



PIIONEER GARDEN 2040 MASTER PLAN



Edible Campus
Gardens





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EXECUTIVE SUMMARY

The purpose of this document is to provide the University of Utah's Office of Sustainability with a comprehensive 21-year vision for the future space of the Pioneer Garden. It will serve as an implementation timeline to aid in the continued development of the Edible Campus Gardens.

Ultimately, this Master Plan promotes the Pioneer Garden's educational features, enhances the garden's design and productivity while upholding the Edible Campus Garden mission statement:

“To Engage the campus community in ecologically sound and just food systems, through garden-based experience, education, and research.”

This document presents a design in two phases, considering the current budget and resources, over a 21 year project horizon.



Student in the Organic Gardening class, photo from Susan Finlayson.






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MASTER PLAN GOALS



-  Develop a design and implementation timeline for the Pioneer Garden space.
-  Provide adaptable and dynamic phasing options for desired site design, based on present and potential future constraints or opportunities.
-  Meet and promote the Edible Campus Garden mission statement while enhancing the functionality and attractiveness of the space.



Garden stewards and volunteers, photo from the Office of Sustainability.



SITE OVERVIEW

EXISTING CONDITIONS ANALYSIS

The Pioneer Garden site is located between the Henry Eyring Chemistry Building and the Pioneer Theater on the southwestern quadrant of the University of Utah campus. The space it occupies was once a campus parking lot, its very presence is indicative of the successes that the University of Utah's Sustainability Office has worked for.

The Pioneer Garden space occupies approximately a quarter acre of land. In total, the site has approximately 2,781 square feet of outdoor growing space, as well as 495 square feet of growing space within its hoop house. The majority of the growing space is currently in ground level growing beds, however, there has been a recent addition of twenty raised garden beds. These beds increased the growing space to by an additional 243 square feet and are utilized by students in the Organic Gardening course. These plots allow students to have a more hands-on experience by cultivating and caring for their own crops.

One of the most notable features on this site is the presence of a storage building on the eastern half of the property. At present, it is utilized as additional storage capacity for the Pioneer Theater, as well as the nearby biology department. It functions as an easterly border to the garden space and provides shading for an area that is commonly used as informal social gathering space due to the presence of the existing tool storage. It is also the area in which the majority of garden stewards and volunteers stow their belongings while they work or enjoy the garden space. The groundcover in this area is asphalt, which eliminates the hassle of weed removal, and permits necessary vehicle access.

Along the opposite perimeter of the property, on the westerly side, there is fencing that was provided through a Sustainable Campus Initiative Fund (SCIF). This fencing provides a great sense of place for the Pioneer Gardens by establishing its prominence while still remaining inclusive through the transparency in the fencing. Along the northern perimeter of the site are well established

CAMPUS CONTEXT



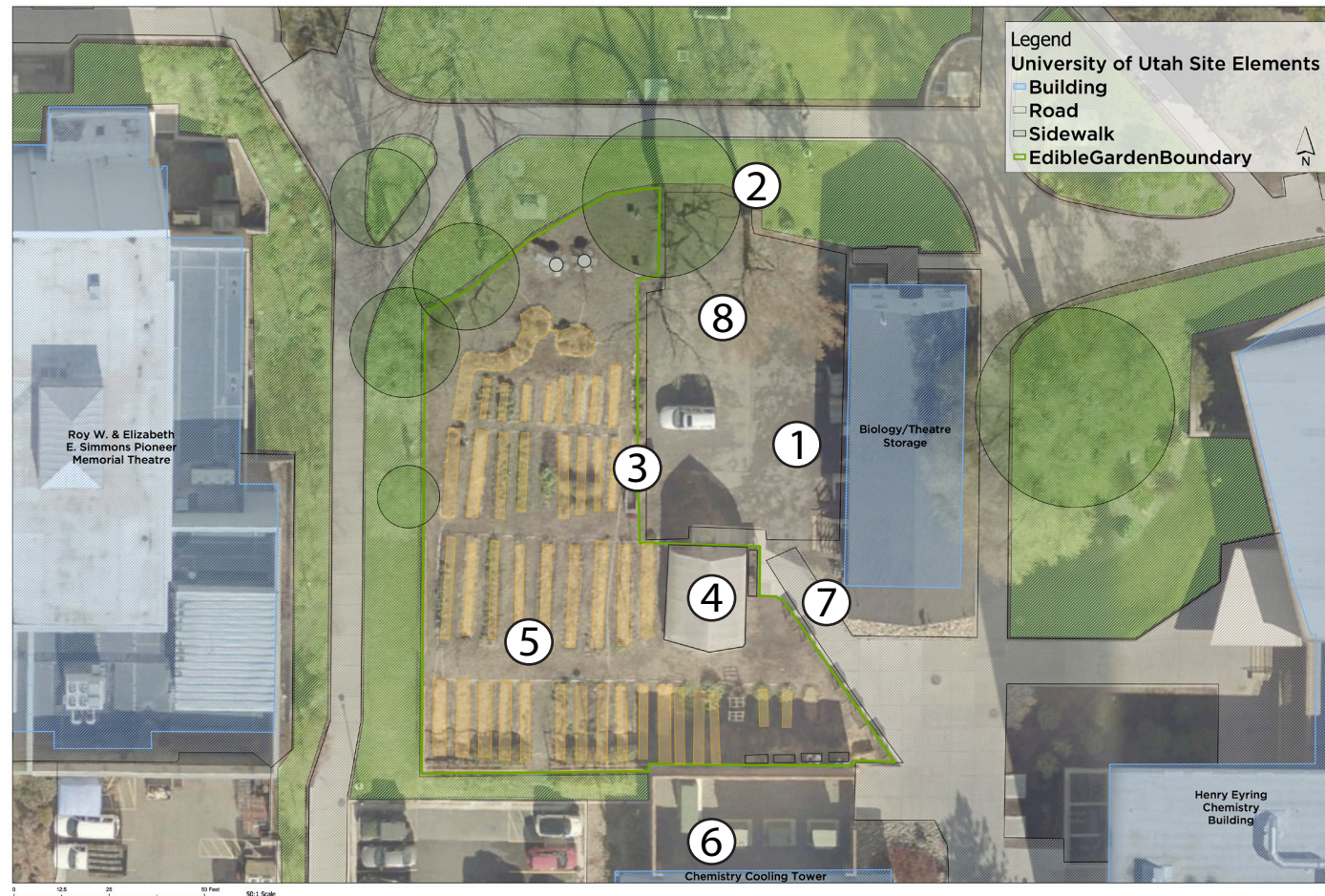
Fremont Cottonwood trees that tower over sod, a mosaic entrance decoration, two young fruit trees, as well as a permanent bench and two movable picnic tables.

The site also has a culinary water line, which runs in a north/south direction from an existing domestic water line. This creates the possibility for potable water to be utilized to clean produce grown on the site, and for garden users to fill their water bottles. This waterline could also be used for cooking, once kitchen elements are added to the site in the future. Please refer to the appendix section of this document for detailed utility site plans.

As mentioned previously, the site includes a hoop house, which provides the Edible Campus Gardens with the ability to grow and propagate plants throughout each season. The location of the hoop house is placed in the south-east quadrant of the site, which has the most consistent and direct sunlight throughout the year. To expand the growing season even further, the



SITE CONTEXT



- ① Storage building, tool storage sheds, informal social space
- ② Picnic tables, established Fremont Cottonwood trees
- ③ Culinary water spigot
- ④ Hoop house
- ⑤ Greenhouse placement
- ⑥ Retired cooling facility
- ⑦ Vehicular access point
- ⑧ Student garden beds

incorporation of a greenhouse adjacent to the hoop house is a priority for the Edible Campus Gardens Steering Committee.

To the immediate south of the site are two cinder block structures with open roofs. The structure closest to the garden site hosts furnaces for nearby buildings, while the second structure holds retired cooling facilities for the adjacent Henry Eyring Chemistry building. This structure could provide ample space for an adaptive reuse that could benefit the Edible Campus Gardens, if left for the use of the Edible Campus Gardens. Possible uses include relocation of the existing storage facilities to the structures interior, as well as the addition of industrial scale composting tubs.

Existing composting on the site is located against the northern wall of the cinder block structure, here there are three rotating compost bins, as well as five freestanding bins. These allow for large quantities of organic waste at varying decomposition states to be processed at once. It also permits students and garden volunteers to better understand the processes and phases involved

in the decomposition processes by seeing them first-hand. While there is existing composting, the expansion of larger scale composting would be advantageous for the Edible Campus Gardens and the student-led Food Recovery Network to optimize the quantity of materials that can be transformed into usable, enriched compost.

In terms of garden user and pedestrian circulation, there is currently one main pathway with cement bordering that clearly directs traffic through the center garden in an east and west direction, it provides access through the westerly fencing. Current foot traffic patterns in the garden site are determined by the spacing between the garden beds. There are several main entrance points to the Pioneer Gardens, the most commonly used are the north east and west centers of the site. Installing more direct pathways that connect these heavily traffic corners to the enhanced educational, social, and dining spaces within the site will create a more inviting environment.



DESIRED IMPROVEMENTS

Through extensive site analysis and stakeholder engagement, the project team identified key elements for improvement to enhance the functionality of the space, which are summarized below:



EDUCATIONAL SPACE

- Create adaptable space for formal lectures and demonstrations with comfortable seating arrangements and shading.
- Accommodate seating for 30 student.
- Incorporate ADA compliant space to meet ADA requirements.



ATTRACTIVENESS

- Establish greater prominence of Edible Campus Gardens through intentional place making and inviting site design
- Provide through foot traffic circulation by implementing direct pathways across the garden
- Create intuitive educational elements, such as informative signage, that encourages self-led discovery of garden features and elements



BIKE RACK

- Incentive and encourage bicycle commuting by provisioning the Pioneer Garden space with secure bicycle storage.



STORAGE

- Enhance security of garden tools by relocating existing tool sheds to retired cooling facility
- Incorporate secure storage for student and garden steward personal belongings



WASH STATION

- Add washing basin and faucet to the existing culinary water line to create a washing station for water bottle filling, produce washing, etc. in the center of the garden



GREENHOUSE

- Allocate space with optimal solar exposure for greenhouse construction to maximize the length of the growing season



KITCHEN

- Designate space to become a kitchen with sufficient preparation and demonstration space as well as dining amenities



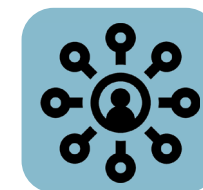
COMPOSTING

- Invest in large-scale composting tubs to broaden and maximize composting capacity across the University of Utah campus
- Maintain existing composting systems as an educational demonstration component
- Include informational signage that articulates the processes involved in composting, best composting practices, and its ecological benefits in a garden



ACCESS

- Create direct access for foot traffic to cross the site diagonally
- Incorporate ADA compliant pathways on diagonal pathways as well as around the perimeter of the gardens
- Maintain existing vehicle access on southwest portion of site



SOCIAL SPACE

- Promote greater usage of the Pioneer Gardens as a social space for the campus community
- Ensure shaded seating and table space to promote enjoyment and use of the space



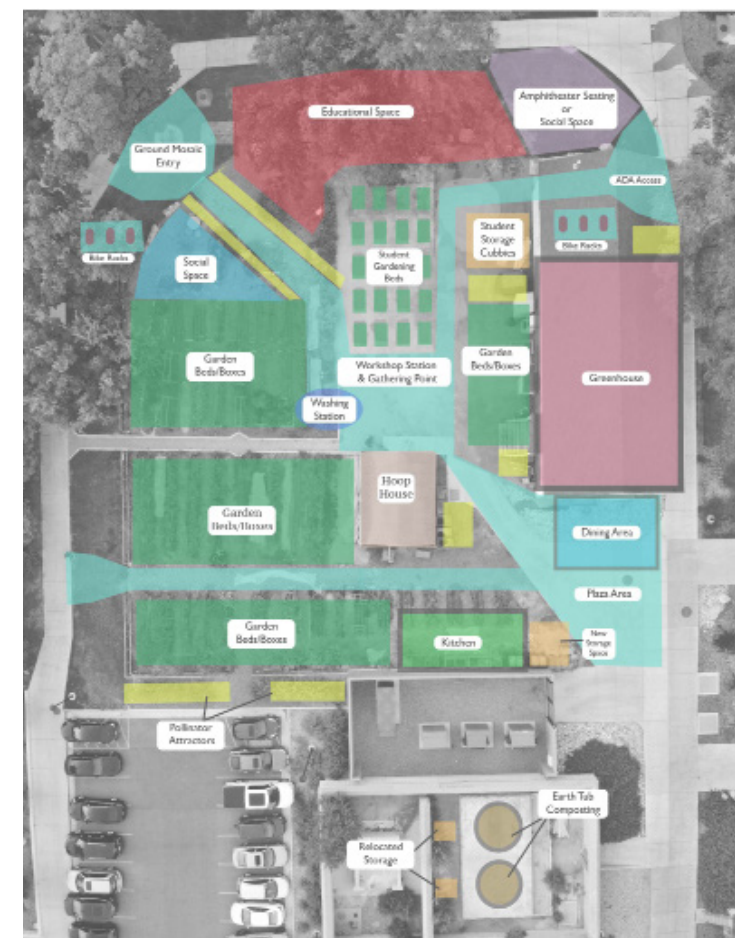
Photo taken by Paulo Agulera, July 2018.



STAKEHOLDER & COMMUNITY ENGAGEMENT

VISIONING EXERCISE - EDIBLE CAMPUS GARDENS STEERING COMMITTEE

The project team engaged the committee in a visioning exercise to help understand and articulate the goals and desired site improvements to be included in the Master Plan. To begin, the project team introduced two design alternatives, which are pictured below, to help the committee begin to visualize possible phasing outcomes for the site. This exercise helped the project team understand the constraints and desired outcomes as identified by the ECG Steering Committee. Ultimately, this exercise determined desired lane use, which shaped the formation of the final site plans. The final portion of the visioning exercise included images of various design precedents, which helped inform the final selection of precedents.

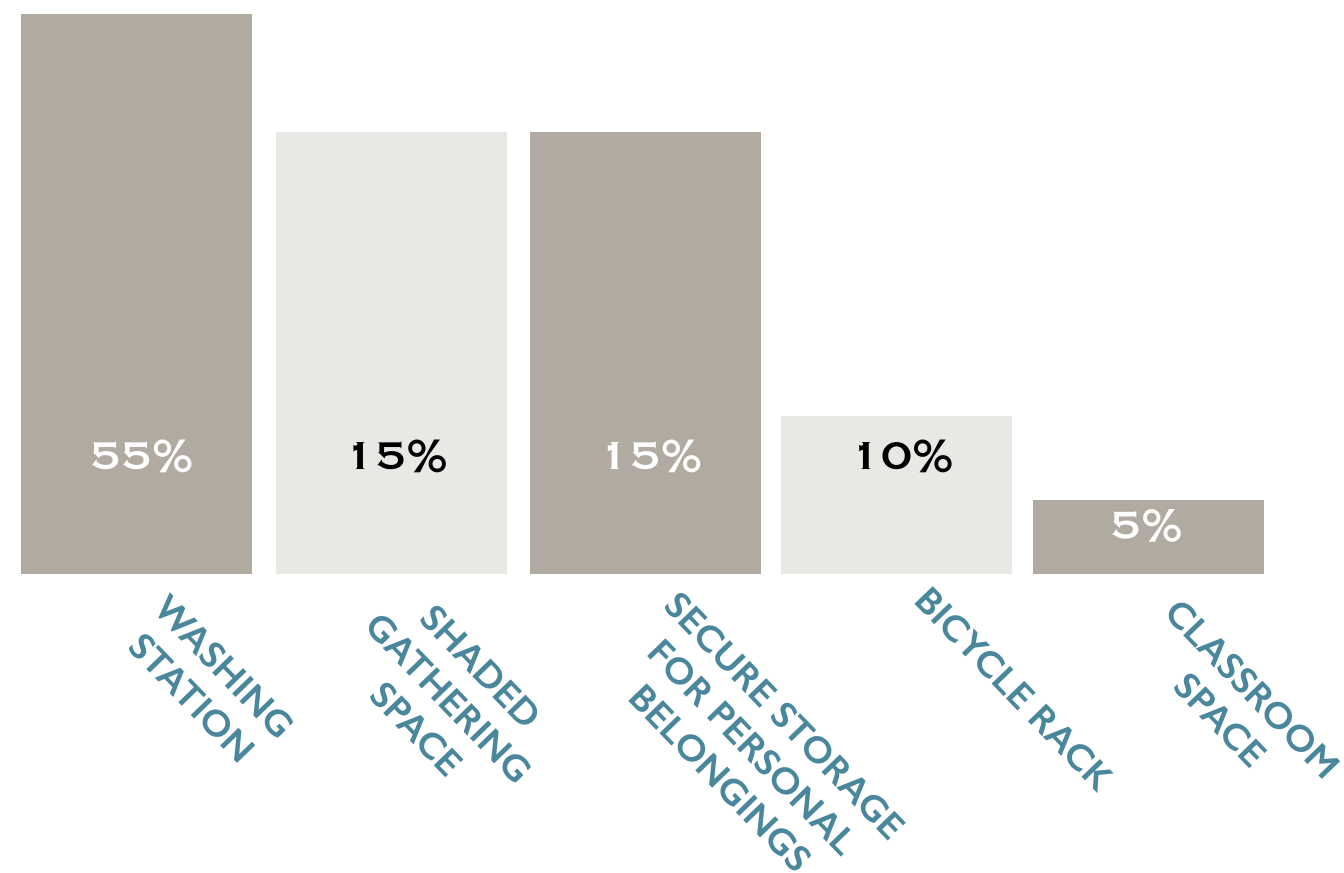




ONLINE GARDEN USER FEEDBACK SURVEY

To best accommodate the need of garden users, an online survey was administered to the 2018 Fall Organic Gardening class. The survey provided qualitative responses in which students articulated what they value about the Pioneer Gardens, and what they would like to see improved. This information was used in tandem with the project team's precedent research to help inform the prioritized elements outlined in the final design phases.

TOP 5 FAVORED AMENITY IMPROVEMENTS:



WHAT FUNCTIONAL ELEMENTS WOULD IMPROVE WORKING IN THE PIONEER GARDEN?

“Secure storage.”

“A washing station to clean hands; access to trowels and watering cans (sometimes they are out, sometimes not).”

“A washing station would be nice, but there are faucets. Maybe some bigger table to help organize planting etc.”

“A washing station would be great. The watering hose has been broken for a while, so a new one of those would be nice. Some benches right alongside the garden could encourage people to enter the garden and check it out. A place to store backpacks and stuff would be helpful. Maybe an area accessible by Organic Gardening students and volunteer staff containing gardening equipment so students can better tend to their gardens outside of regular lab time.”

“A soft mat for someone to sit or place their knees on during weeding.”

“More tables/work spaces”

“Better system to water plots”

“New hose so we dont have to fill watering cans”

“A soft mat for someone to sit or place their knees on during weeding.”

“A clock to check the time”

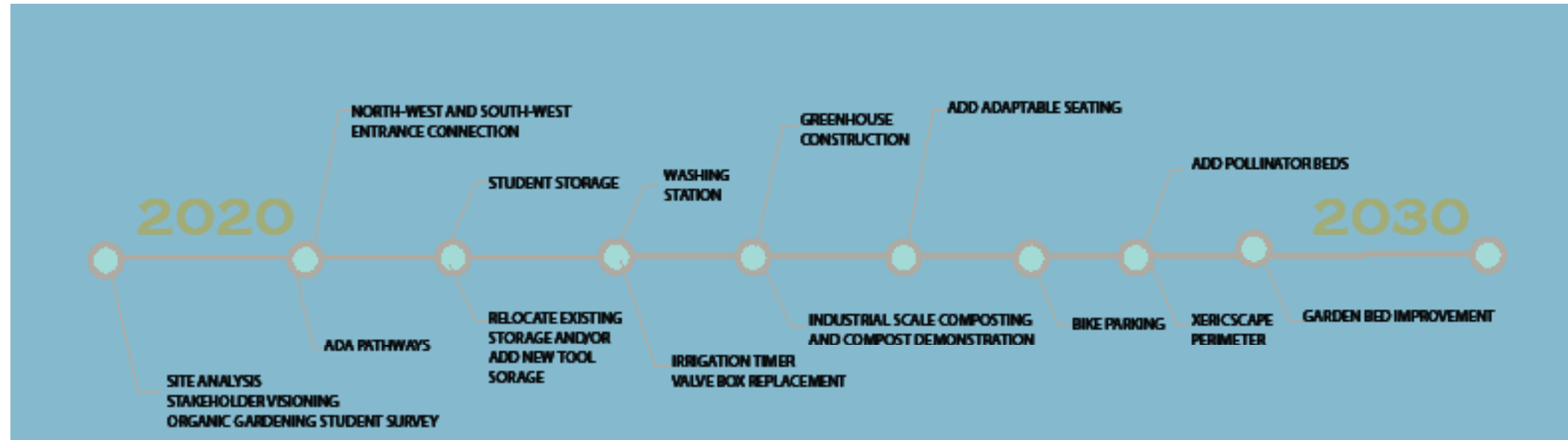
“A small shelf to put bags, backpacks, and purses so that they are out of the way but still able to be organized.”

“I think making the gardens more ADA compliant is a great way to increase visitors and would make it more accessible to more people.”



IMPLEMENTATION TIMELINE

PHASE 1

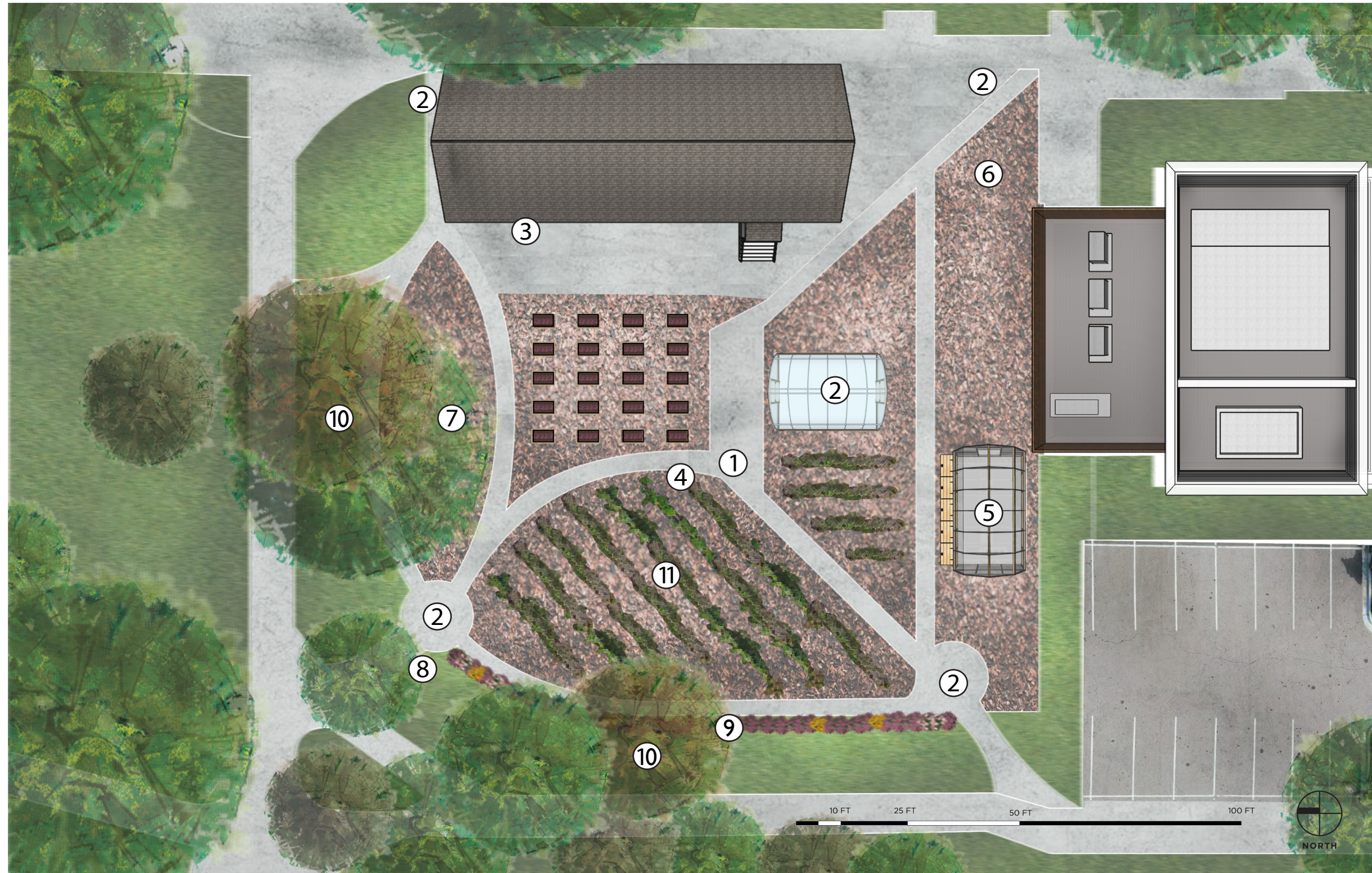


PHASE 2





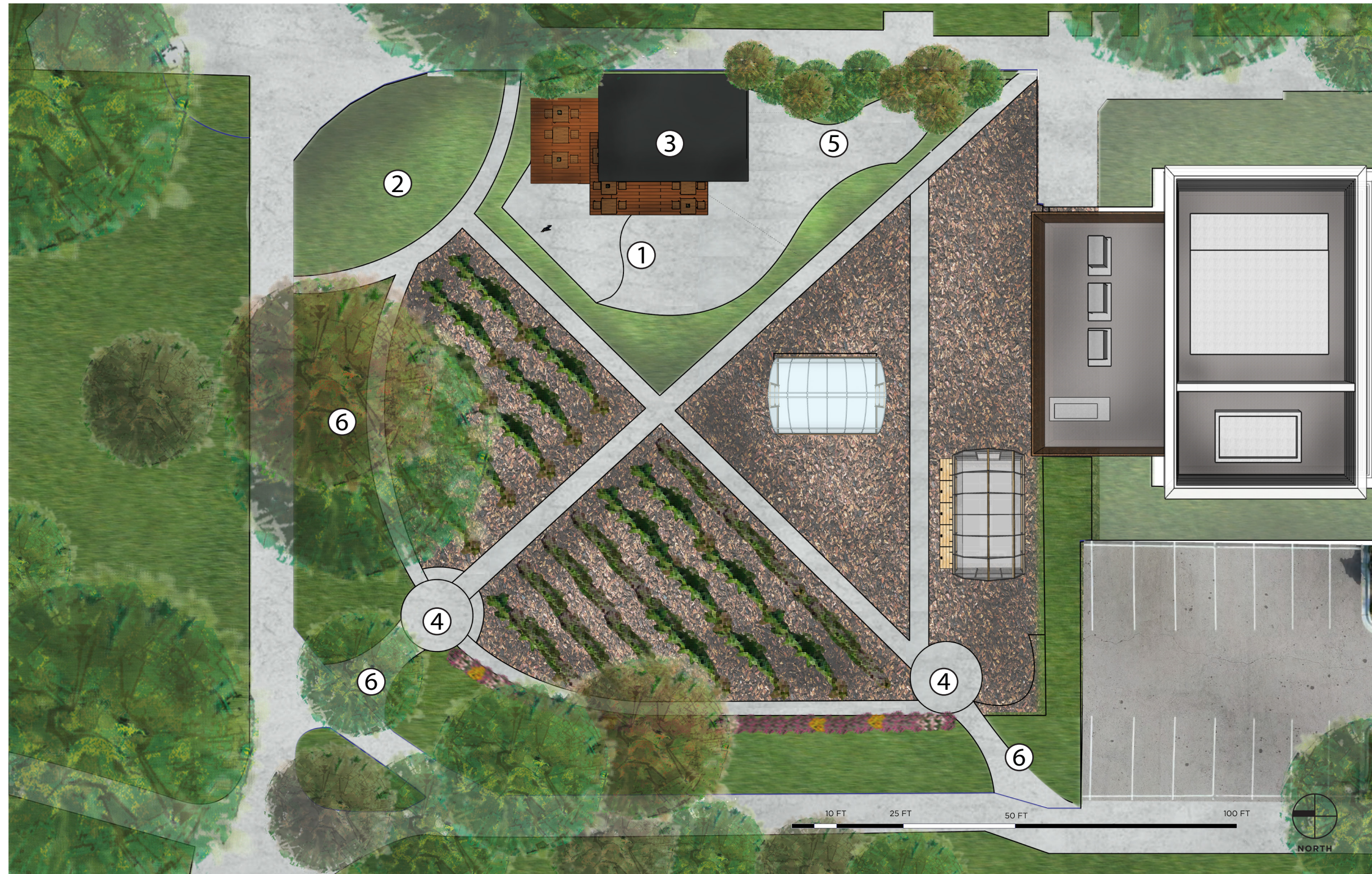
PHASE 1



- ① Pathway circulation
- ② Defined entrances
- ③ Secure student storage
- ④ Washing station & irrigation
- ⑤ Greenhouse
- ⑥ Industrial scale compost
- ⑦ Educational space
- ⑧ Bike parking
- ⑨ Pollinator gardens
- ⑩ Xeriscape perimeter
- ⑪ Garden bed improvement



PHASE 2



- ① Storage building demolition
- ② Amphitheater construction
- ③ Kitchen and dining space
- ④ ADA garden beds
- ⑤ Plaza space and landscaping
- ⑥ Signage programming



PHASE 1: RECOMMENDATIONS

PATHWAY CIRCULATION

MAIN OBJECTIVES:

- Adhere to the American Disability Act (ADA) accessibility standards for the major pathways and ramps
- Improve garden user circulation through the site with direct routes
- Reduce weeding needs through impervious surface
- Aim to meet American Society of Landscape Architecture sustainable cement material criteria
- Reduce albedo effect with light colored materials

ESTIMATED COST: \$27,475-\$39,800

** Excavation, or leveling of the ground may be needed prior to construction. The cost estimate here considers the cost of the materials and labor, assuming that each square foot costs between \$7.85-\$9.95. The project team’s models indicate that 3,500-4,000 square feet of pathways will be needed to meet the design of the site plan.

AMERICAN DISABILITIES ACT COMPLIANCE:

The pathways throughout the Pioneer Garden space will not exceed a slope greater than 1:20, and must be a minimum of 36” in width, with 48”-60” wide radii around corners with 180 degree turns to accommodate for sufficient turning space. This allows for comfortable ease of access for wheelchair users. If a ramp is needed, it must require handrails on both sides if it exceed more than 6” of incline.

The Master Plan site design elucidates the most directive pathways, that connect hubs of activity with the periphery of the site. Not only will these designs promote optimal, and direct

foot transport for garden volunteers are stewards, they will appear to be the most direct routes for people who walk through the gardens on their way to their nearby destinations.

One of the overarching goals in creating these pathways is to generate an inviting and friendly, yet functional, network that promotes subtle interaction with the garden space for those that many not be directly involved or aware of the gardens in the first place.

The proposed pathways through the garden space will begin at three main nodes, or entrances. The first entrance will be on the south-west corner of the space, closest to the University’s S.J Quinney College of Law building. Many University staff, faculty, and students enter the heart of the University’s campus along the sidewalk that runs along the western border of the gardens. By creating an inviting entrance, with a clear and direct route to the north-east corner of the garden’s, passersby will be more inclined to walk directly through the gardens when they are headed towards the Marriot Library, or chemistry and biology buildings. This pathway will connect directly to the north-east entrance to the garden, which, in the long-range plan, will be adjacent to an amphitheater space that can be utilized by all campus users.





ENTRANCE DEFINITION



MAIN OBJECTIVES:

- Establish a memorable sense of place on campus
- Create attractive and appealing environment to attract campus community

ESTIMATED COST: Dependent on design, material usage, and construction costs.

The existing mosaic entryway design provides the Pioneer Garden with a memorable sense of place for all campus users. Adding notable entrance designs that further establish the Pioneer Gardens will increase its prominence throughout the campus community. Such entrance designs could be in the form of an arched, vegetated trellis, an art piece, or an additional mosaic sign on the south westerly or eastern entrances. Coupling Edible Campus Gardens signage efforts with creative entrance designs will encourage a greater understanding of the objectives of the gardens, which can create a more inviting atmosphere to engage volunteers across campus.

STUDENT STORAGE



MAIN OBJECTIVES:

- Add cubby or locker spaces for students to secure their belongings
- Incorporate roof structure to extend lifespan of locker units

ESTIMATED COST: \$2,000-\$2,500 for approx. 30 locker units.

**Cost estimates exclude locker implementation and roof estimates/construction costs. Based on assumption that 9 locker units costs \$670 each.

The Garden User Survey revealed that students would feel more comfortable in the Pioneer Gardens if there was a secure place to stow their belongings. The incorporation of a secure outdoor lockers would meet this need. To prevent weathering of the lockers, a covered roof should be heavily considered. This design could be facilitated through a possible Sustainable Campus Initiative Fund (SCIF) project, if a student were to create a solar generating, or green roof design that meets SCIF requirements. The project team recommends selecting lockers with a minimum of 15" in width, 24" in height and 18" in depth to ensure that backpacks can be accommodated.

AMERICAN DISABILITIES ACT COMPLIANCE:

ADA guidelines for lockers are dependent on the type of design and materiality. However, the universal standards for lock placement, door hardware, and interior hooks should be no higher than 48".



WASHING STATION

MAIN OBJECTIVES:

- Create functionable washing basins
- Include water bottle filling spigot
- Incorporate counter space and large washing basins
- Roofing to minimize weathering damage
- Drainage that feeds back into a garden

ESTIMATED COST: Cost of wash station depends on counter top material, depth and quantity of washing basins and faucets, as well as cost of harnessing the existing culinary water line.

Cost estimates exclude construction and roof material costs.

A new washing station should be implemented in conjunction with the existing culinary water line and should accommodate a separate hand-washing and water bottle filling station, in addition to produce washing basin(s). The addition of usable counter space near the washing station, as well as a drying rack, will improve the ease of use and efficiency of the space. The project team's research indicates that each washing basin should have a covering that can be used when not in use to avoid dust and leaves from blowing into the basins. The incorporation of a roof should also be considered to elongate the lifespan of the amenities by mitigating weathering damage.

A possible design option to increase the efficiency of water usage in the space could be to discharge water from the washing station into a French drain system that could irrigate a garden bed. This may not be possible for the drainage from the hand-washing station, due to the hand soaps used.

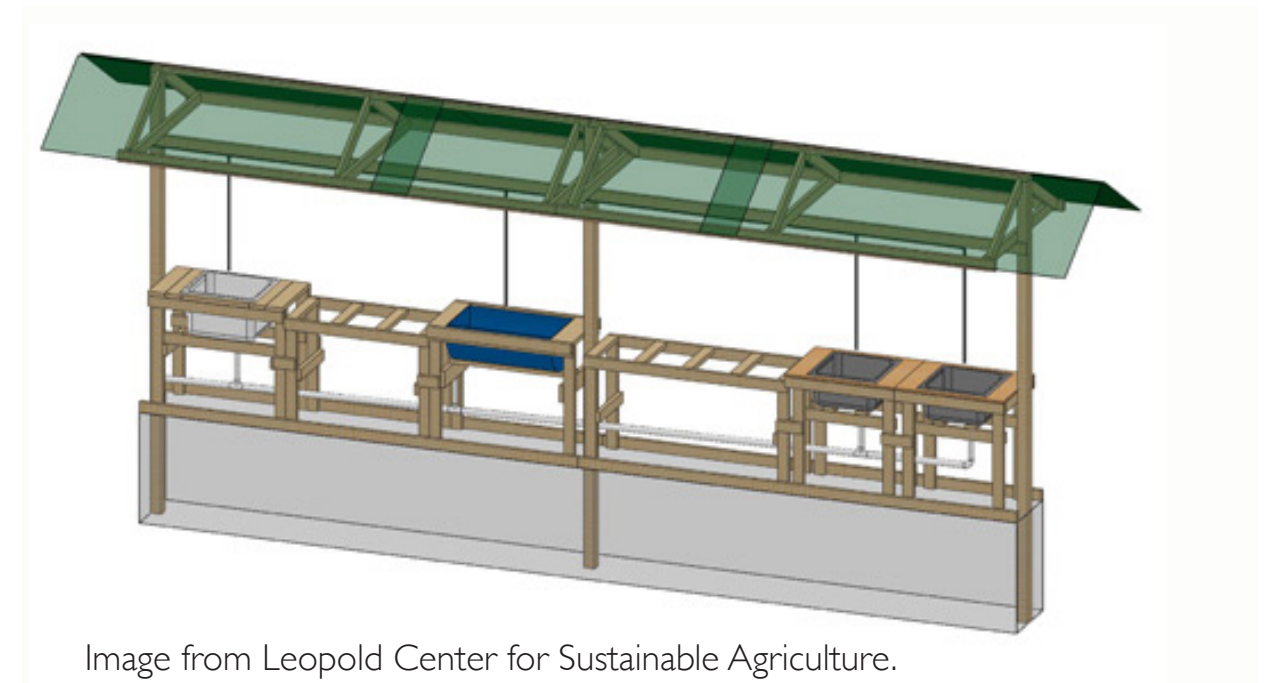


Image from Leopold Center for Sustainable Agriculture.

AMERICAN DISABILITIES ACT COMPLIANCE:

It should be noted that ADA compliance should be followed when constructing the washing station, specifically the undermounting of the sink should not prohibit a wheelchair user from being able to wash their hands. It can be assumed that the chair space should be approximately 36" in width, and the sink should begin no higher than 32" from the ground.



IRRIGATION IMPROVEMENTS

MAIN OBJECTIVES:

- Improve irrigation timer efficiency
- Promote water use conservation through efficient watering
- Install 1-2 valve boxes

ESTIMATED COST: \$65-\$350

**Cost estimates based on the assumption that irrigation timers cost between \$50-\$300 each, and that valve boxes cost between \$15-\$50 each.

Basic irrigation timers often allow for several garden zones to be programmed differently to accommodate for varying watering needs within the garden. These typically cost between \$50-\$100. The more expensive timers on the market can include weather sensitive watering, which can reduce water usage. Many weather sensitive irrigation timers include smartphone programming and monitoring. The project team suggests considering weather sensitive irrigation timers to promote optimum water conservation.

The irrigation timer will need to be placed within the Hoop house for the purpose of electricity.

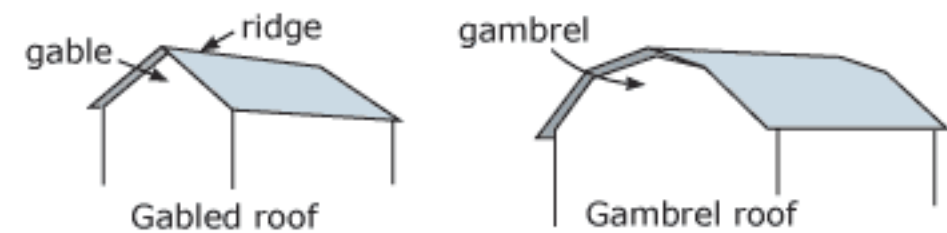
GREEN HOUSE

MAIN OBJECTIVES:

- Increase growing season and growing capacity
- Include ADA accessible walkways and growing beds
- Incorporate passive heating and cooling through ventilation design in conjunction with electric heating/cooling system located in headhouse control station
- Use long lasting, efficient, and recyclable materials
- Option to increase tool storage on North facing wall of the structure
- Include floor drains

ESTIMATED COST: \$13,140-\$20,970

**Cost estimates are based on the assumption that the greenhouse is 400-600 square feet, made of glass paned siding and costs \$25 per square foot to construct. It also includes the cost of concrete flooring, based on the assumption that it would cost \$7.85-\$9.95 per square foot. This estimate does not include the cost of a mechanized watering system, benches for additional growing space, the cost of floor drainage systems, or the cost of labor.



Glass siding should be considered, due to its ability to insulate and conduct heat in comparison to other common siding materials, such as polycarbonate or polyethylene. The siding can also be double, or triple paned, increasing the insulation of the structure and reducing energy costs for heating. Glass siding has a lifespan between 40-50 years, and can be recycled at the end of its use, making it a more environmentally conscientious material choice. The greenhouse should have either a gambrel or gable roof to create a pitch that minimizes snow accumulation.



INDUSTRIAL SCALE COMPOSTING

MAIN OBJECTIVES:

- Acquire one EarthTub™ composting bin
- Maintain existing compost for demonstration site for students and volunteers
- Include informational signage to explain decomposition processes and composting practices
- Add foundation for users to stand on

ESTIMATED COST: \$9,975 per EarthTub™

*No additional components required for implementation if purchased through EarthTub™. Cost estimate does not include additional labor required for assemblage or transportation.

On average, each industrial scale composting tub can process approximately 200 pounds of organic material, this will greatly increase the quantity of produce that the Edible Campus Garden can collect from the University. Existing compost bins should be used to demonstrate composting practices for students in the Organic Garden course. Informational signage should be included to explain decomposition processes, composting practices, and its ecological importance. This will enhance the quality of a self-guided garden tour. In addition, the project team recommends that a concrete platform be added to the immediate border of the demonstration composting bins, as well as beneath the EarthTub™ to provide safe walking conditions.



EDUCATIONAL SPACE ENHANCEMENTS

MAIN OBJECTIVES:

- Invest in one movable demonstration table/caddy to enhance Organic Gardening class activities
- Purchase 2-3 adjustable picnic table/benches to increase seating and workspace

ESTIMATED COST: \$250-\$657

* Based on assuming that a caddy will cost \$100-\$300 for demonstration caddy. approx. \$125 for each picnic table/bench.

The project team recommends the addition of adaptable furniture to make better use of the educational purposes of the space. Including a movable caddy for the Organic Gardening instructor will help the instructor host classes and demonstrations in a more formal, engaging way.

The incorporation of picnic tables that can adapt to be benches will allow for flexibility in class seating structure and in the use of the space. For instance, they could be used for students to write their assignments, and could also be arranged in a Socratic circle, or semi-circle, to create a learning environment that fosters discussions or lectures more easily.





BIKE RACKS

MAIN OBJECTIVES:

- Add 10 short-term inverted U bike parking spaces

ESTIMATED COST: \$450-\$700

**Cost excludes price of concrete anchoring, as well as cost of implementation. Price based on the assumption that an inverted U lock costs between \$90-\$140 each, and that the site will require 5 new racks.

Adopted in 2010, the University of Utah affirmed its dedication to promote active transportation to mitigate anthropogenic climate change in its Climate Action Plan. To ensure that the Edible Campus Gardens are assisting in the objectives of this plan, the addition of both short term bike parking is essential. Provisioning 10 bike parking spaces within the site will help to encourage students to ride their bikes to the gardens. To comply with the University’s standards, inverted U locks are recommended. They should be placed around the periphery of the site, the project team recommends anchoring them to a new concrete foundation adjacent to the north western entrance.



POLLINATOR GARDENS

MAIN OBJECTIVES:

- Incorporate diverse perennial pollinator attracting plants throughout the site
- Select waterwise, culturally significant native plant species
- Allocate space for ground nesting habitat

The addition of perennial pollinator garden beds around the periphery of the Pioneer Gardens, as well as throughout the grounds, will benefit the pollination of plants within the grounds. Selected plants should be culturally significant, meaning that they are native to the intermountain west. In selecting such plants, local pollinator species will find supportive habitat, while the irrigation needs will be less, provided that native plants require less water. The project team recommends intentionally leaving open spaces of ground every few feet within the pollinator beds to allow ample space for ground nesting pollinator species, many of which are common in Utah. *

Educational signage about the importance of pollinator species, as well as information about native pollinator species and plants could be incorporated throughout a future in-site signage plan. Additionally, the addition of bioswales or water catchment systems, such as a French drains, may help to reduce the need for additional irrigation needs for pollinator beds. Further research is needed to make specific recommendations. Students hoping to pursue a SCIF project could explore this concept further as a means for creating and implementing a project.



Reference: <https://utahpests.usu.edu/bees/native>



XERICSCAPE PERIMETER

MAIN OBJECTIVE:

- Remove sod from periphery of property, replace with attractive water wise landscaping

The University of Utah's Climate Action Plan aims to reduce water usage through xeriscaping and landscape watering efficiency. Currently, there is approximately 6,482 square feet of sod surrounding the gardens. By reducing the amount of sod surrounding the Pioneer Gardens to water efficient plants, the University can reduce its watering needs by 401,884 gallons per day, assuming that each 1,000 square feet of sod requires around 620 gallons per day. The addition of native trees is also a viable way to reduce watering costs and increase the beauty while honoring the native landscape.

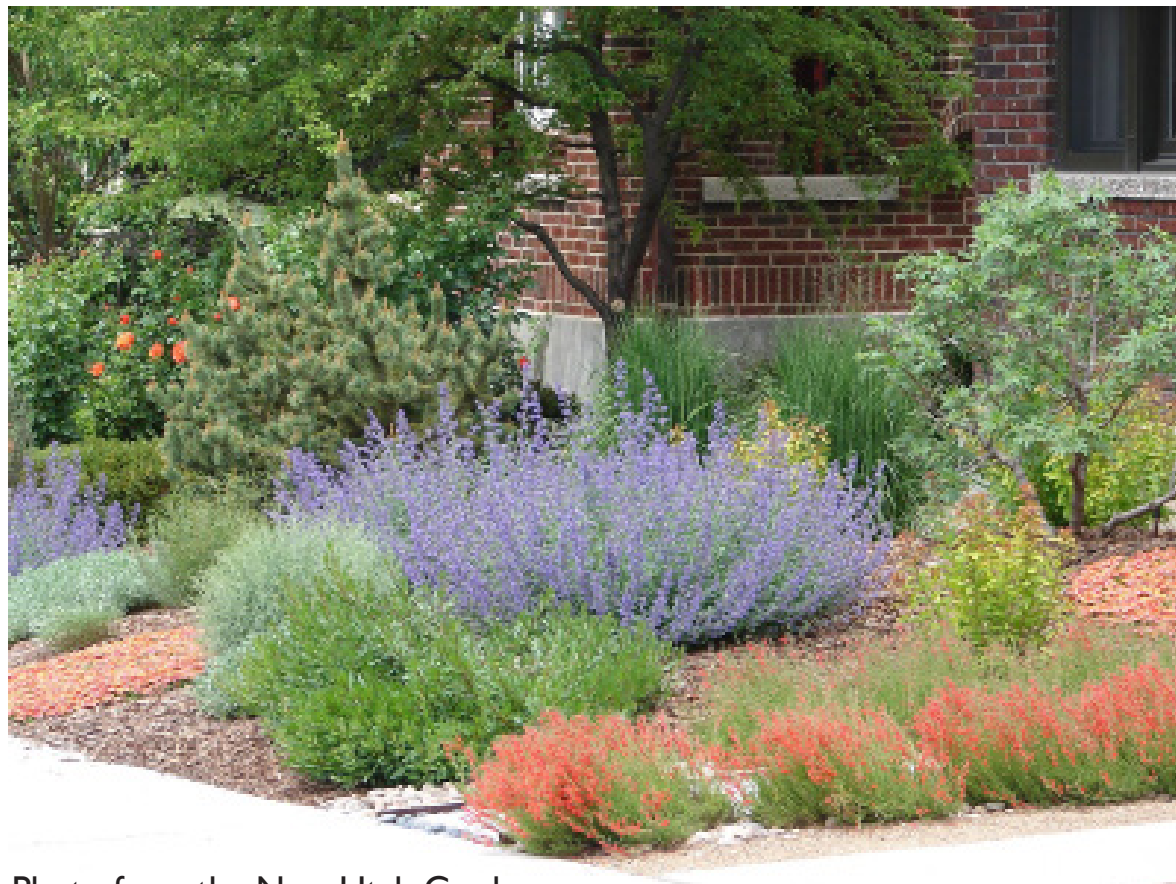


Photo from the New Utah Gardener

GARDEN BED IMPROVEMENT

MAIN OBJECTIVES:

- Invest in edging material to create clean edges surrounding each garden bed
- Reduce weeding efforts
- Protect root networks by defining walkways
- Create more defined edges, increasing attractiveness of the site

Although not imperative, the project team recommends investigating edging materials for ground level garden beds. Doing so may reduce weeding needs while protecting fragile root networks, and increasing the attractiveness of the site. The incorporation of stone or wood edging is most effective when placed approximately 6" below the surface.



Reference: <https://www.lowes.com/projects/lawn-and-garden/watering-tips/project>



PHASE 2: RECOMMENDATIONS

STORAGE BUILDING DEMOLITION

MAIN OBJECTIVE:

- Create space for kitchen dining and social space

ESTIMATED COST: \$22,864-\$85,740

* *This number is based on the assumption that the building is 5,716 square feet and that the cost of demolition costs between \$4-\$15 per square foot. The cost estimate here does not include labor costs, or material removal, as well as the cost of leveling the existing foundation.

It should be noted that the site designs presented in this document are intended to inform the future growth of the site, either with or without the presence of the Pioneer Theater and Biology Storage structure. Given that there is uncertainty in whether or not the building will continue to stand, this plan is designed to achieve the Edible Campus Gardens goals in either circumstance. However, the project team recommends advocating for the removal of the Biology Storage structure to encourage maximum utilization of the Pioneer Garden space.





AMPITHEATER

MAIN OBJECTIVE:

- Create inviting and comfortable event space
- Design center platform area
- Accommodate seating for approximately 30 people
- Include space to accommodate a single wheelchair user, at minimum
- Option to include pollinator bed or xeriscape landscaping around the perimeter of the amphitheater

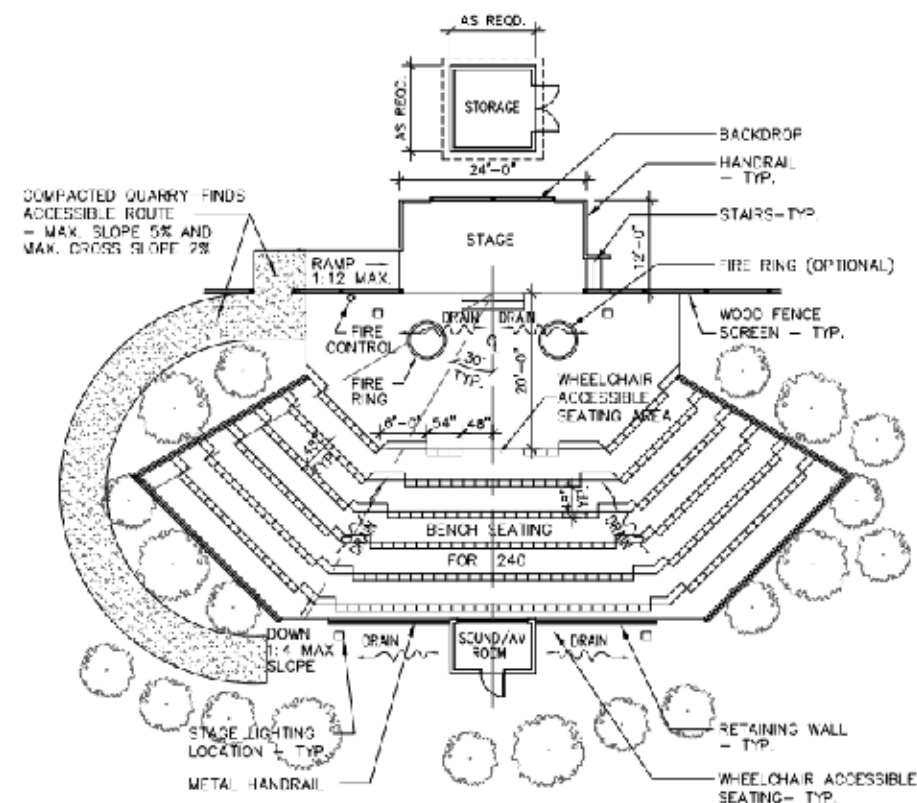
ESTIMATED COST: Dependent on cost of labor, construction materials, and drainage system requirements.

The project team recommends the addition of an outdoor amphitheater structure along the northeastern quadrant of the site. This amphitheater space will accommodate the social and educational needs of the site by creating a staged space for class demonstrations and other events. It will also serve as an inviting feature for people passing by, if it is not being actively programmed.

The project team recommends that stone or concrete be utilized to complete the structure to reduce long-term maintenance needs. Further engineering evaluations are needed prior to excavation and construction. Standard seating, as picture above, or variegated tiered seating designs, as picture below to the right, are both possible outcomes of a final amphitheater design.

AMERICAN DISABILITIES ACT COMPLIANCE:

To accommodate wheelchair users, a compliant ramp and seating area should be included in the final amphitheater design.





KITCHEN, FOOD STORAGE AND DINING SPACE

MAIN OBJECTIVE:

- Create kitchen and dining space
- Provide ample space for food preparation
- Walk in cooling facility
- Provide operational garage style doorway to create an open patio feel, yet still protect the kitchen from the elements

ESTIMATED COST: Cost depending on amount of counter spaces, price of cooling facility, structure construction materials and cost, as well as extension of culinary water and electricity lines.

The headhouse structure will function as a kitchen and dining space to make the garden to table process both visible and participatory for students. The project team recommends that the headhouse be placed along the easterly perimeter of the site, assuming that the Biology Storage building has been demolished. If the storage building has not been torn down, the headhouse can still be accommodated in another portion of the site, if this is the case, further discussion will be needed to arrange the best location within the site for the headhouse.

The headhouse will require a culinary water line extension to be able to facilitate food preparation, it will also need to be connected to the HV electricity line to power a new cooling facility and the existing refrigerator. The project team recommends that the facility have a garage style entrance to create a versatile patio space, which can be opened during warm weather, and closed to secure the kitchen and keep out the elements.

Further design consideration is needed to develop a preferred layout for the kitchen and dining components. It should be noted that the picnic tables/benches, acquired during Phase I, are intended to be adapted to provision the headhouse with dining tables and seating.



Photo of preferred garage style building entrance.



ADA ACCESSIBLE GARDEN BEDS

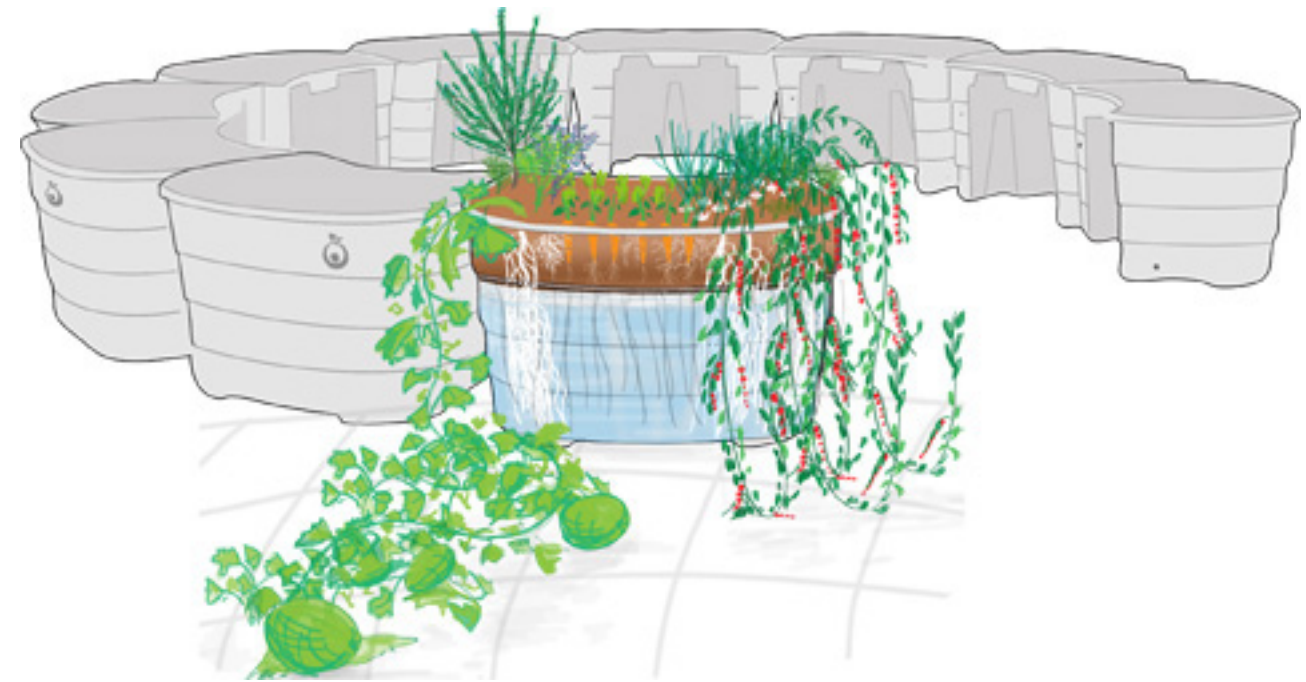
MAIN OBJECTIVE:

- Increase accessibility to gardening opportunities
- Create beautiful and memorable entrance nodes
- Add usable growing space

ESTIMATED COST: No estimated cost due to existing ADA garden beds.

The project team recommends creating paved, circular nodes at the northern and southern westerly entrances to the garden. These nodes will host the ADA Accessible garden boxes that the Edible Campus Gardens already owns. These gardening boxes will be placed around the periphery of the garden openings. They will create beautiful, inviting entrances to the gardens while ensuring that all of the greater University of Utah community is capable of participating in gardening activities.

Garden beds that allow for a wheelchair user to comfortably work in the bed should have sufficient space for the wheelchair to fit underneath the gardening plot. The leg space should be approximately 36" in width, and the work space, or gardening bed, should begin at approximately 32" from the ground. The growing space should have about a 10"-12" depth to be able to support the cultivation of root vegetables. It is important to evaluate the drainage needs of the gardening beds to ensure the health of the plants, and to increase the longevity of the wood used.



Circular arrangement of ADA compliant gardening beds.



Existing ADA compliant gardening beds.



PLAZA DESIGN & LANDSCAPING

MAIN OBJECTIVE:

- Provide additional social, dining, and educational space
- Surround area with xerciscaped vegetation to conserve water
- Incorporate the addition of native tree(s)
- Select pavement material that mitigates weeds and allows wheelchair access
- Option for small area of sod, child play area, and or art piece

ESTIMATED COST: Plaza cost estimates are dependent on final design elements, the cost of construction and materials used.

The project team recommends creating paved, circular nodes at the northern and southern westerly entrances to the garden. These nodes will host the ADA Accessible garden boxes that the Edible Campus Gardens already owns. These gardening boxes will be placed around the periphery of the garden openings. They will create beautiful, inviting entrances to the gardens while ensuring that all of the greater University of Utah community is capable of participating in gardening activities.

Garden beds that allow for a wheelchair user to comfortably work in the bed should have sufficient space for the wheelchair to fit underneath the gardening plot. The leg space should be approximately 36" in width, and the work space, or gardening bed, should begin at approximately 32" from the ground. The growing space should have about a 10"-12" depth to be able to support the cultivation of root vegetables. It is important to evaluate the drainage needs of the gardening beds to ensure the health of the plants, and to increase the longevity of the wood used.





SIGNAGE PLAN

MAIN OBJECTIVE:

- Develop interpretive signage for the Pioneer Garden space
- Increase peripheral signage to establish greater sense of prominence
- Become integrated into the University's wayfinding/map kiosks throughout campus

The project team recommends that the Edible Campus Gardens invest in a signage plan to create an awareness of the gardening components and ecological processes taking place within the Pioneer Garden site. Signage plans encourage self-guided tours of the grounds by communicating to visitors that they are welcome in the site. To attract a greater number of garden visitors, increasing the signage and placemaking design efforts on the periphery of the site is important.

To encourage greater awareness of the Pioneer Garden site amongst all campus users, the project team recommends that the Edible Campus Gardens make an effort to become included in the University's future on-campus map kiosks.

IN-SITE SIGNAGE GUIDELINES

1. Include a sign that communicates the Pioneer Garden history to inform students of the site's transformation from a campus parking lot due to the Office of Sustainability's will to create the Edible Campus Gardens.
2. Include educational signage about native pollinator species, as well as culturally significant plants. Inform garden users about the ecological value of creating habitat for regionally relevant pollinator species, as well as the water wise efficiency of native plant adaptations.
3. Include informational signage about commonly rotated garden components, which can be rotated and removed with the plants. These signs could include information such as the plant's family, its gardening season, common uses, etc.
4. Create informational signage about decomposition processes and food waste to install at the composting demonstration station.

*The project team recognizes that there is already an effort in place to create informational signage throughout the site, these recommendations are listed as optional ideas to add to the existing signage planning efforts.



Image from Caldwell



ADOPTED PLANS & CODES

Each of the following plans and codes listed below impact the infrastructure improvement and development plans for the Pioneer Garden site.

UNIVERSITY PLANS

- Climate Action Plan
- Bicycle Master Plan

CODES ADOPTED BY THE STATE OF UTAH

2015 International Building Code

2015 International Existing Building Code

2015 International Residential Code

2015 International Plumbing Code

2015 International Mechanical Code

2015 International Fuel Gas Code

2014 National Electrical Code

2015 International Fire Code

2015 International Energy Conservation Code

CODES ADOPTED BY THE U.S. FEDERAL GOVERNMENT

2010 Americans with Disabilities Act



ORIGINAL PIONEER GARDEN SITE

