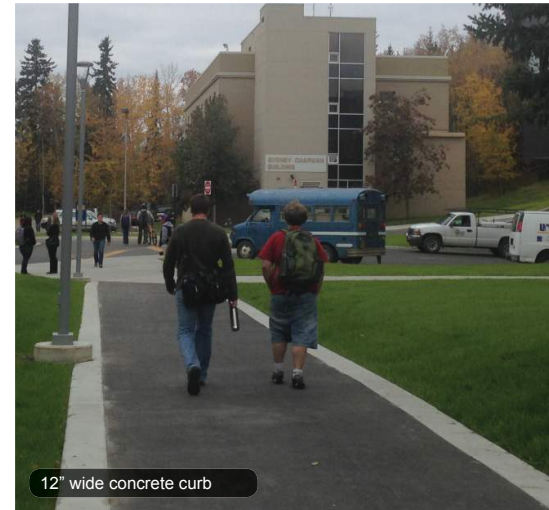


Timber edging as curb

Good edging material provides clean lines, which can make even an unmaintained garden look neat. Using timber, recycled plastic (for curves) or concrete are the best, longest-lasting options.



Thin steel as edging



12" wide concrete curb

Georgeson Botanical Garden Plan

Character Details



Hillside terrace gardens are another unique way to highlight landscape features. Using retaining walls can creatively incorporate seating for events and just passively taking in the view. Properly designed ramps can be integrated into terraces and steps and allow accessibility for all users.

Screen fences can add a natural type of barrier to help provide a backdrop to a space or screen elements like restrooms.



Georgeson Botanical Garden Plan

Character Details