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CONCLUSION

APPENDIX: Georgeson Botanical Garden Long-Range Plan

University of Alaska Fairbanks, Fairbanks Experiment Farm Long-Range Plan. 2020

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 director of the Agricultural and Forestry Experiment Station and acting director of the Institute of Agriculture, Natural Resources and Extension, who provided guidance; and Debbie Carter, who edited this document and provided support to bring this project to completion.

Committee members included:
Katie DiCristina, 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 Introduction
Thank you for taking time to review the long-range plan for the Fairbanks Experiment Farm.

The Fairbanks Experiment Farm has been a key center for agricultural research in the Tanana Valley since 1906, well before the territory founded a university here. The experiment station has a long history of conducting research and providing information to farmers and gardeners on the best vegetable and grain varieties, and production techniques for the Interior. Varietal research and outreach has helped develop the Alaska peony industry. This research remains vital today as researchers determine the best growing techniques and varieties suited to the changing climate.

One of the station’s values is its proximity to the campus and to students and research faculty who use its facilities and land. Educational outreach is largely through programs offered through the Georgeson Botanical Garden. The botanical garden has developed into a research and education center as well as a tourist draw for thousands of visitors each summer and a center for community activities. The farm encompasses the university’s mission of teaching, research and service.

This plan includes many activities that are ongoing at the farm and highlights many future possibilities for its use. The plan also addresses modernizing the farm to include renovating, repurposing or removing aging infrastructure, monetization of certain assets and continuing to pivot to modern agricultural needs. Particularly as Alaska agriculture moves to more abundant and smaller-scale farms, the Fairbanks farm is prepared to respond to the emerging needs of Alaskans.

Daniel M. White
Chancellor
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 developing methods of 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, camps, tours, educational programs and interpretive signage. It also serves as a demonstration garden for herbs, flowers and vegetable production 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 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 hulless 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.
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.

Underutilized Spaces
There are several underutilized spaces at the farm. A large tract of fertile land east of the garden is not used due to the difficulty of accessing the land from the road. A section of land west of the old reindeer pens in the field is wet and not in good condition to use for agriculture.

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

Number of Farms, 1997-2017

The number of farms in Alaska increased between 1997 and 2017. Source: USDA 2017 Census of Agriculture

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>1997</td>
<td>548</td>
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<tr>
<td>2002</td>
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<td>686</td>
</tr>
<tr>
<td>2012</td>
<td>762</td>
</tr>
<tr>
<td>2017</td>
<td>990</td>
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</table>
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.

### 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 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.
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 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. 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.
The barn at the Fairbanks Experiment Farm was built around 1940. UAF photo by J.R. Ancheta
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 2018, UAF had 546 faculty and 8,336 enrolled students. Eighty-eight percent of the students were undergraduates and 12 percent were enrolled in graduate studies, with 38.8% of the students living on campus. The population of Fairbanks is 32,000, and the Fairbanks North Star Borough population is estimated at 97,000.

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

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 seven 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.

One of the priority action items of the farm’s long-range plan will be to assess each facility to determine its condition and programmatic fit. Buildings then will be renovated, repurposed or demolished based on those determinations.

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. 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.
Research

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

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.

Mingchu Zhang is testing early-maturing spring wheat varieties.

Bob Van Velduizen harvests wheat at the Fairbanks Experiment Farm.

Variety trials project director Heidi Rader and research technician Nicole Carter plant winter squashes in the Fairbanks Experiment Farm fields.
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 and the Reindeer Research Program use the farm facilities 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, solar cells; International Arctic Research Center (IARC), temperature probes in cover crops; and Geophysical Institute, permafrost tubes, sensors and other instrumentation. 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.

Other universities collaborate with the farm for research, including a University of Minnesota researcher who is conducting a National Science Foundation-funded project on earthworm invasion in boreal forests. 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 conducting 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, and iron uptake in hydroponic systems. Natural resources and environment undergraduates participate in hands-on student internships at the Georgeson Botanical Garden, with field crops and in the AFES greenhouse.

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 by creating connections between people and plants. 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 as with Family Centered Services of Alaska as a site for the development of workplace skills for Fairbanks youth. Cooperative Extension provides teaching, volunteer and camp activities at the garden. 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.
Glenna Gannon and Heidi Rader kneel by the variety trials research plots at the Georgeson Botanical Garden.

Volunteers and staff keep the botanical garden ablaze with color.

Peonies were planted as part of peony research.

The Georgeson hosts a variety of youth camps and activities.
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.

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

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Vision</th>
<th>Action Items</th>
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<tbody>
<tr>
<td>Provide educational outreach</td>
<td>Modernize student experience</td>
<td>S1 Assess farm facilities for future repurposing, renovation or demolition</td>
</tr>
<tr>
<td></td>
<td>Increase Alaska Native partnerships and participation and technology</td>
<td>S2 Identify office space to accommodate Cooperative Extension offices at the farm</td>
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<td></td>
<td>Promote diversity, safety and accessibility</td>
<td>S3 Expand parking lot to increase accommodation for visitors</td>
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<td></td>
<td>Revitalize academic programs</td>
<td>S4 Determine farm equipment and vehicles for program needs</td>
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<tr>
<td></td>
<td>Modernize facilities</td>
<td>S5 Estimates/price upgrading farm equipment</td>
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<tr>
<td></td>
<td>Reduce Fund 1 dependence</td>
<td>S6 Build a storage facility in the lower field</td>
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</tbody>
</table>

S7 Develop facility and farm usage plan with fee structure                   
S8 Increase security through property cleanup and installation of security cameras 
S9 Develop One Health programming                                           
S10 Rebrand and promote the Fairbanks Experiment Farm and Extension Center 
S11 Develop succession plan for the farm manager                            
S12 Address and maintain access for interest groups                          
S13 Diversify funding sources                                               
S14 Create a friends of the farm nonprofit support arm                       
S15 Identify possibilities and market feasibility of selling farm products  
S16 Explore opportunities for underserved communities                        
S17 Explore and develop cross-departmental relationships and projects       
S18 Develop and promote farm’s identity                                      
S19 Design farmer training certificate program
## Implementation Strategy: Short-term Action Items (continued)

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<tr>
<th>Objectives</th>
<th>Vision</th>
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<td>Provide educational outreach</td>
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<td>Modernize student experience</td>
<td></td>
<td>Increase Alaska Native partnerships and participation</td>
<td></td>
<td>Promote research and technology</td>
<td></td>
<td>S20 Explore models for a working student farm and implement in stages</td>
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<td>Modernize academic programs</td>
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<td>Revitalize academic programs</td>
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<td>Promote diversity, safety and accessibility</td>
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<td>Revitalize academic programs</td>
<td></td>
<td>S21 Offer adult community workshops</td>
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<td>Revitalize academic programs</td>
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<td>Reduce Fund 1 dependence</td>
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<td>Modernize facilities</td>
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<td>Reduce Fund 1 dependence</td>
<td></td>
<td>S22 Offer educational programs for K-12</td>
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<td>Modernize facilities</td>
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<td></td>
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<td>S23 Design farmer training certificate program</td>
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<td>S24 Increase connections between the Georgeson Botanical Garden (GBG), UAF research and the community</td>
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<td>S25 Design and install main pathway and northern access road in the GBG</td>
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<td>S26 Promote tours of GBG</td>
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<td>S27 Promote existing GBG programs to a wider audience</td>
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<td>S28 Promote rentable space and venues at GBG</td>
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<td>S29 Leverage GBG Friends fundraising, events and outreach</td>
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<td>S30 Collaborate with Extension to showcase home garden/small farm demonstration projects at the GBG</td>
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<td></td>
<td>S31 Increase fundraising and outreach events that promote local grown and produced foods</td>
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<table>
<thead>
<tr>
<th>Objectives</th>
<th>Action Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide educational outreach</td>
<td>M1   Improve internet access</td>
</tr>
<tr>
<td>Modernize student experience</td>
<td>M2   Plan for accessibility for disabled to attend workshops</td>
</tr>
<tr>
<td>Increase Alaska Native partnerships and participation</td>
<td>M3   Create new road access to lower field</td>
</tr>
<tr>
<td>Promote research and technology</td>
<td>M4   Replace GBG high tunnel with production greenhouse</td>
</tr>
<tr>
<td>Prioritize diversity, safety and accessibility</td>
<td>M5   Replace underground fuel tanks</td>
</tr>
<tr>
<td>Revitalize academic programs</td>
<td>M6   Upgrade aged farm equipment</td>
</tr>
<tr>
<td>Modernize facilities</td>
<td>M7   Expand educational programs for high schools students</td>
</tr>
<tr>
<td>Reduce Fund 1 dependence</td>
<td>M8   Explore possibilities for lease or sale of agricultural land</td>
</tr>
<tr>
<td></td>
<td>M9   Offer professional development for teachers</td>
</tr>
<tr>
<td></td>
<td>M10  Expand farm manager role to include programmatic roles/support/outreach/development</td>
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<td>M11  Launch peony festival at GBG</td>
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<td>M12  Host programs for peony growers or potential growers at GBG</td>
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<td>M13  Promote sponsorship opportunities at GBG</td>
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## Implementation Strategy: Long-term Action Items

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Action Items</th>
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<tbody>
<tr>
<td>Provide educational outreach</td>
<td><strong>L1</strong> Maintain private crossing at railroad crossing</td>
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<tr>
<td>Modernize student experience</td>
<td><strong>L2</strong> Build new multiuse facility in the lower field</td>
</tr>
<tr>
<td>Increase Alaska Native partnerships and participation</td>
<td><strong>L3</strong> Build modern office building for farm, garden, Extension</td>
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<tr>
<td>Promote research and technology</td>
<td><strong>L4</strong> Offer work development programs related to agriculture</td>
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<tr>
<td>Revitalize academic programs</td>
<td><strong>L5</strong> Explore models for and develop an incubator farm</td>
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<tr>
<td>Modernize facilities</td>
<td><strong>L6</strong> Increase number of bathroom facilities at GBG</td>
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<tr>
<td>Reduce Fund 1 dependence</td>
<td><strong>L7</strong> Build amphitheater in GBG to host Music in the Garden and other large events</td>
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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.
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.
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.

Georgeson Botanical Garden Plan

Diagram
Future Parking Area - to be coordinated with possible septic location?

Entry Access - provide iconic fencing, ornamental plantings and signage to direct traffic into lot and create a presence along the road.

Pavilion Space to be easily separated from Garden as needed, accessible from gate in fence at Plaza. This allows for private events to occur while everyday activities in the Garden continue.

Provide some seating, paving, and signage to indicate a point of interest or decision.

Activity Node with accent paving

Pavilion Space to be easily separated from Garden as needed, accessible from gate in fence at Plaza. This allows for private events to occur while everyday activities in the Garden continue.

Provide some seating, paving, and signage to indicate a point of interest or decision.

Activity Node with accent paving

Make access one way to minimize conflicts and reduce space needs for stall lengths

The Grand Allee is a 20’ wide, formal, paved walkway through the Garden. It is wide enough to act as a gathering space itself and allow for regular maintenance and emergency access.

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The Grande Al...
Enlargement

Existing bench and paver area to be mirrored on other side of path to create mini-node. Provide additional portable restrooms (with screening).

Central Gathering Space provides seat walls for some permanent seating. With flexible seating, this space can accommodate small groups up to 150 people.

Gathering Space can provide tents for events (shown at 10x10') and movable site furniture.

Shade Garden roof should be extended west to align with end of Cutting Garden wall, making the space symmetrical.

Node with accent paving, seating, and signage signify the entrance to the Amphitheater and the Trial Garden spaces and provide information on how to explore.

Accent paving brought through the Trial Gardens and Edible Gardens help provide additional loop walks as well as tie these spaces into the central Gathering Space.

Greenhouse provides demonstration of building type and another interest point for Gathering Space.

Gathering Space can provide tents for events (shown at 10x10') and movable site furniture.

Large Amphitheater provides a venue for large events with overflow seating moving up the hillside. An ADA pathway can zigzag up the hill and mark the general extents of the area. It takes advantage of the stunning views to the South over the trial beds and fields. The stage sits over the existing water feature.

Accent paving at the Children's Garden Entry helps provide a terminus for the main walk and signify an important space.

Screen fencing and evergreen trees help direct views from the main pathway to the Children's Garden Entry.

Gravel pathway to south of Gateway Arch to Children's Garden should remain for truck access.

Accent paving at the Children's Garden Entry helps provide a terminus for the main walk and signify an important space.

Gravel pathway to south of Gateway Arch to Children's Garden should remain for truck access.

Paved pathway around Trial Garden provides vehicular turn around and better access.

Gathering Space can provide tents for events (shown at 10x10') and movable site furniture.

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Georgeson Botanical Garden Plan

Enlargement

- Fence along Garden boundaries
- Loop walking trails follow contours - opportunity for Sculpture Walk
- Another large node to mirror Sollichron node along secondary trail
- Trail to Cloud Garden
- Provide mini entry way at overlook parking lot (outside of snow storage area). Provide signage on main entry way and lockable, vandal-resistant gate.
- Provide nodes with paving and signage where trails begin and end.
Tier One: Iconic Fence  to help users understand proximity to entrance and draw interest

Mikyoung Kim “Flex Fence”  Swedish Dalecarlia Fence

250 Linear Feet, artist designed

Tier Two: Standard Sturdy Fence  for formalized areas, that require more sturdy standard fencing

Iron Fence  Corten Steel Panels  Wood + Gage Wire  Timber Fence

600 Linear Feet, premanufactured

Tier Three: Standard Moose Fence  to protect the garden from moose graze

Eastern Fencing: Highway Products  Alaska Botanical Garden: Moose Fence (4x4 Welded Fabric, 8’ H)

4000 Linear Feet, protection, metal posts with infill

Georgeson Botanical Garden Plan
Fence Ideas
An arbor or vertical element set as a backdrop 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.

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.
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.
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.