

# Bear Creek Lake Park Master Plan

Final Report January 2025

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# **Project Team**

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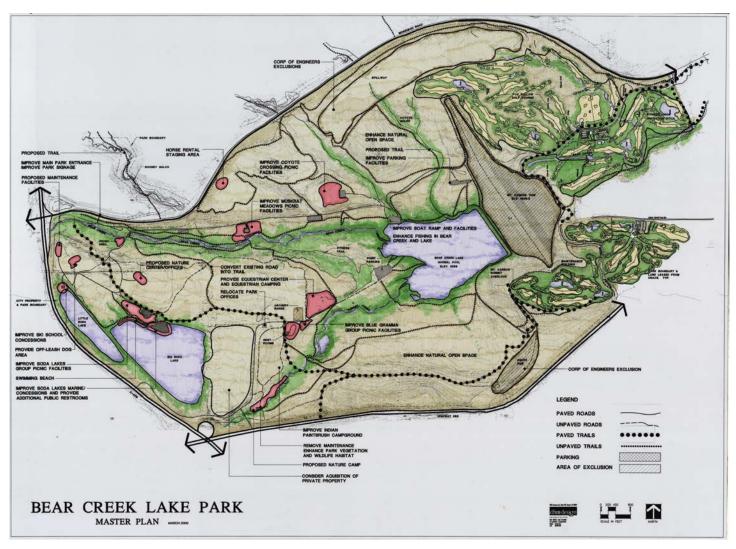
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# Introduction, Background, and Purpose

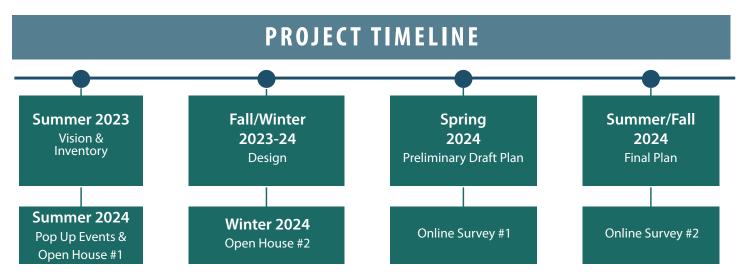
# **COMMUNITY RESOURCES DEPARTMENT MISSION**

"To provide high quality park, recreation, family and cultural services and facilities that inspire enjoyment, learning and wellness in the lives of those who live, work and play in Lakewood."



2000 Master Plan Update

# **EXECUTIVE SUMMARY**



Bear Creek Lake Park is a popular 2,624-acre regional outdoor playground that provides a multitude of exciting recreational opportunities right outside the back door of the Denver-metro area. Park opportunities, both passive in nature and recreational, include camping, fishing, boating, windsurfing, mountain or road biking, enjoying the swim beach or taking aim at the archery range. Most importantly, the mission of the park is environmental education and stewardship of the park's natural resources with many educational programs available for guests of all ages and abilities.

The Bear Creek Lake Park Master Plan was an 18-month planning effort, impactful feedback was received, and the community was well engaged to share their thoughts about the park. This extensive public input from park users and stakeholders facilitated the development of an implementable action plan to serve visitors for many years to come. Previous planning efforts in 1986, 2000, 2012 and feedback from thousands of park enthusiasts and stakeholders resulted in preferred design concepts for park investment and improvements where they were needed most.

Open houses and survey feedback also influenced how future projects would be prioritized with the top priority improvements recommended at the park entrance to expedite access to the beloved regional destination along with necessary trail repairs and exciting soft-surface improvements to better serve diverse trail users.

The primary goals of the plan were to determine future land uses, ensure sustainable site design, develop a plan to address facility maintenance needs, and guide future enhancements to better serve over 1 million users per year while incorporating into the park a new land purchase of 36-acres east of Big Soda Lake.

Preferred investments in the following focus areas include the gatehouse and entry to the park, visitor center, swim beach, Marina, Little Soda Lake, the new 36-acre parcel, campground, horse stables, and Pelican Point.

This plan is visionary, it charts the course for the next decade, will guide operational changes in the nearterm, and inform impactful capital investment that will enhance and support park users for many years to come.

Thank you to the DHM Design team for guiding this plan update and your technical support and careful consideration of a sustainable, thriving future for the Bear Creek Lake Park. Thank you to the 20 stakeholders who supported this plan every step of the way including regular meetings, design charettes, and ensuring your fellow park lovers were informed and engaged. Finally, thank you to the Lakewood residents and park users who took the time to share what they love about Bear Creek Lake Park and their dreams for the future of the park. We hope this plan will demonstrate your passion and position the park for enjoyment for many years to come.

Amber Thill Interim Director of Community Resources

# **BACKGROUND AND PURPOSE**

# **Background**

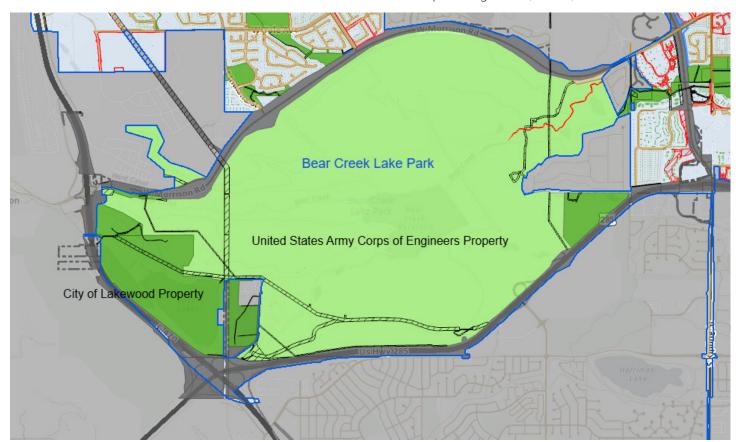
The City of Lakewood provides numerous opportunities for local and regional visitors including 7,400 acres of parks, 240 miles of trails and 114 parks. Of those parks, Bear Creek Lake Park is a popular destination offering a wide range of outdoor recreational and educational activities. The park is located approximately 10 miles southwest of Denver at the base of the Dakota Hogback Formation in the City of Lakewood.

Bear Creek Lake Park boundaries are determined by large transportation corridors that include:

- Hampden Ave./Colorado Highway 285 (south boundary)
- Highway C-470 (west boundary)
- Morrison Road (north boundary)

The site is bisected by Bear Creek and Turkey Creek and also includes three major water bodies including, the Soda Lakes and Bear Creek Reservoir. The park offers similar activities to the other Denver metropolitan Tri-Lakes (Chatfield State Park, Cherry Creek State Park and Bear Creek Lake Park). Numerous recreational amenities and environmental education opportunities are provided within its over 2,600-acre ecosystem.

While the U.S. Government owns the majority of the park outside of the Soda Lakes area, the City of Lakewood has operated and managed the entire park since 1982 under a 50-year park and recreation lease with the United States Army Corps of Engineers (USACE).



Bear Creek Lake Park Ownership Map

# **BACKGROUND AND PURPOSE**

# **Project Goals & Scope of Work**

This master plan provides a 10-20 year vision for Bear Creek Lake Park that addresses visitor needs and enhances recreation opportunities while being mindful of natural resource protection.

#### Plan Goals include:

- Provide guidance on future land use and site design.
- Address deferred maintenance.
- Guide future renovations and expansion.
- Incorporate the recently acquired 36-acre parcel east of Big Soda Lake
- Engage with the potential reallocation project initiated by the USACE.

#### **Additional Considerations included:**

- High-level review of trails system
- Nine project focus areas including: Gatehouse (Morrison Rd. main entrance), Visitor Center, Swim Beach and Marina, Little Soda Lake, new 36-acre parcel, campground, horse stables, and Pelican Point and the boat ramp vault toilets (waterless toilet system).
- A public engagement process to inform initial focus area concepts along with noted opportunities and challenges from park staff and on-site observations.
- Assessment of existing facilities and programs identified potential opportunities to improve usage or expand programming and address rehabilitation needs.
- User data was collected to inform future park capacity.
- Environmental inventory and desktop review of existing and proposed environmental impacts
- Phasing and funding strategies
- Estimate of probable costs for implementation.
- Engagement with local utility providers for future connectivity.

Based on previous planning efforts in 1986, 2000, 2012 and input received from the public outreach and stakeholder meetings, preferred concepts for each focus area were developed for inclusion in the Bear Creek Lake Park Updated Master Plan.

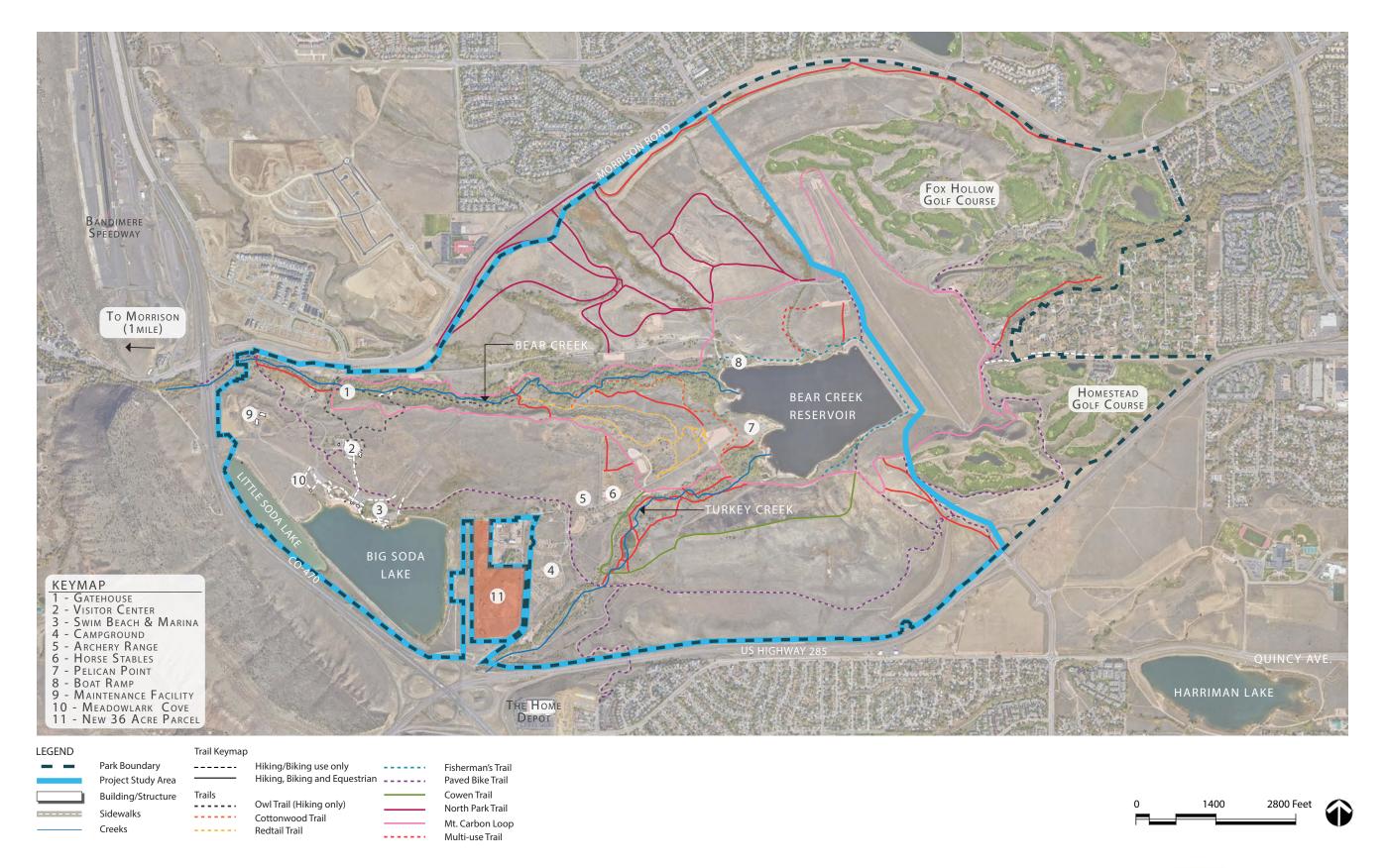
### **Master Planning Process:**

- 1. Phase 1 Existing conditions and data collection
  - a. The initial step in the planning process involved a site visit and gathering baseline information about the site. This information became the basis for all the planning and analysis efforts.
- 2. Phase 2 Concept development and public / stakeholder feedback
  - a. A range of concept options for each project focus area were explored and illustrated. Multiple stakeholder meetings, public meetings and surveys were completed throughout the course of the project.
- 3. Phase 3 Master plan concept development
  - a. Concepts were reviewed and refined to the preferred concepts presented within this report.
- 4. Adoption by City of Lakewood
  - a. The Master Plan was presented to the Lakewood City Council in early 2025.

The report appendix includes draft concepts, revised concepts for public input, open house summaries/survey results, stakeholder meeting summaries and a utilities master plan that have informed the development of the preferred concepts included within this report.



Bear Creek Lake Park Public Engagement Event



# **EXISTING CONDITIONS**







# **Preferred Concepts**

## **PARK MISSION**

"The mission of Regional Parks is to conserve the natural areas of the City while providing quality and safe recreation opportunities and high-quality environmental education.

The Department or Community Resources is responsible for providing recreation and leisure activities to people of all ages within Lakewood. Our goal is to provide exceptional facilities and programs that make Lakewood, Colorado a top-notch place to live."

-2012 BCLP Visitor Center Master Plan

"Our mission at Bear Creek Lake Park is to manage and conserve the natural lands of the City of Lakewood while providing safe recreational opportunities and quality environmental education to deepen the community's understanding of – and connection to – the park's natural, historic, and cultural resources."

-2012 BCLP Interpretive Master Plan



2023 Public Feedback Word Cloud

# STAKEHOLDER & PUBLIC ENGAGEMENT SUMMARY

	Stakeholder Engagement	Park Staff Engagement	In-person Public Engagement	Online Public Engagement
Phase 1	September 19, 2023	Internal Park Staff Meeting	Pop-Up Event: August 2, 2023 Open House: September 27, 2023	August 2023
Phase 2	December 5, 2023	December 13, 2023	Open House: March 27, 2024	March / April 2024
Phase 3 Draft Final Concepts	July 31, 2024	Internal Park Staff Meeting		August/ September 2024
Phase 3 Final Concepts	Digital Comment: November/ December 2024			November/ December 2024

Throughout the Bear Creek Lake Park (BCLP) master planning process the public and the stakeholder committee were engaged to help chart the course for the future of BCLP and create a sustainable vision that is equitable to all user groups while preserving the park's natural resources. The significance of Bear Creek Lake Park was evident from the magnitude of feedback received through the public engagement process. The team discussed the plan with over 2,000 park users through two public surveys and two open house events and received nearly 50 additional comments left on the project page. By the end of the planning process, the project page had received over 10,000 visits and the draft final plan was viewed 360 times.

Public engagement for the Bear Creek Lake Park master plan kicked off at Big Soda Lake Swim Beach on August 2, 2023 with a popsicle pop-up event to introduce the public to the planning project and solicit ideas, goals, and a vision for the park's future. An online survey was open to the public during the first three weeks of August 2023 and garnered 1,416 responses. Public engagement continued on Wednesday, September 27, 2023 with a public open house at the Visitor Center attended by eighty-five (85) people and the first stakeholder meeting occurred September 19, 2023 with nineteen (19) people. All feedback was reviewed and incorporated into draft concept plans for consideration.

General themes from the first phase of public input included:

- The park is beloved by many as a large open space on the Front Range with a unique natural character and access to open water very close to the city.
- Strong support for the current trail system but would like to see expansion of the trail network and improvements to trail maintenance and safety.
- Support for expanding and upgrading hookups and amenities in the campground.
- Improve safety at the park entrance.
- Support for expanded swimming and beach access, and improved maintenance of the shore at Big Soda Lake.
- Provide more parking and improved restrooms.
- Expand winter recreation opportunities (winter camping, ice fishing, snowshoeing, etc.).



Public Open House #1, S'mores at the Campfire

# **PUBLIC ENGAGEMENT SUMMARY**

The second stakeholder meeting occurred December 5, 2023 and a park staff meeting occurred December 13, 2023 ahead of the second phase of public engagement and concept development.

Public engagement during the second phase of the Bear Creek Lake Park Master Plan process included a public open house on March 27, 2024 and a second community survey available for four weeks from the end of March to the end of April, 2024. The forty+ attendees at the open house were asked to prioritize among improvements in the park by allocating \$100 worth of play money among six park features. Attendees were also given red and green sticky dots to express prioritization of improvements within each of the six distinct features of the park. The survey was organized in the same manner asking respondents for feedback on improvements at six key features within the park including: the gatehouse, the visitor center, the trail system, the new 36-acre parcel, the campground, and Big Soda Lake. Survey response was robust with 477 community members answering survey questions.

General themes from the second phase of engagement included:

- Improvements to the trail system and to Big Soda Lake are of the highest priority;
- With regards to TRAILS, the focus should be on maintaining existing trails, providing new trails, and adding a loop trail around Big Soda Lake;
- An expanded swim beach, expanded parking, new or improved restrooms, and a paddleboard launch area are the most desired improvements at BIG SODA LAKE;
- Better connectivity to and within the 36 ACRE PARCEL is desired;
- Improve the INDIAN PAINTBRUSH CAMPGROUND with better campsites and showers, a ranger station, and an upgraded bunkhouse.
- At the VISITOR CENTER add restrooms that can be accessed from the outdoors.
- At the GATEHOUSE address traffic congestion during peak visitation days at the park.



Bear Creek Lake Park Pop-up Event, 2023



Public Open House #1, 2023



Public Open House #2, 2024

# **PUBLIC ENGAGEMENT SUMMARY**

After sharing feedback with the stakeholder committee July 31, 2024, a third phase of online public engagement was conducted in late August and early September of 2024, in which the draft project focus area concepts were shared on the City of Lakewood project page <u>LakewoodTogether.org</u> and promoted with an open comment period.

Public comments on the project focus area concepts generally applauded the improvements to the most heavily used areas of the park while balancing preservation of the ecologically rich and beautiful natural areas of the park. General themes included:

- Enthusiasm for trail system improvements
- Agreement with the improvements at the entry station including the automatic gate.
- Eager anticipation of the upgrades at Big Soda Lake and Pelican Point to offer enhanced ways for park goers to interact with the water while trying to manage congestion during peak times.
- Support for maintaining the current equestrian amenities along with additional equestrian trails in the 36-acre parcel.
- Some calls for resurfacing the main road in the park for more comfortable road bike riding.

The final phase of stakeholder and public online engagement occurred in November and December of 2024 on the City of Lakewood project page to ask residents and park visitors to provide comments, questions and any other feedback on the draft plan. Minor revisions were incorporated in the final plan. Lakewood City Council plan adoption is anticipated in early 2025.



December 2023 Stakeholder Meeting



December 2023 Park Staff Meeting

	Stakeholder & Park Staff Engagement	In-person Public Engagement	Online Public Engagement
Phase 1		Pop-Up Event: 50 Participants	1,416 Participants
	30+ Participants	Open House: 85 Participants	Quick Poll: 392 Participants
Phase 2	30+ Participants	Open House: 40+ Participants	477 Participants
Phase 3 Draft Final Concepts	30+ Participants		608 Participants
Phase 3 Final Concepts			360 Participants

Over 10,000 visits to the project page!

# **OPERATIONS**

## **Summary**

The Bear Creek Lake Park plan is a land use plan that identifies and prioritizes future improvements needed to enhance high use areas of the park. That said, throughout the plan process, stakeholders, visitors, staff and the project team shared impactful ideas in support of operational changes. Operational changes recommended by the plan include considerations of different pricing models during peak use; additional formalized entry points; park capacity management strategies; and project phasing and partnerships for plan implementation.



Winter View at Bear Creek Lake Park



Existing Big Soda Lake Swim Beach

# Park Use Pricing & Guest Management

A market study was completed by staff and recommends the adoption of surge pricing on holidays and weekends from Memorial Day to Labor Day to align with other similar parks in the metro area. Surge pricing will raise the daily rate from \$10 to \$15 dollars on high traffic days to reduce demands on the park, staff and infrastructure while also increasing revenue to support operations and facility improvements. The plan recommends staff further explore the following opportunities:

- Consider staffing needs to support a secondary entrance operation during the peak summer season to reduce traffic going through the main entrance.
- Continue to work with the city's legal team to increase authority of the ranger team.
- Technology enhancements including improved Wifi connectivity, trail counters, video traffic cameras, etc. to better understand usage patterns.
- Analyze moving special events, shelter rentals, and school groups to pre-paid passes to alleviate congestion at the gate.
- Discontinue competitive races between Memorial Day and Labor Day, to reduce congestion at the park entrances during peak usage for daily park patrons.

The project team recommends investigating opportunities through the City's annual budget process to consider unique funding sources, additional programming partnerships to increase revenue especially in the off season, and increased resource development through grant programs to support the multi-year needs recommended in this plan both for capital improvements and operational enhancements. For example, re-evaluating concessionaire operations to maximize the visitor experience, offer off season experiences to activate the park, and create reservation systems to better monitor capacity in specific use areas.

# **OPERATIONS**

# **Park Capacity Management**

In conjunction with the surge pricing adjustments, it is recommended that the City continue to investigate improvements and enhancements to park capacity management, such as allowing guests to enter and enjoy areas of the park that are not at capacity while the swim beach is closed for capacity.

Based on traffic analysis All major holidays should go to a full park capacity closure operation (similar to July 4th). This includes:

- Staffing, signage and cones placement to guide traffic along Morrison Road near the main park entrance
- Increased enforceable signage along Morrison Road to help with traffic calming and reduce illegal and unsafe parking.
- Access for reservations, campers, and staff through the back entrance gate near the campground to reduce congestion
- The installation of a gate system for reservation and annual pass holders to increase traffic flow through the main entrance.



Big Soda Lake Existing Conditions

# PROJECT PRICING, PHASING, & PARTNERSHIPS

# **Pricing**

During the course of the master plan development, the project team prepared and analyzed design and construction costs for each project focus area considered for advancement. These projects were generated from public, stakeholder and staff input, as well as guidance documents from previous and ongoing efforts in and around Bear Creek Lake Park. ROM (rough order of magnitude) pricing is offered in summary form to help planners, administrators and leadership make decisions on investments and potential partnerships to fulfill the goals and the plan recommendations. The ROM prices depict the cost to develop Phase 1 and 2 of the focus areas.

The ranges are as follows:

- \$ = \$0-\$1,000,000
- \$\$ = \$1,000,000 \$3,600,000
- \$\$ = \$3,600,00 \$7,000,000

Additionally, most focus areas contain projects of a lesser scope that may be accomplished to meet project goals depending on urgency, funding, and potential partnerships.

# **Project Phasing and Priorities**

Phase 1 improvements, at each project focus area and the park-wide trails plan, were selected by the project team, using stakeholder and public input, to be the most beneficial, cost-effective and logical to complete while meeting project goals and park operational procedures. The top three priorities identified are:

- Entrance station (Morrison Rd. location)
- Trails (within the entire study area)
- Swim Beach and Marina improvements

The project priorities are also based on current use trends, environmental conditions, staff resources and available funding. Should any of the patterns change throughout the course of the master plan implementation, project phasing and priorities could shift to accommodate current realities. Also, funding availability, permitting and future partnerships will impact project delivery and timing.

Bear Creek Lake Park 2024 Rough Order of Magnitude Pricing			
	Phase 1	Phase 2	
Trails			
	\$\$	\$\$\$	
Gatehouse			
	\$\$		
Visitor Center			
	\$\$		
Swim Beach & Marina			
	\$\$\$	\$\$	
Little Soda Lake			
	\$		
Campground			
	\$\$	\$\$	
36-Acre Parcel			
	\$	\$	
Stables			
	\$		
Reservoir Boat Ramp & Pelican Point			
	\$		

# PROJECT PRICING, PHASING, & PARTNERSHIPS



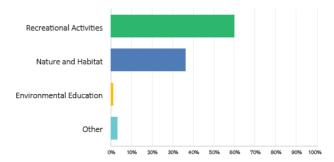
Wildlife at the Park

# <u>Project Partnerships, Opportunities</u> and Grants

The current and future project implementation team will consider and assess seasonal and cyclical opportunities including grant cycles, adjacent planning and construction activities, and developments in utility availability to fund and carry out focus area improvements. Throughout the course of the City's annual capital planning and budgeting process, the City will evaluate project priorities and consider grant and project partner opportunities, environmental impacts, and timing of construction.

The variety of land ownership in the park, easements, partner agencies and stakeholders provide extensive opportunities for collaboration, funding partnerships and joint ventures to meet project goals and more efficiently serve park visitors.

# What would you consider the greatest value of Bear Creek Lake Park, or its top priority?



Bear Creek Lake Park Community Survey Question

Many potential partners participated in the master plan stakeholder committee and will continue to remain engaged during regular operational activities and project planning initiatives, they are:

- Jefferson County Open Space (funding partner, technical design review)
- Colorado Parks and Wildlife (natural resource partner, technical design, and operations)
- United States Army Corps of Engineers (majority landowner, regulations, guidance)
- Colorado Water Conservation Board (water storage, recreational opportunities)
- Bear Creek Watershed Association (water quality, operations)
- Town of Morrison (road safety and enforcement, operations, utilities, future connection to water and sewer)
- Colorado Department of Transportation (access points, traffic safety)
- Colorado Mountain Bike Association (technical design review, operations, trail advocacy)
- Denver Audubon Society (environmental protection, natural resources)
- Denver Field Ornithologists (environmental protection, natural resources)
- Lakewood Volunteer Park Patrol (operations, guest experiences, regulations)
- Current Park Vendors (paddle craft rentals, concessions, equestrian, waterskiing, anglers)
- Outdoor Recreation Outfitters (Runners Roost, REI, local bicycle shops)
- Park and Outdoor Recreation Advocates

# UNITED STATES ARMY CORPS OF ENGINEERS PARTNERSHIP



Bear Creek Reservoir

Bear Creek Lake Park is a flood control project of the US Army Corps of Engineers, and the property is leased under a long-term agreement to the City of Lakewood for management as a park. The US Army Corps of Engineers originally purchased the site of Bear Creek Lake Park to facilitate the construction and operation of the Mount Carbon Dam and Bear Creek Lake near the confluence of Bear Creek and Turkey Creek in what was then unincorporated Jefferson County, Colorado. The Dam was authorized by Congress in 1968 and was completed in 1982 as one of three major flood control projects constructed in the Denver metropolitan area.

In conjunction with the construction of the dam and lake, the Corps of Engineers prepared an original Master Plan for the site in 1980 which included in addition to the land dedicated to the operation of the Dam, a plan for multiple uses including passive and active recreational uses and wildlife habitat and natural resource conservation on the park lands and water. The original master plan for the park included hiking, horseback riding, camping, picnicking, boating, archery, and nature study activities for the enjoyment of the citizens of Lakewood and the surrounding communities.

The City of Lakewood assumed operation and maintenance responsibilities for recreational uses within the park with the signing of a 50 -year park and recreation lease of the Federal land from the Corps of Engineers on 16 August 1982.

The park was then annexed to the City of Lakewood. Since 1982 significant improvements have been made at Bear Creek Lake Park as a result of a cost-sharing agreement between the Corps of Engineers and the City of Lakewood. Facilities constructed under this agreement included entrance stations, roads and drives, picnic areas, a bridge across Bear Creek, equestrian, hiking and bicycle trails, a campground, parking areas, toilet facilities, and utilities.

The USACE are an important stakeholder in future planning efforts for the park and per the lease agreement with the city, must approve the master plan and individual projects as they move to construction if there are any projects within USACE boundaries. In December of 2024, the USACE provided approval and a letter of support to the city for the Bear Creek Lake Park master plan.

## UNITED STATES ARMY CORPS OF ENGINEERS PARTNERSHIP



Bear Creek Reservoir

#### **Reservoir Feasibility Study**

Throughout the public engagement process for this plan, park users shared concerns regarding the ongoing feasibility study for water reallocation at Bear Creek Reservoir being conducted by the Army Corps of Engineers and the Water Conservation Board. City staff are committed to the partnership with the Army Corps and will continue to share information and opportunities for public input regarding this ongoing study. The plan did not address the potential impacts identified by the City through this planning effort, but rather focused on land use improvements in areas of the park that are not owned by the Army Corps along with recommendations for flood mitigation in areas that could be impacted by various reallocation levels. In April 2022, Lakewood City Council signed a proclamation against any reallocation of Bear Creek Reservoir and put together a dedicated website to inform park users as the study progresses. The City remains optimistic that the results of the feasibility study will not warrant a major reallocation and should any reallocation be proposed will further determine mitigation measures to protect existing infrastructure, trails and wildlife.

Refer to section, "Bear Creek Reservoir Floodplain Permitting" within this report for additional information on preliminary measures recommended in this plan to increase resistance to flooding at structures around the reservoir.

Learn more about the water reallocation feasibility study and potential impacts to the park by visiting <u>Lakewood.org/BCReservoir</u>.

The master plan project focus area designs were reviewed and modified to minimize impacts on the known natural resources within the park. As more data becomes available, additional resources and considerations may be necessary. This study aims to understand potential resource impacts regulated by the applicable policies and laws. Regulations, policies, and programs relevant to the project should be consulted and are listed below. A desktop review was completed as part of the planning process to help reduce or eliminate resource impacts regulated by the pertinent policies.

- Clean Water Act of 1972, Sections 404 and 401
- Migratory Bird Treaty Act of 1918 (MBTA)
- Bald and Golden Eagle Protection Act (BGEPA) of 1940
- Endangered Species Act (ESA) of 1973
- National Environmental Policy Act (NEPA) of 1969
- Colorado Noxious Weed Act (35-5.5 Colorado Revised Statutes [CRS])
- Executive Order 11988 and 23 CFR 650 subpart A
- Section 106 the National Historic Preservation Act

The environmental review of the project area included assessments of rare plants, vegetation communities, noxious weeds, wildlife, and water/wetland resources.

#### **Rare Plants:**

The US Fish and Wildlife Service's (USFWS) IPaC tool identified two threatened or endangered (T&E) plant species that could potentially occur: Western prairie fringed orchid (Platanthera praeclara), which inhabits North American tallgrass prairies, and Ute Ladies'-tresses orchid (Spiranthes diluvialis), typically found in moist meadows near perennial streams. It is unlikely that any rare plants are present in the park, as most habitats are disturbed and contain non-native plant species. However, no focused surveys for rare plants have been conducted in the Park.

### **Vegetation Communities:**

The park's vegetation consists primarily of grassland and prairie, with smaller areas of shrubland, forested/woodland, water, and development. Noxious weed surveys conducted by the City of Lakewood, identified invasive species. Invasive species threaten the native ecosystem.

Species such as Russian olive (Elaeagnus angustifolia), bouncingbet (Saponaria officinalis), purple loosestrife (Lythrum salicaria), teasel (Dipsacus sp.), and hairy willow-herb (Epilobium hirsutum) were identified in historic surveys completed by the City of Lakewood. One species, Canada thistle (Cirsium arvense), was confirmed to be present on the US Army Corps of Engineers (USACE) 2022 plant inventory list.

#### Wildlife:

Bear Creek Lake Park provides important habitat for various wildlife, including migratory birds, raptors, small mammals, and large mammals such as mule deer, elk, and coyotes. Open grasslands with a variety of forbs also provide much-needed food sources for migratory birds and provide open areas for raptors to hunt for rodents and other small mammals. Mature riparian areas within the park provide essential habitat for many species for shelter, breeding, and foraging activities. Bear Creek Reservoir, Turkey Creek, Bear Creek, and other associated tributaries provide water sources for the many wildlife species found at the park. Emergent marshes on the edge of waterbodies and in water oxbow areas provide habitat for amphibians and reptiles, and nesting and breeding waterfowl and shorebirds. Nesting great-horned owls and red-tailed hawks have been documented in the park and nest locations have been considered during the planning process.

#### Water and Wetland Resources / Floodplains:

Water resources in the area include Bear Creek, Turkey Creek, Soda Lakes, and the Bear Creek Reservoir and associated wetlands. The US Army Corps of Engineers mapped several wetland types in 2022, including emergent and scrub-shrub wetlands. Floodplain data from FEMA and the City of Lakewood indicates portions of the park fall within regulatory flood zones, requiring compliance with floodplain management regulations to minimize potential adverse impacts.

A summary of areas reviewed in more detail and modifications implemented to protect potential resources present is provided on the following pages.

#### **Areas Reviewed and Modified:**

Proposed improvements planned for the preferred focus area concepts were reviewed for potential impacts to wetlands and other waters of the US, wildlife resources, and plants. Most of the preferred concept design elements in the plan overlap with existing development, and therefore would not result in new, direct habitat disturbance to plants and wildlife within the park. However, a few areas were identified that may overlap with natural resource features and plans were modified to minimize overall impacts if the plan is implemented.



HM DESIGN LANDSCAPE ARCHITECTURE ECOLOGICAL PLANNING LAND PLANNING + URBAN DESIGN

Concept Design Environmental Review

BEAR CREEK LAKE PARK

Figure 1 displays plans to formalize an existing social trail to access a swim beach and paddle board launch area on Big Soda Lake at the Marina. Originally, plans included adding a new trail through the potential wetland area, but it was removed to reduce the overall impacts to wetlands in the park. The potential wetland was identified through aerial imagery and site photos, but was not delineated in previous park documents or in US Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data. The remaining proposed trail will formalize a social trail where vegetation has been removed and soil is compacted. Minimal disturbance to the surrounding potential wetlands is expected with this plan.



DHM DESIGN LANDSCAPE ARCHITECTURE ECOLOGICAL PLANNING LAND PLANNING + URBAN DESIGN

Concept Design Environmental Review

BEAR CREEK LAKE PARK

Figure 2 displays plans to formalize an existing social trail on the northwest side of Big Soda Lake. This trail traverses through an area that was identified as a potential wetland through aerial imagery, but was not delineated as a wetland in USFWS NWI data. The trail proposed will formalize an existing social trail, where vegetation has been removed and soil is compacted. Additionally, plans call for creating a bridge over the potential wetland area.



DHM DESIGN LANDSCAPE ARCHITECTURE ECOLOGICAL PLANNING LAND PLANNING + URBAN DESIGN

Concept Design Environmental Review

BEAR CREEK LAKE PARK

*Figure 3* displays plans to develop a new trail on the southeast side of Big Soda Lake. This trail is located near an area that was identified as a potential wetland in USFWS NWI data and through aerial imagery. The trail proposed is located outside of the mapped wetland area to avoid any impacts to the sensitive resource. Additionally, trees in the area will be maintained and the plan does not intend on removing any individuals.

# **UTILITIES**

#### **Existing Utilities:**

Bear Creek Lake Park is not connected to a City or Utility District water or wastewater system. Existing wastewater systems on site are primarily handled by vault and portolet toilets (both waterless toilet solutions). Existing water systems on site consist of water tanks to store water trucked into the site or water wells. The Visitor Center has an existing fire suppression sprinkler system and a fire alarm system. The Big Soda Lake swim beach and marina buildings contain a fire alarm system, but no sprinkler system. The remainder of the buildings on site and included as part of this study do not contain any type of fire safety system.

Stormwater runoff from the existing site drains to Bear Creak, Turkey Creek, or the lakes/reservoirs. Portions of the site are located within special flood hazard areas and within or near wetlands

See Table 1 below for how each project focus area included in this study is served for utilities.

Existing Utility Summary by Area				
Area	Wastewater System	Potable Water System	Fire Suppression	Drainage
Gatehouse	Vault Toilet	None	None	In/Around FEMA Flood Zone A
Visitors Center	Flush Toilets to Septic Tank and Leach Field System Portolet	Water Storage Tank Water Trucked In	Sprinkler System and Storage Tank (Fire Suppression System Also Serves Regional Park Maintenance Shop to the West)	Not in FEMA Flood Zone
Big Soda Lake Marina	Vault Toilets	Water Tank Water Trucked In	Fire Alarm, no Sprinkler System	Not in FEMA Flood Zone
Big Soda Lake Swim Beach	Vault Toilets Flush Toilets to Vault Portolet	Water Tank Water Trucked In	Fire Alarm, no Sprinkler System	Not in FEMA Flood Zone
Little Soda Lake Ski Beach	Portolet	None	None	Not in FEMA Flood Zone
Existing Campground	Vault Toilets Septic Tank and Leach Field System	Gallery Well from Turkey Creek and Water Distribution System	None	Not in FEMA Flood Zone
Big Soda Lake New 36 Acre Parcel	None	None	None	Not in FEMA Flood Zone
Bear Creek Stables	Portolet	Gallery Well from Turkey Creek and Water Distribution System	None	Not in FEMA Flood Zone
Bear Creek Reservoir/Pelican Point	Vault Toilet	None	None	Zone A

Table 1: Existing Utility Summary by Area

# **UTILITIES**

## **Proposed Utilities:**

The preferred concept for utility improvements is anticipated to vary based on location. Some areas will maintain existing utility systems, modify systems already in place, or install new similar utility systems. Refer to Table 2 below for a breakdown of the anticipated utility improvements by project focus area.

Proposed Utility Improvement Summary by Area				
Area	Wastewater System	Potable Water System	Fire Suppression	Drainage
Gatehouse	Vault Toilet	100 Gallon Buried Water Tank 5 Gallon Pressure Tank in Prefabricated Shed New Buried Water Lines	None	None
Visitors Center	None	None	None	Potential Water Quality & Detention, Clean Out Existing Curb Cuts/Sidewalk Chases
Big Soda Lake Marina	None	Remove Existing 5,000 Gallon Buried Water Tank, New 15,000 Gallon Buried Water Storage Tank, 30 Gallon Pressure Tank Replacement, New Water Lines	None	Clean Out Existing Curb Cuts/Sidewalk Chases, Re-grading to Address Existing Low Areas, Potential Water Quality & Detention
Big Soda Lake Swim Beach	None	None	None	Clean Out Existing Curb Cuts/Sidewalk Chases, Re-grading to Address Existing Low Areas, Potential Water Quality & Detention
Little Soda Lake Ski Beach	Vault Toilet	None	None	Potential Water Quality & Detention
Existing Campground	Effluent Dosing Pump, Two Soil Treatment Areas, Automatic Distributing Valve, New Sanitary Lines	Remove and Replace Existing Yard Hydrant by RV Dump Station with New Yard Hydrant + Backflow Preventer	None	Clean Out Existing Culverts, Potential Water Quality & Detention
Big Soda Lake New 36 Acre Parcel	None	None	None	Potential Water Quality & Detention
Bear Creek Stables	Vault Toilet	None	None	None
Bear Creek Reservoir/Pelican Point	Vault Toilet	None	None	None

Table 2: Existing Utility Summary by Area



# **UTILITIES**

#### **Future Utilities:**

This master plan effort included exploring an option to connect Bear Creek Lake Park to municipal water and wastewater systems outside of the park, owned by Town of Morrison and Mount Carbon Metro District (MCMD). A meeting was held January 26, 2024, between City of Lakewood, Town of Morrison, Mount Carbon Metro District Engineer Representative, and the Design Team to understand steps that would need to be taken to connect the Park to the outside utility systems.

Future utility demands were estimated to help inform Town of Morrison and MCMD how much demand the Park would have on their systems, as well as to size onsite water and wastewater infrastructure that would be needed within the Park to help with estimating a cost for these improvements. Coordination should be continued with Town of Morrison and MCMD to understand what off-site infrastructure improvements and associated costs might be needed for the Park to connect to their systems.

# **TRAILS**

Throughout Bear Creek Lake Park, there are approximately 15 miles of unpaved trails and 6 miles of paved trails which provide year-round recreation opportunities. As part of the park operations, maintaining the existing trails for safety and visitor experience is anticipated. Actions may include repairing concrete trails to address settling, cracking, etc. Soft surface trail maintenance may include filling ruts and vegetation clearing/mowing. In addition to maintaining the existing trails, new trails are proposed; primarily on the north side of the park, near Big Soda Lake and within the new 36 acre parcel. New trail connections were determined in part by using the following references: The Guidelines for A Quality Trail Experience published by the International Mountain Bicycling Association (IMBA), The Trails Development Handbook by Jefferson County Open Space, and planning and design guidelines by the City of Lakewood.

Phase 1:

The existing ditch trail, north of Bear Creek, near Morrison Road, is proposed to be formalized in coordination with the Ward Ditch Company. The trail length is approximately 1.5 miles in length, 5'-0" wide, and is proposed to be a native, soft surface material. The City is engaged in ongoing trail improvements and opportunities with funding partners for improvements to the park trail system.

Two new steel bridge crossings are proposed, in coordination/approval by USACE. Approximate locations are at Morrison Road and near Bear Creek Reservoir.

The proposed 1.19-mile Big Soda Lake Loop trail (6'-0" to 10'-0" wide accessible concrete trail) is planned east of the Marina, along the dam, then primarily following the lake edge to the southeast corner of Big Soda Lake. The trail would skirt around the existing private property to the east. It is anticipated that the trail would utilize a portion of the easement by others, pending City coordination.

An overlook with shade shelter is proposed north of the existing private property. The Big Soda Lake Loop trail would also provide a trail connection to the proposed trail network at the 36-acre parcel. Refer to the 36 acre parcel section for more information.

#### Phase 2:

A possible future trail would create a full loop on the south, southwest and west sides of Big Soda Lake, for approximately 0.57 miles. The trail is proposed to be a narrower (approximately 5'-0" wide), soft surface trail which can accommodate an ATV/UTV in case of emergencies.

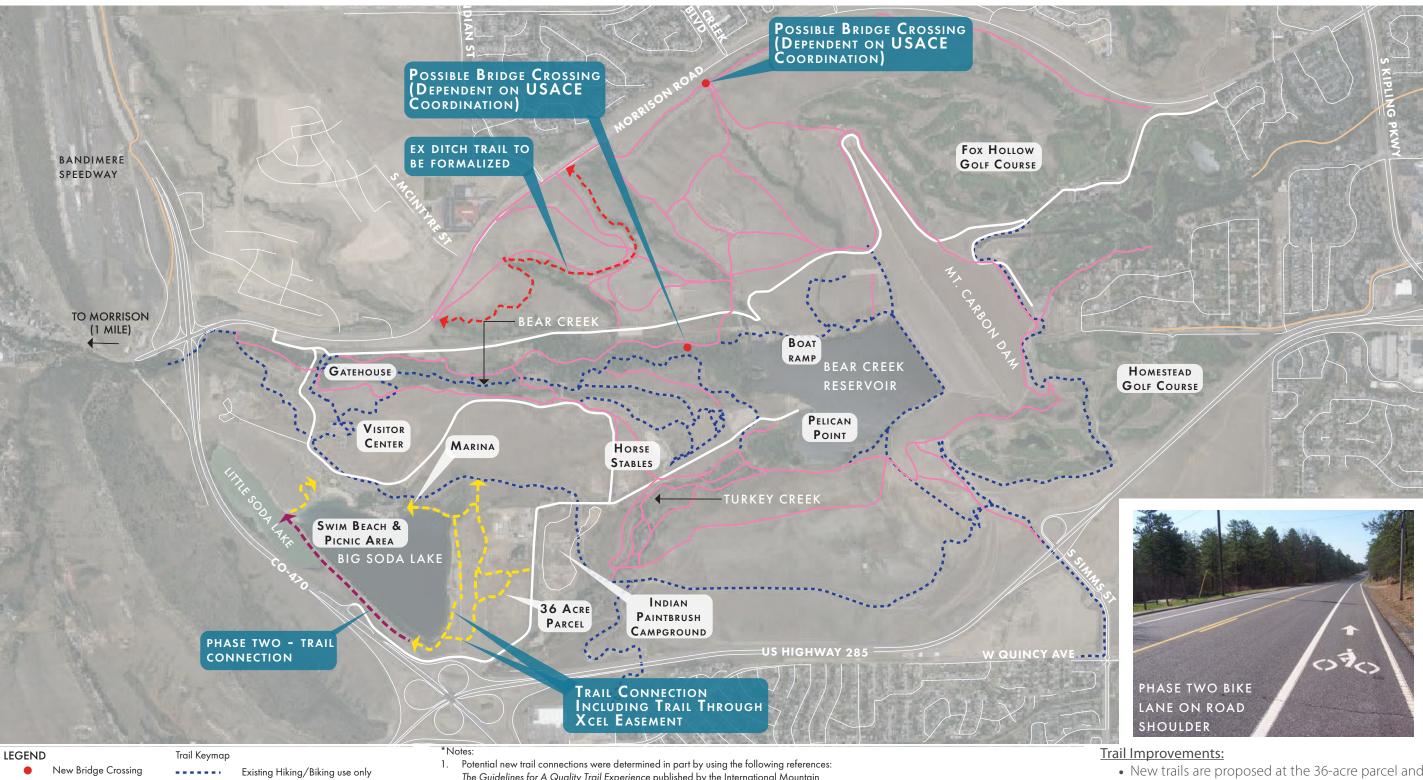
Another proposed improvement includes widening the existing  $\pm 24'$ -0" wide asphalt road (width TBD, approximately 32-40' wide) for approximately 5.5 miles of road. The widening would accommodate a striped bike lane on the road shoulder.



Example Image of Unpaved Trail



Example Image of Paved Trail



Existing Hiking, Biking and Equestrian **Existing Connecting Trails** New Trail Connections including Existing Ditch Trail to be Formalized Phase two - Trail Connection

- The Guidelines for A Quality Trail Experience published by the International Mountain Bicycling Association (IMBA), The Trails Development Handbook by Jefferson County Open Space, and planning and design guidelines by the City of Lakewood.
- 4 new trail connections are proposed with an appoximate length total length of 2-3 miles. Maintain trail system for safety: Repair paved trails, maintain soft surface trails and repair

rutting, provide more regular mowing.

Phase Two future consideration: add designated bike lanes to road shoulder. Complete the Big Soda Lake Trail Connection.

2800 Feet

- New trails are proposed at the 36-acre parcel and Big Soda Lake. A full loop at Big Soda Lake is proposed as a future phase.
- Ward Ditch Trail is proposed to be formalized in coordination with the ditch company.
- Possible bridge crossings are proposed near Morrison Road and at the Mt. Carbon Interconnect. Bridge crossing would be in coordination with USACE.
- A future phase considers the addition of a designated bike lane on the road shoulders.

# **GATEHOUSE**

#### Phase 1:

#### **Building:**

The Gatehouse is located just inside of the main park entry on the north side of the park. The Gatehouse staff are responsible for fee collection, providing general information about the park to users, and providing rules and regulations for the campground. The one-story, rectangular shaped building is two-sided for incoming traffic, where the north side is currently used for annual pass holders and the south side is utilized for day pass visitors.

The Gatehouse is proposed to be renovated and reconfigured with improvements including; replacing windows for improved sight lines and security, and replacing interior finishes including flooring, paint, and trim. The interior layout will be reconfigured to provide increased efficiency and accessibility. This includes removing a door, infilling the existing vault toilet (waterless toilet system) and converting to office space, as well as new casework and countertops.

A new vault toilet will be constructed to the east of the existing gatehouse, and the roof and south wall will connect to the existing gatehouse building to screen the vault toilet entry from the public. The north side will remain an open vestibule to provide exterior access to the staff only vault toilet. A new water tank is proposed for handwashing. The exterior materials will continue to remain rustic and match the character of other buildings in the park.



Morrison Road Memorial Day 2024 Park Closures Due to Park Capacity

#### Site:

All vehicular traffic enters the park from Morrison Road at the north park boundary; turn lanes are provided west bound and east bound on Morrison Road. Vehicles queue on Kumpfmiller Drive as they approach the Gatehouse for fee collection/annual pass entry. A Traffic Study prepared by CivTrans Engineering Inc. dated September 25, 2023, was completed for the project. See the Traffic Study included in the BCLP Utility Master Plan Report Appendix for observations and concept options. The preferred concept for traffic improvements consist of increasing the curvature of the entrance road, extending the dual entrance lanes, installing an automated gate for annual pass holders, and improvements to the bike lane/ bike trail.

Currently the existing entrance road has a sharp curve between the Morrison Road connection and the existing kiosk. Revising the curvature to be less sharp will help with vehicle maneuverability, especially longer RVs that are going to and from the campground. The existing inside radius of the entrance road is approximately 25-feet. The revised entrance road is proposed to have an inside radius of approximately 64-feet.

The existing dual entrance lanes start approximately 220-feet west of the existing kiosk building. The dual entrance lanes are proposed to extend back to the Park entrance off Morrison Road, an additional approximately 320-feet further west from the existing kiosk building. Extending the dual entrance lanes would allow more vehicle queuing on the Park entrance road and remove traffic from Morrison Road.



Existing Entry Gatehouse

# **GATEHOUSE**

One of the existing entrance lanes is restricted to annual pass holders. Currently vehicles in the annual pass holder lane still need to stop and show their annual pass to an employee at the kiosk prior to being able to enter the Park. Installing an automated gate for the annual pass holder lane would allow Park personnel in the kiosk to focus solely on the day pass lane and potentially speed up the amount of time to get day pass holders through the Park entrance, reducing queue time. Additionally, operations staff will be engaged in alternate strategies to allow the park to remain open once the Marina and Swim Beach areas reach their capacity.

The pavement markings in the entrance area are proposed to be re-striped to allow for a two-way attached bike lane on the south side of the entrance road. South of the kiosk, the attached bike lane would detach as a bike trail leading to the three-way intersection to the east. Additional striping is proposed at the three-way intersection for additional safety of the bike lane continuations onto the roadways.

Three (3) standard, concrete parking stalls and (1) accessible, concrete parking stall are proposed north of the Gatehouse. A crosswalk is proposed from the staff parking to access the Gatehouse. The existing asphalt turnaround/pull off with rock mulch island is proposed to remain in place for short term parking. The visitor kiosk with park rules is proposed to be consolidated onto one kiosk board with sandstone base, log columns and gable roof. Additional site amenities are proposed to remain in place, i.e. unattended fee collection box, two-rail split rail fence, flagpole, trash receptacles, park entry signage.

Proposed traffic and parking improvements are not anticipated to impact riparian or wetland vegetation south of the Gatehouse. Vegetation will be maintained as is.

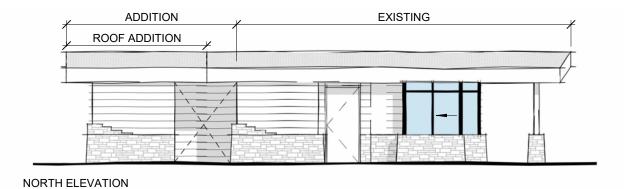
#### Phase 2:

A future additional southern entrance lane is proposed to further alleviate traffic congestion during peak times. The lane will likely require a retaining wall and wetland impacts are possible. Storm water quality and detention may be needed depending on the amount of additional impervious area being added.



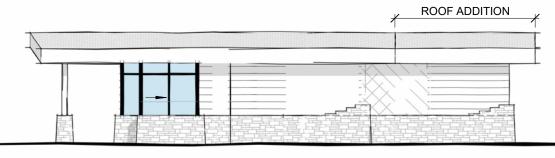
Overall View of Existing Entrance Intersection and Gatehouse

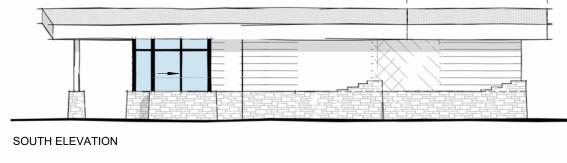
# **GATEHOUSE FLOOR PLAN AND ELEVATIONS**

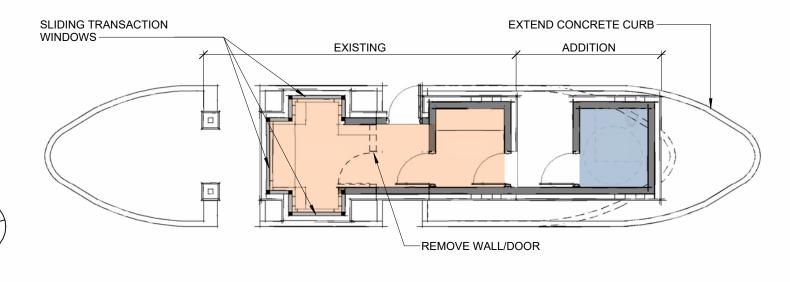


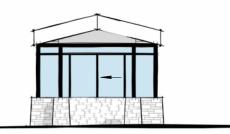


EAST ELEVATION









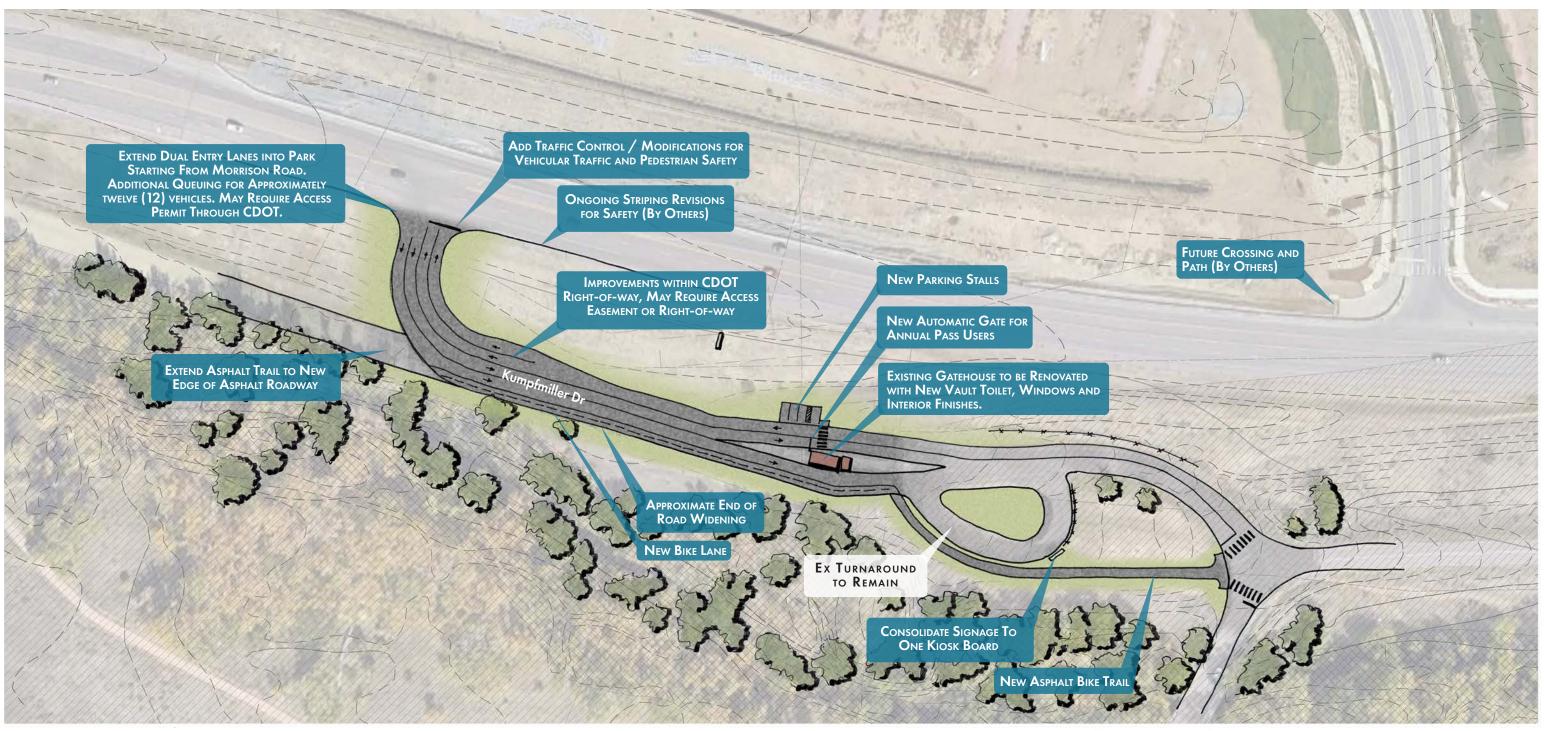
WEST ELEVATION (FRONT)



EXISTING ENTRY GATEHOUSE

GATE HOUSE - FLOOR PLAN AND ELEVATIONS

# **GATEHOUSE SITE PLAN**



### **Gatehouse Improvements:**

- Dual entry lanes are proposed to be extended for approximately 12 additional queuing vehicles.
- A designated bike lane is proposed on the south side of the entry drive and a designated crossing at the three-way intersection.
- An automatic gate is proposed for annual pass users.
- The gatehouse is proposed to be renovated within the existing island.

NOTE: CDOT AND BEAR CREEK LAKE PARK ARE COORDINATING PROJECTS UNDERWAY AT MORRISON ROAD. EFFORT IS SEPARATE FROM THE SCOPE OF THIS WORK.



# **VISITOR CENTER**

The Visitor Center is located south of the Gatehouse and Bear Creek and north of the Swim Beach. The building is at a high point in the park with 360-degree views of the park and surrounding landforms. The Visitor Center will continue to provide both active and passive, educational and interpretive natural resources programming to the community. Additionally, the building is the main hub for park staff and office space will be improved. The building consists of a traditionally built wood-frame center section and two prefabricated wings attached to each side of the center, with a total square footage of approximately 3,225 SF. The south premanufactured wing contains staff offices, fireentry and electrical rooms. The north wing contains an education classroom, break room, and two gender neutral single user restrooms. The form and material of the building will remain rustic, including heavy-timber wood construction (main center volume) with drystack stone wainscot columns bases in an ashlar pattern, with horizontal wood ship lap-siding with a 6" exposure.

#### Phase 1:

The Visitor Center's renovation and expansion will include improvements at three primary areas: the existing structure, classroom wing, and staff wing.

#### **Renovation of Existing Building:**

- Windows are proposed to be resealed, and weatherstripping replaced, along with sealing and repainting of siding and trim. Proposed vestibule upgrades include a new floor to ceiling storefront wall with double doors.
- A new reception desk is proposed for better visibility. Exhibit and merchandise displays will also be reconfigured and expanded.
- A new HVAC unit will be installed for improved heating, cooling, and ventilation that will service the entire expanded building.
- The existing concrete floors in the central area will be resealed.
- A new standing seam metal roof is proposed to unify the current structure with planned additions.

#### **Classroom Wing:**

- The existing classroom wing will be reconfigured to add a vestibule and two new restrooms with after-hours access. The proposed reconfiguration also includes a new mechanical room and drinking fountain.
- A new classroom addition will be constructed with a movable partition, allowing flexibility for either one or two classrooms. A kitchenette will also be added.
- Outdoor learning will be enhanced with a new classroom patio and access from the classroom via overhead doors and double storefront doors.



Existing Visitor Center



Existing Visitor Center Entry Sign

# **VISITOR CENTER**

#### **Staff Wing:**

- The existing staff wing will be renovated to include a new breakroom and kitchen. A new patio door will improve access to the outdoor space.
- A new office and storage addition will be constructed, with direct exterior access and improvements to accommodate increased storage needs.
- Upgrades will also include new flooring, windows, and doors for both staff and storage areas.

New electrical systems will be installed to support the expanded classrooms and offices, with ample receptacles, data outlets, LED lighting, and IT/AV upgrades in new areas. The fire alarm system will be extended to the new classroom and staff spaces, ensuring adequate audible and visual alerts.

#### Site:

The existing entry drive and drop off loop will remain, but the main parking lot will be reconfigured for staff parking, increasing parking capacity from 37 to 41 spaces. A gate arm for staff-only access will be installed at the existing parking lot. During large events, the gate arm can be raised in an open position for additional visitor overflow parking. Tree screening is proposed west of the lot to separate service areas from the park's main drive. A new visitor parking lot with 25 stalls, for standard and oversize vehicles, is proposed on the south side of the access drive with an easy walk to the building and hard and soft surface trails. Accessible parking improvements are proposed in each parking area.

At the building expansion, new paved and soft-surface pedestrian trails will be realigned. Site programmed "rooms" including the pollinator garden, labyrinth, etc. are proposed to remain in place to continue to support educational, interpretive, and play opportunities.

Trailhead improvements and visitor center entrance sign reorientation and replacement are proposed for a more visible entry experience from the main road.

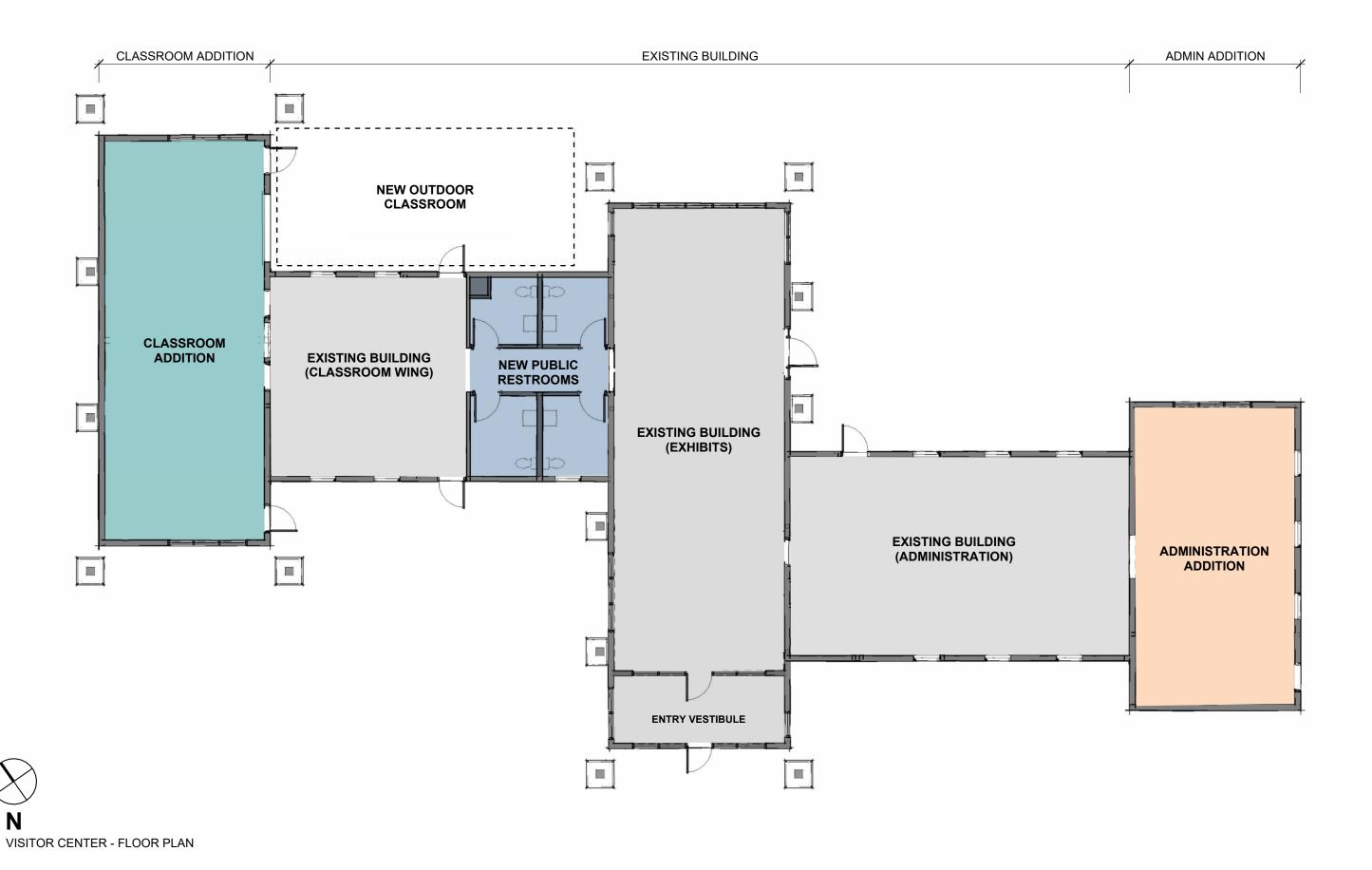
Upgrades or improvements are not anticipated to the existing water and wastewater systems as they are estimated to already be sized to handle peak flows during special events. Additional drainage features may be required for the expanded parking lot. Storm water quality and detention may be required depending on the expansion's added impervious surfaces.



Existing Site "Rooms" and Approximate Location of Parking Expansion



Existing Site "Rooms" and View of Visitor Center

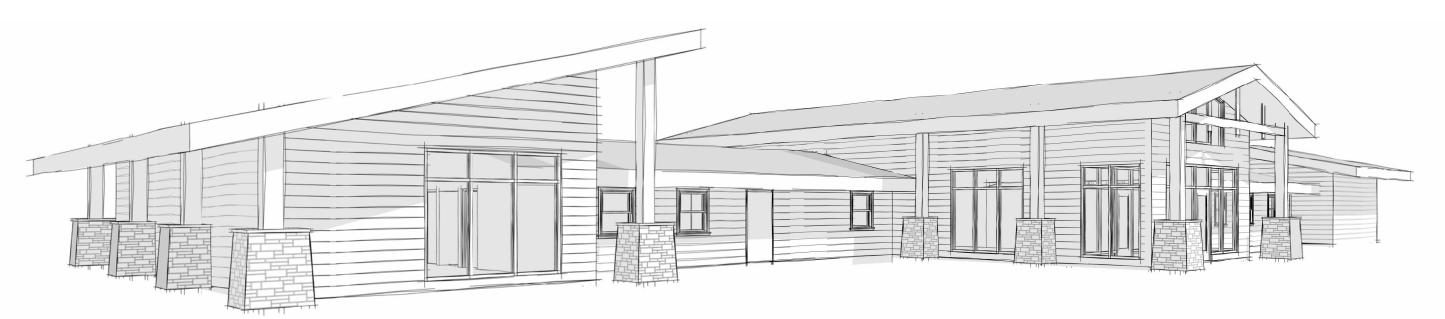


# **VISITOR CENTER ELEVATIONS**

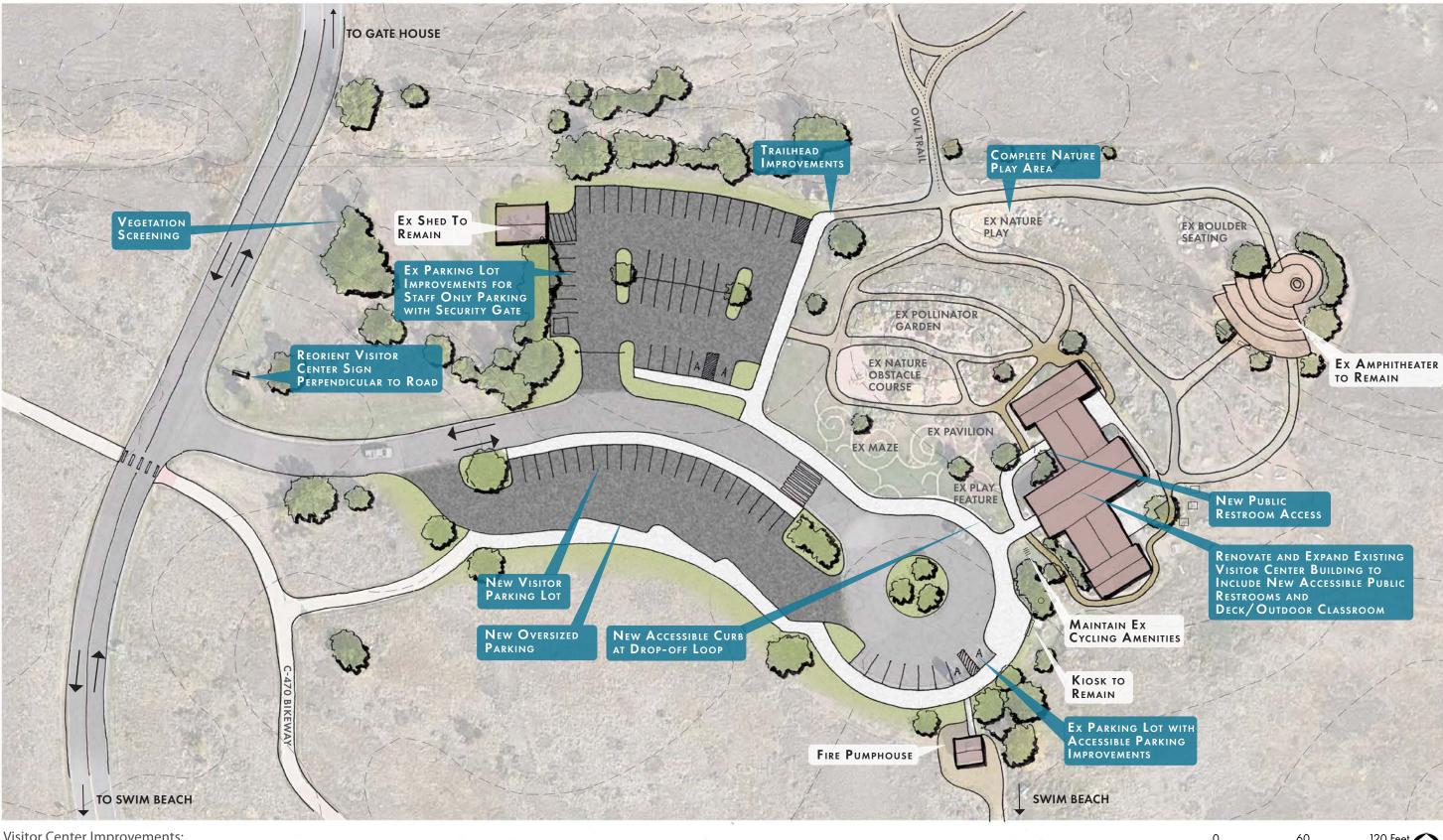


EAST ELEVATION





VISITOR CENTER - NORTHWEST PERSPECTIVE



### <u>Visitor Center Improvements:</u>

- The existing parking lot is proposed to be reconfigured and expanded for a designated staff/fleet parking lot.
- A new visitor parking lot is proposed south of the existing parking lot.
- The visitor center is proposed to be renovated.



# **BIG SODA LAKE SWIM BEACH**

Situated on the north side of Big Soda Lake and south of the Visitor Center. The swim beach area includes two buildings: the food concessions/ranger station and restroom buildings. Both buildings are generally consistent in design with other structures in the park.

#### Phase 1:

### **Buildings:**

At the Food Concessions and Ranger Station building, deferred maintenance is proposed to be addressed in coordination with the concessionaire, by replacing exterior deteriorated siding and trim, installing new sealant, and repainting. The interior is proposed to be deep cleaned and damaged wall finishes replaced. Concrete floors will be resealed. Casework is proposed to be replaced for improved organization. Future improvements may be considered as funding becomes available.

Maintenance at the Restroom Building will include replacing deteriorated siding and trim, sealing, repainting, deep cleaning the interior, and resealing epoxy floors. Additional in-line fans will be added to the existing vent stacks to improve air circulation and minimize odors.





Existing Condition of Food Concessions Interior



Existing Condition of Ranger Station Interior



Existing Condition of Food Concessions Exterior



Existing Condition of Restroom Building Exterior



Existing Condition of Restroom Building Interior

# **BIG SODA LAKE SWIM BEACH**

#### Site:

Parking for the swim beach is separated into two parking lots both south of the main park road. The main parking lot is north/northeast of the beach, concessions and restrooms while the larger secondary parking lot (Meadowlark Cove Picnic Area) is to the northwest of the beach. Overall park capacity is driven by the swim beach and marina parking lots. The main swim beach parking lots are proposed to remain with select improvements for drainage. A new drop-off area is also proposed to reduce traffic congestion. A new paddleboard setup station with racks, an inflation station, foot washing, and seating/seatwalls is also proposed next to the main parking lot.

The swim beach experiences the highest traffic volume in the park. There are multiple trails that lead pedestrians to the swim beach area including the C-470 bikeway and the soft surface trail that connects the visitor center parking lot to the main swim beach parking lot. Existing hard and soft surface trails leading to the swim beach, including the C-470 bikeway, will remain unchanged. Portions of these trails are proposed to be elevated with a boardwalk and rock stabilization and removal and replacement of the concrete walks at other trail locations. Grass and deciduous tree planting and maintenance will continue throughout the area.

Upgrades or improvements are not anticipated to the existing water and wastewater systems as they are estimated to already be sized to handle peak flows. Storm drainage will be improved by cleaning existing curb cuts, chases, and culverts.



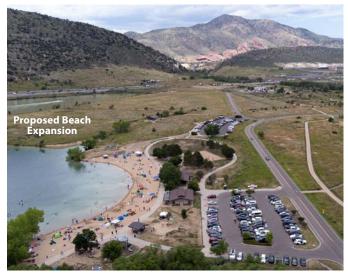
Existing Big Soda Lake Meadowlark Swim Beach Parking Lot

#### **Site Amenities:**

- The swim beach and tot area zones will remain, with formalized paddleboard launch areas proposed to the west of the existing beach. The existing lap lane is proposed to be relocated southwest of the existing beach near Little Soda Lake. The area includes improvements such as additional shelters, seating, vault toilet, and trail/bridge connection.
- Additional picnic shelters are proposed at the parking area and west of the volleyball courts, complete with seating, grills, and charcoal receptacles.
- The playground and sand volleyball courts will remain, with future replacements planned.
- New trash receptacles, bike racks, benches, and signage will be installed, and designated smoking zones with disposal containers will be added.

#### Phase 2:

Additional parking will be added to the Meadowlark Cove Picnic Area, increasing capacity by 73 stalls. Additional drainage features may be required for the expanded parking lot. Storm water quality and detention may be needed depending on the amount of additional impervious area proposed.



Existing Big Soda Lake Swim Beach Parking Lot and Meadowlark Parking Lot in the Background

# **EXAMPLE IMAGERY**









Foot Washing Station

Paddle Board Power Station



Seating, Bank Stabilization, Beach Access

# **BIG SODA LAKE MARINA**

Situated on the east side of Big Soda Lake, and southeast of the Big Soda Lake swim beach area, the one-story building is composed of three connected forms, that create an "L"-shaped floor plan. The central organizing form is a double-height octagonal volume where the reservations and sales attendants engage with the public. The northern "wing" is a simple, longitudinal gable structure with two gender neutral single user restrooms and a small office. The southern wing is similar in form to the north wing but houses rental equipment (stand-up paddle boards and life jackets primarily). The spaces are vaulted, showing built up wood trusses.

The building houses a concessionaire who rents boats and paddleboards to the public. The planned renovations for Big Soda Lake Marina aim to address deferred maintenance and improve visitor amenities to continue to support the current functions.

### Phase 1:

### **Buildings:**

The Concessionaire Building proposed improvements will primarily address deferred maintenance. At the building exterior replacement of deteriorated siding, trim, and repainting; resealing windows and replacing weatherstripping is proposed. Also, repointing and sealing the stone wainscot. Interior updates include deep cleaning, resealing concrete floors, replacing damaged wall finishes, and installing new casework for improved organization.

A new pre-manufactured vault restroom building with six single-user restrooms is proposed to improve the visitor experience and alleviate very long restroom lines. Each single user restroom will be accessible and include a vault toilet riser, and a plumbed sink. The marina's existing water tank will be upsized to meet demand, with a new larger tank proposed.

The existing vault toilets will remain in use.



Existing Concessionaires Building Casework



Existing Concessionaires Building Exterior Deterioration



Example Image of Boardwalk





Example Images of Kayak Dock & Boat Launch

# **BIG SODA LAKE MARINA**

#### Site:

The Big Soda Lake Marina parking lot is located east of the Big Soda Lake main swim beach parking lot and is accessed from the main park drive. The marina parking lot will maintain its current capacity, with select asphalt improvements to prevent water ponding and a new drop-off area to reduce congestion. A paddleboard preparation station is proposed adjacent to the parking lot. Trails, existing and proposed, will continue to connect visitors to the marina, swim beach, and overflow parking lot.



Existing Big Soda Lake Dam Trail and 36 Acre Parcel Location (Left Side of Photo)



Existing Big Soda Lake Marina Parking Lot, Dam Trail and Overflow Parking Lot

#### **Gathering Areas & Site Amenities**

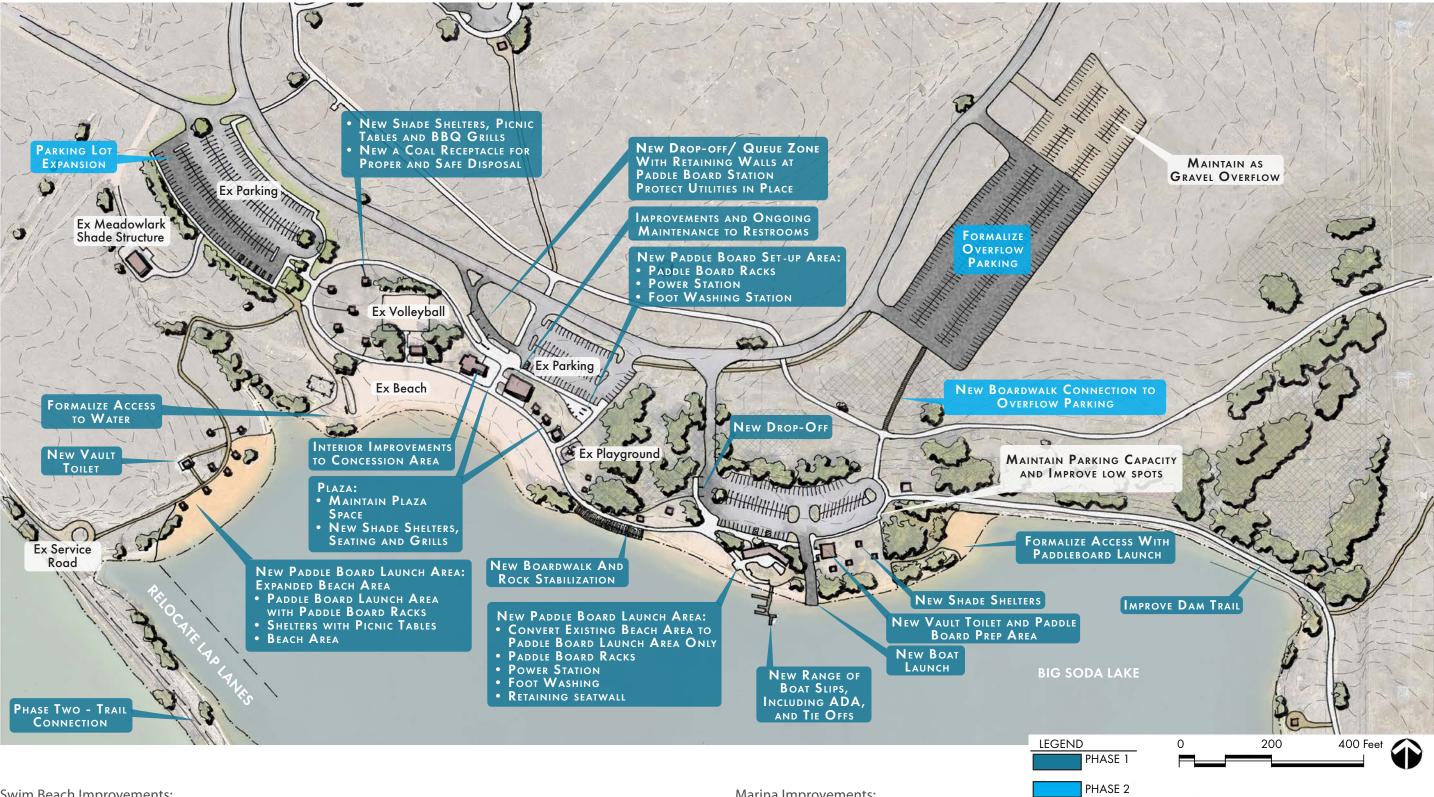
- Upgrades include a new floating boat dock with six slips, ADA-accessible options, and tie-offs for kayak rentals. The boat launch will be widened and regraded for ease of boat water access.
- Existing informal picnic and grill areas will be retained, with additional picnic shelters proposed.
- A paddleboard launch beach, complete with seating/seat wall, board racks, a power station, and foot washing area, is proposed at the marina. Another similar paddleboard launch is proposed near the Dam Trail.
- Minimal vegetation impacts are anticipated.

### Phase 2:

The overflow parking lot northeast of the swim beach will be partially formalized with asphalt paving and concrete and a boardwalk trail connection to the marina parking lot is proposed. Additional drainage features may be required for the expanded parking lot. Storm water quality and detention may be needed depending on the amount of additional impervious area.



Existing Big Soda Lake Marina

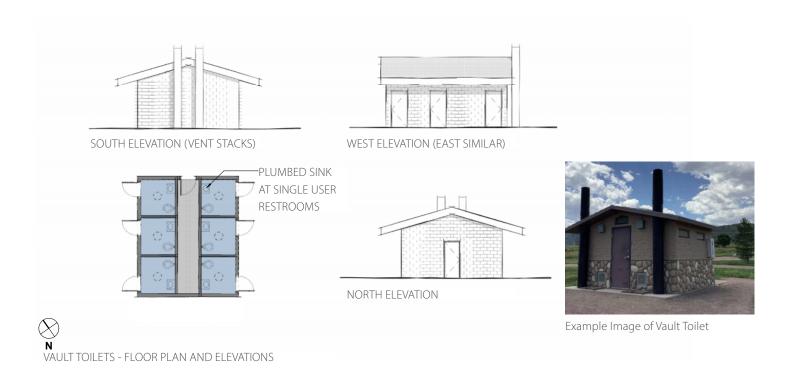


### Swim Beach Improvements:

- The overall program at the swim beach will remain the same with beach expansion and relocation of the lap lanes.
- Additional shade shelters, picnic tables and BBQ grills are proposed throughout the area. Paddleboard setup stations are also proposed throughout the swim beach area.
- The Meadowlark Parking Lot is proposed to be expanded and a designated drop off/gueuing lane is proposed at the parking lot nearest the concessions and restroom buildings.

### Marina Improvements:

- The existing parking lot at the marina will remain the same with the addition of a proposed drop-off location.
- Additional shade shelters, picnic tables and BBQ grills are proposed throughout the area. Paddleboard setup stations are also proposed. Formalized water access is proposed near the dam trail.
- The boat slips/launch are proposed to be removed and replaced.
- A new vault toilet is proposed.
- A portion of the overflow parking is proposed to be formalized.









# LITTLE SODA LAKE

Little Soda Lake is located near the west park boundary and C-470. The lake is operated by a park concessionaire and offers private water ski, wakeboard, wakesurf and tubing. The proposed improvements for Little Soda Lake focus on addressing deferred maintenance and vault toilet installation and accessibility upgrades.

#### Phase 1:

### **Buildings:**

The marina building exterior proposed improvements include replacing deteriorated siding and trim, resealing windows, replacing weatherstripping and repainting. Interior improvements proposed include a deep cleaning, organization, and replacing furniture and cabinets. Additional improvements may occur in coordination with the concessionaire and as funding becomes available.

A new vault toilet is proposed to replace the port-o-let for visitor and staff use. Wastewater flows have been estimated to ensure the facility is adequate for current and future use. No immediate improvements are planned for potable water.

#### Site:

Access to the upper and primary gravel parking lot from Meadowlark Cove Picnic Area will remain, with gravel recompaction proposed. A new accessible concrete parking stall will be added at the lower lot near the proposed vault toilet. Existing additional standard parking and trailer/staff parking spaces will remain. The existing unpaved trail and stairs connecting the gravel visitor parking lot to the lake amenities will remain. A new accessible path is proposed from the accessible parking stall to the vault toilet, main building and boat dock. Deck seating improvements proposed are minimal and for increased accessibility.



Existing Condition of Little Soda Lake Exterior



Existing Condition of Little Soda Lake Interior



Example Image of Proposed Vault Toilet



Existing Deck Proposed To Be Removed



<u>Little Soda Lake Improvements:</u>

- A vault toilet is proposed
- An improved picnic area is proposed, and the building is proposed to be rehabilitated.



# **CAMPGROUND**



Overall View of Existing Campground

Per the City website, "Bear Creek Lake Park is home to one of the closest, full-service campgrounds to the Denver metro area." The existing campground includes back-in campsites, yurts, cabins, and group campsite. Shared amenities in the area include shower facilities, vault toilets and playground. The proposed improvements for the campground focus on upgrading facilities while maintaining the current layout and capacity.

#### Phase 1:

### **Buildings:**

The campground's existing shower house, vault toilets, RV dump station and associated water and wastewater systems will remain in place.

#### Phase 2:

Two additional shower rooms are proposed south of the existing shower building, connected to the existing building via two open entry alcoves. The addition will include fully grouted CMU walls, epoxy flooring, solid surface paneling, and skylights. The addition will continue to the existing roof line and match the materials of the existing building. New lighting and signage is proposed at the additions. A portion of the wastewater system will need to be upsized to meet the wastewater demands for the expanded shower house. No improvements or upgrades are needed to the existing water system.

A new bunkhouse is proposed to be constructed in the group camping area, with 14 beds (7 bunk beds), resilient rubber flooring, operable windows, and impact-resistant walls. The bunkhouse will also include lighting, electrical outlets, and an exterior weatherproof GFCI receptacle. The building will include a new heating and cooling system. The exterior materials will consist of standing seam metal roofing, fiber cement siding, and concrete foundation. The new bunkhouse would be categorized as an R-1 occupancy class per the International Building Code, which requires a fire suppression system. A variance could be pursued with the building official to possibly avoid the requirement for a fire suppression system.



Existing View of Campground Looking South

# **CAMPGROUND**

#### Phase 1:

#### Site:

**Campsite Upgrades:** North campsites (1-17) are proposed to be leveled and improved with new wood edging and markers, and a new concrete pad is proposed at the camp host site. Built and natural shade is proposed each site.

**Group Site & Blue Grama Picnic Area:** The group site will be formalized with four pull-through sites. One bunkhouse is proposed along with 10 parking stalls. Blue Grama Picnic Area will be enhanced with a shelter, fire ring, picnic tables, and vegetation primarily for group site use.

Vehicular & Pedestrian Access: While vehicular circulation remains unchanged, a new formalized after hours entry with signage, solar lighting, unattended fee collection box, and asphalt paving/pull-off is proposed. Pedestrian paths will be improved, including crusher fines trail improvements at the shower house and a soft-surface trail connecting the campground to the C-470 Bikeway and 36 Acre Parcel. An at-grade crosswalk is proposed at West Hampden Ave. Storm water quality and detention may be needed depending on the amount of additional impervious area being added.

#### Phase 2:

Existing yurts will be replaced with cabins matching current structures.



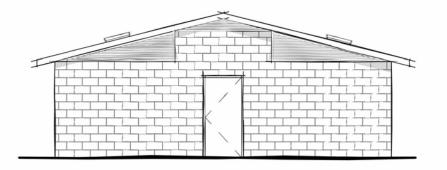
Example Image of Back-In Campsite with Shade Structures



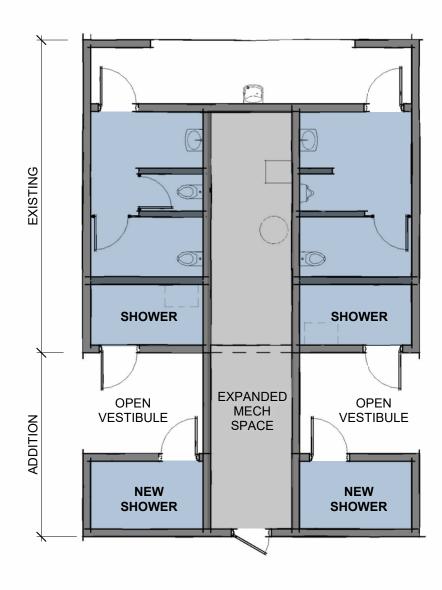
Existing Cabin



Existing Back-in Campsite

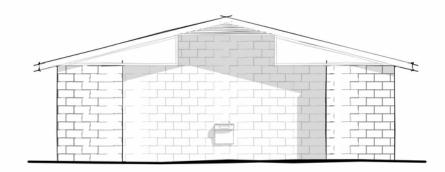


SOUTH ELEVATION (ADDITION)

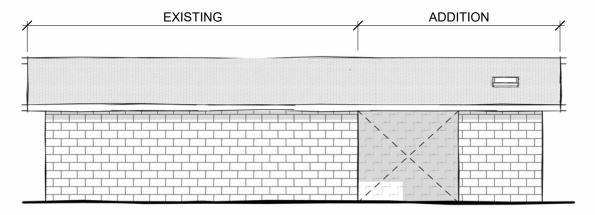




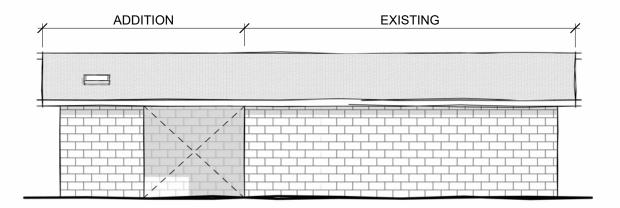
SHOWER HOUSE - FLOOR PLAN AND ELEVATIONS



# NORTH ELEVATION (EXISTING TO REMAIN)



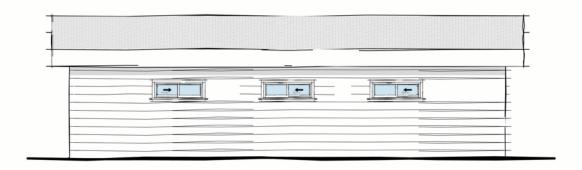
# WEST ELEVATION



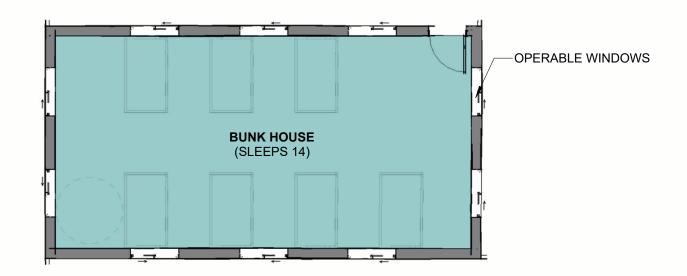
EAST ELEVATION









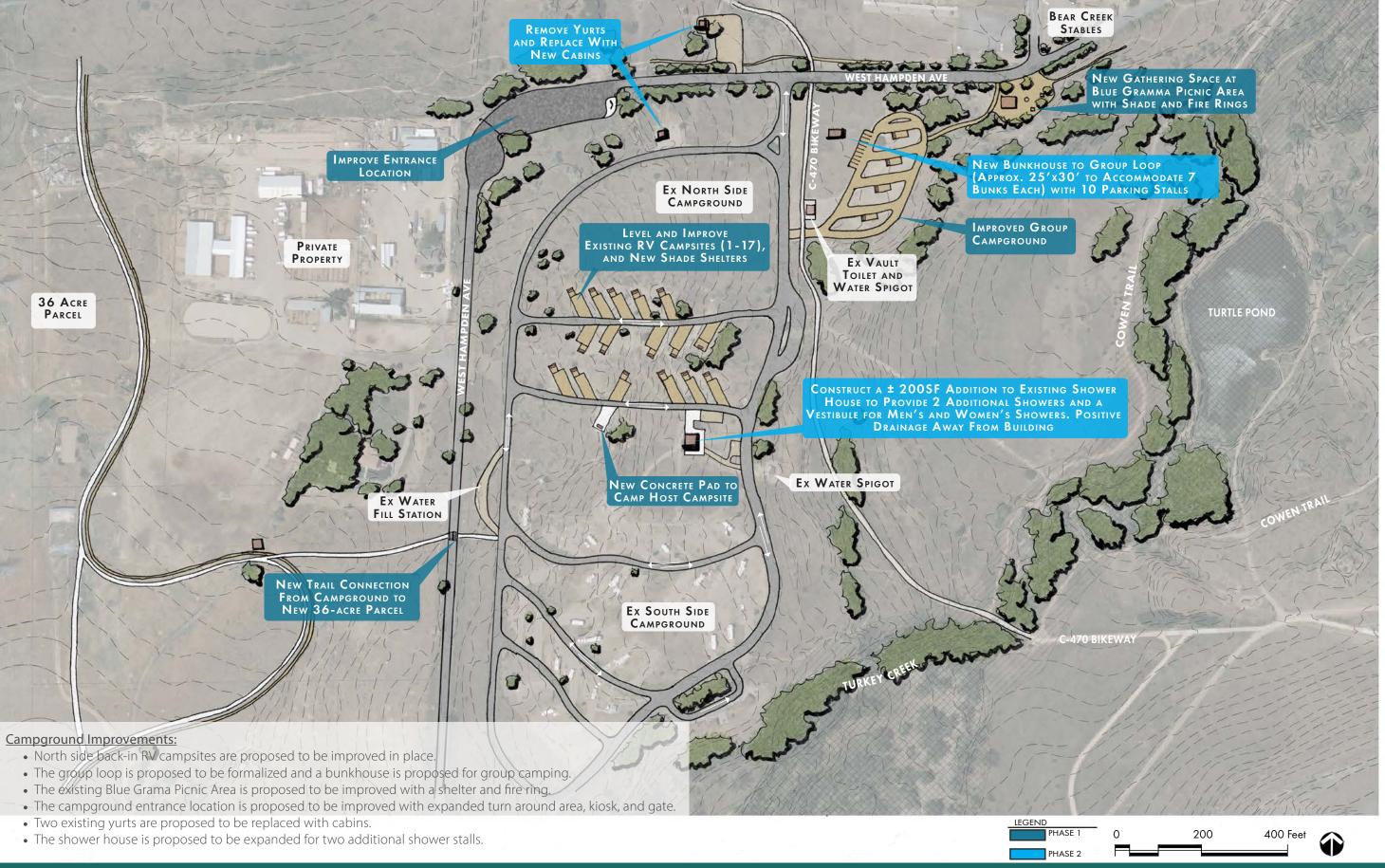




EXAMPLE IMAGE OF BUNKHOUSE INTERIOR



BUNK HOUSE - FLOOR PLAN AND ELEVATIONS



# **36 ACRE PARCEL**



Overall View of 36 Acre Parcel and Private Property

The 36-acre parcel is located east of Big Soda Lake and west of the campground. The primary vehicular access point is from West Hampden Avenue, which runs along the eastern boundary of the parcel. Two private properties remain, one north and one west on Big Soda Lake. Proposed improvements will enhance and expand recreational access while balancing protection of existing open space.

### Phase 1:

Trails will be expanded for pedestrians, cyclists and equine use.

- Phase 1: 6-foot-wide soft surface trail
- Phase 2: 8-foot-wide concrete trail constructed parallel to the soft surface trail

Two shelters with seating areas are proposed and will provide visitors a shaded area for rest and viewing opportunities.

Efforts will be made to protect the existing native grasses and small shrubs, along with the evergreen and deciduous trees that currently exist at the condemned/demolished buildings. Vegetation will be restored at the condemned/demolished buildings.

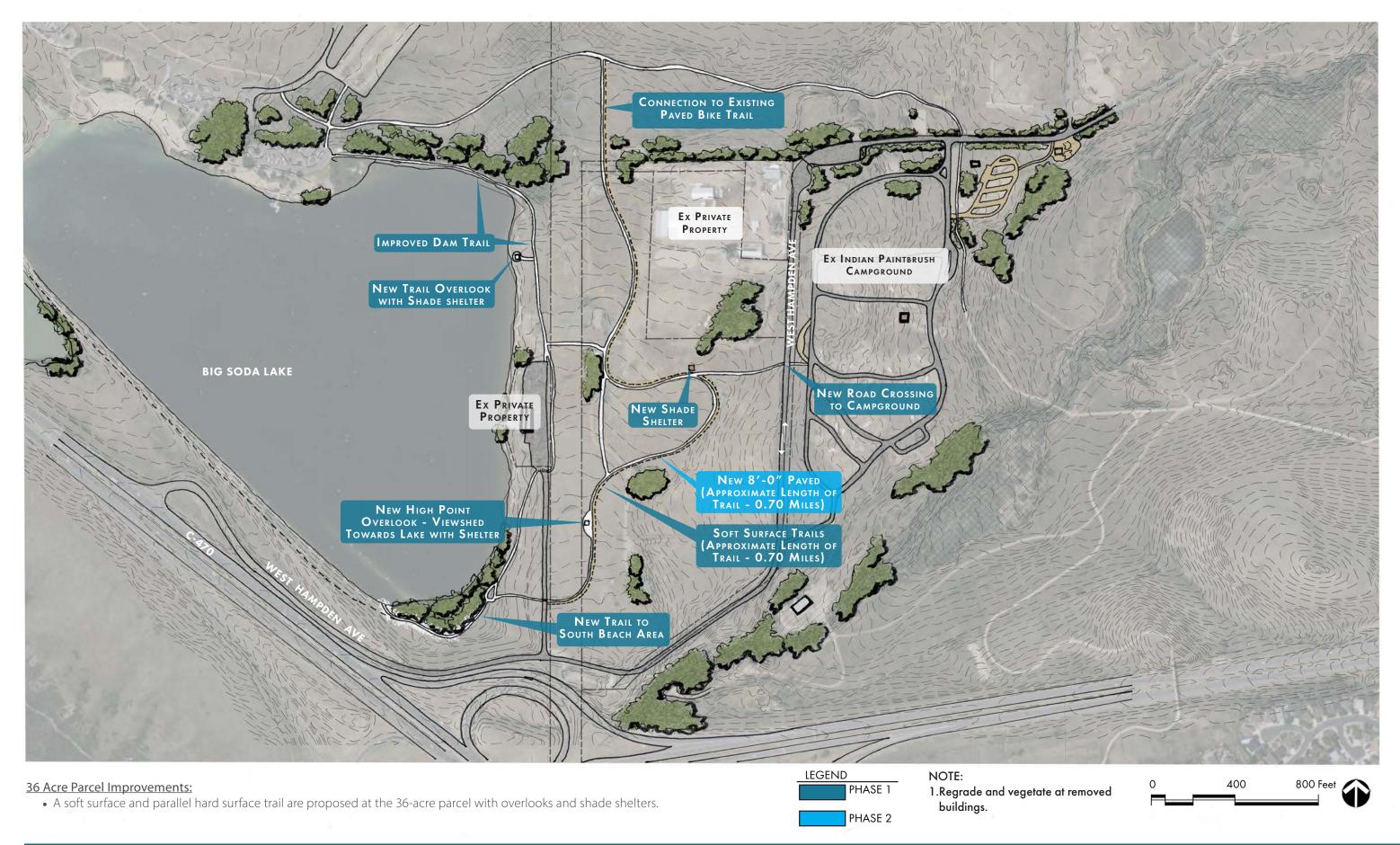
No immediate improvements to the wastewater or potable water systems are needed.



Example Image of Soft Surface Trail Adjacent to Paved Trail



Example Image of Overlook Bench



# **BEAR CREEK STABLES**



Overall View of Existing Bear Creek Stables and Archery Range

Bear Creek Stables offer nature rides, hay rides, lessons, summer camps and evening rides and are open April – October. The Stables are located east of the campground and archery range on the main park road and intersection of West Hampden Ave. The main entrance and parking area are on the east side of the road.

### Phase 1:

The preferred concept for Bear Creek Stables includes several minor improvements. Vehicular circulation will remain the same with installation of a new vault toilet proposed to service the stables and nearby archery range.

A designated crosswalk is proposed between the stables and archery range. Pedestrian circulation will remain informal, with two new shade shelters (approximately 10'x10') proposed. No vegetation improvements are proposed.

New water improvements are not planned, as the stables will continue to utilize the existing water well system from the campground.



Proposed Shelters to Match Existing Shelter



Example Image of Vault Toilet



### **Stables Improvements:**

• A new shared vault toilet between the archery range and stables is proposed.

• New shade shelters are proposed.



# **BEAR CREEK RESERVOIR BOAT RAMP**



Bear Creek Reservoir Existing Boat Ramp, Flooding 2023

Bear Creek Reservoir Boat Ramp and Pelican Point are located east of Gatehouse. The preferred concept for Bear Creek Reservoir focuses on enhancing visitor amenities and accessibility. All improvements are dependent on coordination with USACE.

#### Phase 1:

**Vehicular and Pedestrian Circulation:** Vehicular circulation, parking and pedestrian circulation are proposed to remain the same at the boat ramp. A future accessibility review of the site is recommended.

**Building & Site Amenities:** The existing vault toilet is proposed to be removed and replaced.

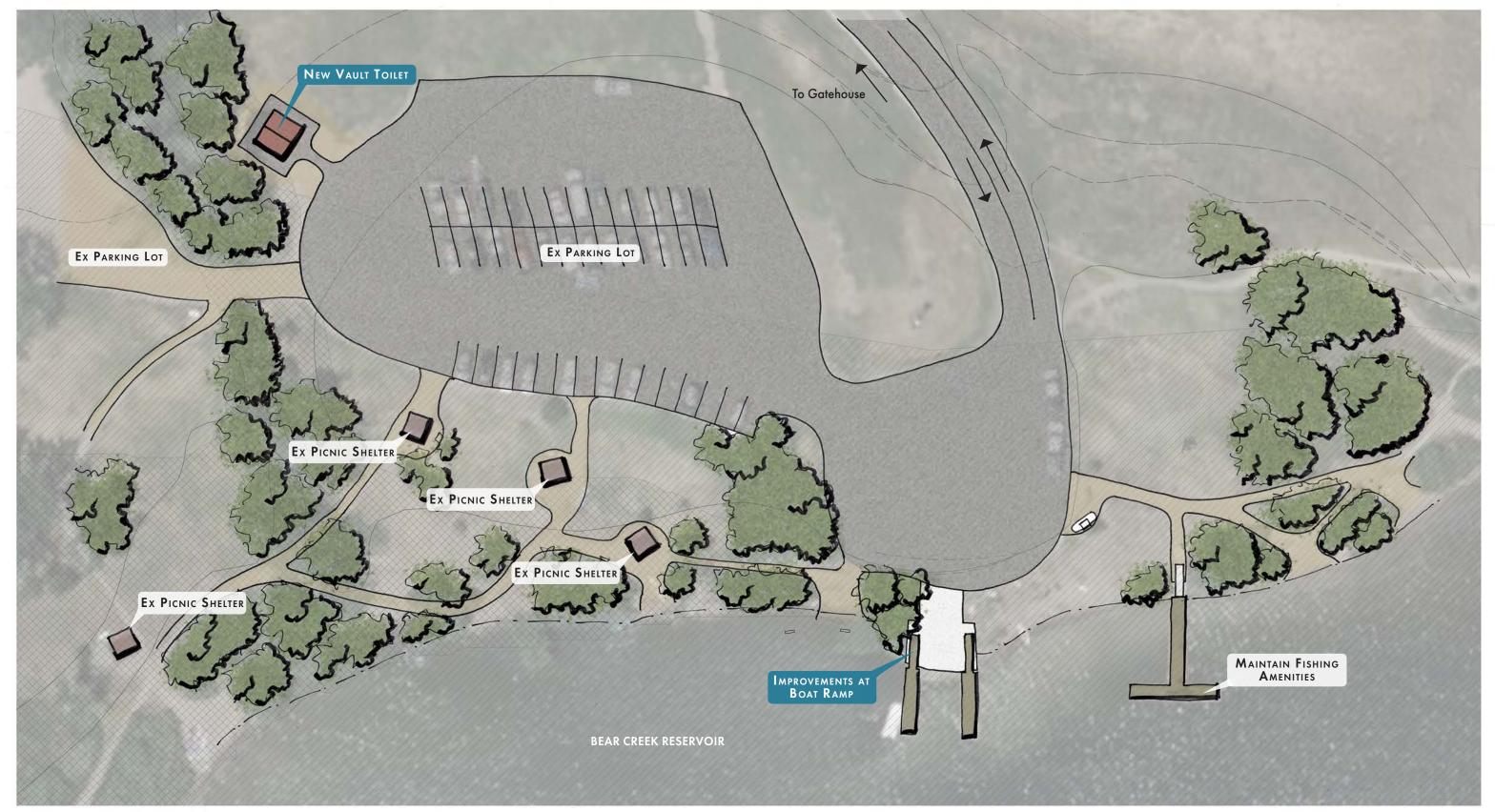
The existing roll-away docks will be removed, salvaged and reinstalled after proposed improvements to the asphalt boat ramp are completed.



Bear Creek Reservoir Existing Boat Ramp



Bear Creek Reservoir Existing Vault Toilet



**Boat Ramp Improvements:** 

• A new vault toilet is proposed along with removal and replacement of the existing boat ramp.

NOTE: BALANCE FISHING AMENITIES WITH PROPOSED PADDLEBOARDING ACTIVITIES ON BEAR CREEK RESERVOIR.

40 80 Feet



# **BEAR CREEK RESERVOIR PELICAN POINT**



Overall View of Bear Creek Reservoir

Bear Creek Reservoir Boat Ramp and Pelican Point are located east of Gatehouse. The preferred concept for Pelican Point focuses on enhancing visitor amenities and accessibility. All improvements are dependent on coordination with USACE.

### Phase 1:

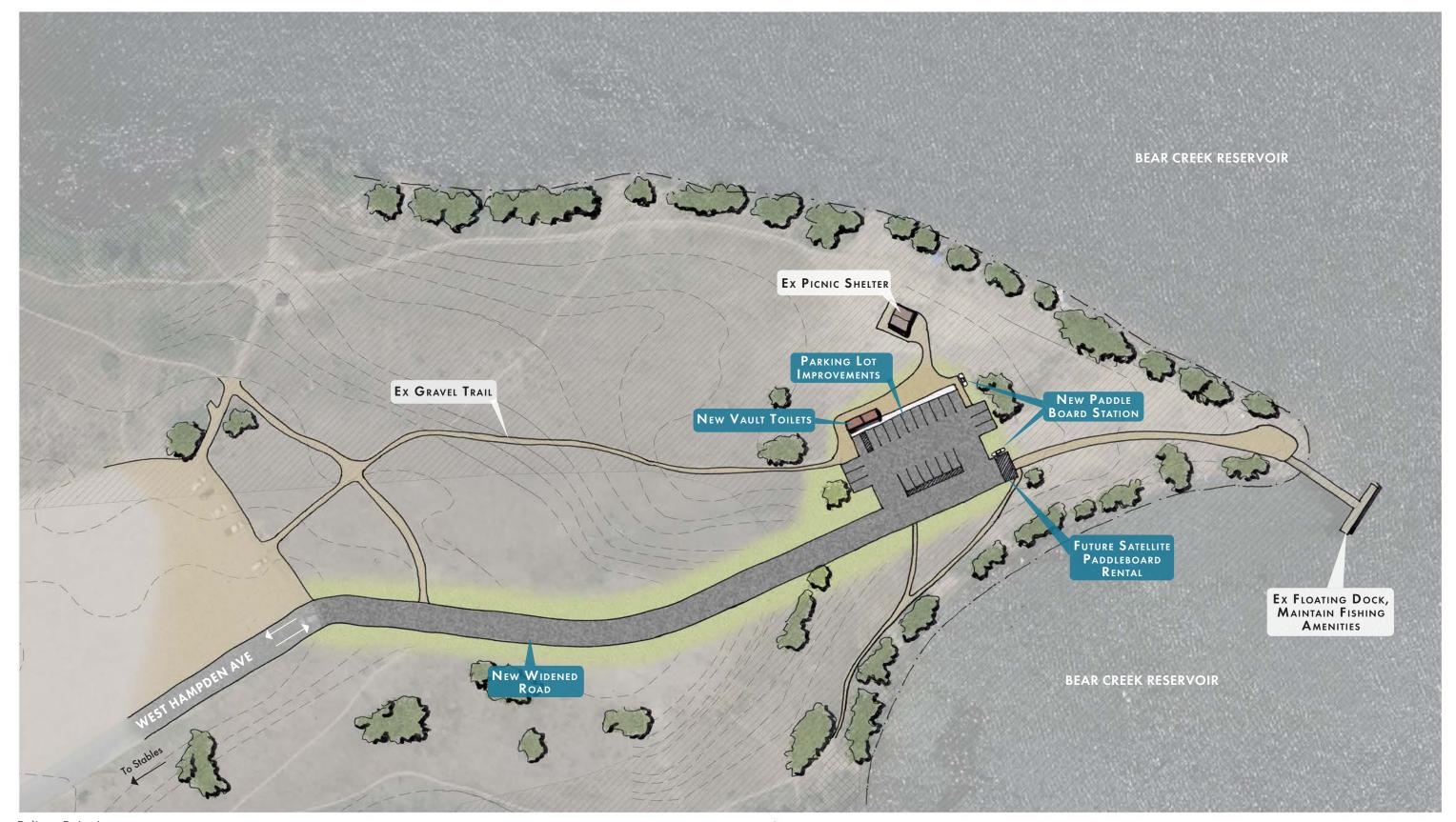
**Vehicular and Pedestrian Circulation:** The access road leading to Pelican Point is proposed to be widened, and the existing parking lot reconfigured to provide a total of 23 standard and accessible parking stalls. Existing soft-surface pedestrian trails will remain and will connect the vault toilet, picnic shelter, and dock. Vegetation restoration is anticipated to be limited to areas disturbed by construction.

**Building & Site Amenities:** The existing vault toilet at Pelican Point is proposed to be removed and replaced. A new paddleboard setup station with racks and seating is proposed. Other site amenities such as trash receptacles, picnic shelters, signage, and the boat dock are proposed to be salvaged and reinstalled.

A potential future satellite paddleboard rental station may be implemented to balance and disperse paddecraft activities at Big Soda Lake while respecting current and future angler activities at Bear Creek Reservoir.



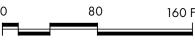
Existing Pelican Point Parking Lot Source: Google Earth



### **Pelican Point Improvements:**

- The existing parking lot is proposed to be reconfigured and the existing vault toilet is proposed to be replaced.
  A possible satellite paddleboard rental station may be considered as part of a future phase.

NOTE: BALANCE FISHING AMENITIES WITH PROPOSED PADDLEBOARDING ACTIVITIES ON BEAR CREEK RESERVOIR.





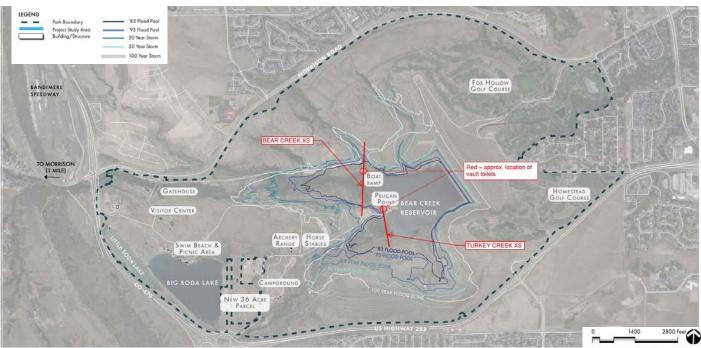
# BEAR CREEK RESERVOIR FLOODPLAIN PERMITTING

Improvements proposed at the Boat Ramp and Pelican Point sites are located within a FEMA regulatory Zone A floodplain, which is defined as an approximate methods Special Flood Hazard Area (SFHA) without Base Flood Elevations (BFEs) determined. The primary flood sources are Bear Creek, Turkey Creek, and Bear Creek Reservoir. The proposed improvements include replacement and expansion of two vault toilets, boat ramp improvements, parking lot reconfiguration, a paddle board station, and access road widening.

A City of Lakewood Floodplain Permit will be required for all grading and/or construction within the regulatory Zone A floodplain, which will require documentation that the proposed improvements do not cause a rise in BFE or adversely impact adjacent properties or existing insurable structures. Due to the backwater condition associated with the reservoir, it is not anticipated that these improvements will have an impact on flood elevations and are not anticipated to adversely impact adjacent properties or existing insurable structures.

It is not anticipated that a pre-project Conditional Letter of Map Revision (CLOMR) or post-project Letter of Map Revision (LOMR) will be required to construct these improvements.

The proposed vault toilets represent the only vertical construction within the regulatory floodplain but are not considered habitable structures, which are not required to be elevated or flood proofed to the freeboard requirements set forth by the State of Colorado or City of Lakewood. It is anticipated that these structures will be constructed with materials that are resistant to flood damage and that the risk of flooding will remain, with the potential 100-year water surface elevation above the proposed top of structure. The structures should be designed to resist buoyancy and hydrostatic forces assuming complete submergence. As discussed, the vault toilets are located in areas that are influenced by the backwater conditions associated with the Bear Creek Reservoir Dam, outside of the primary flood conveyance paths of Bear Creek and Turkey Creek and are not anticipated to experience hydrodynamic forces typically associated with riverine flooding.



Existing Flood Pools and Zones

# CONCLUSION

The Bear Creek Lake Park Master Plan planning process involved extensive public and stakeholder involvement including park users, City of Lakewood residents and residents of the surrounding Denver Metro area. The plan will help to guide and prioritize improvements to the Park, develop budgets, and solicit funding. As projects are further refined and implemented, below is a list of possible future studies and recommendations:

- Revisit phasing and funding priorities over time
- Topographic and utility surveys at focus areas for construction document development
- Full existing conditions investigation and As-built drawings of the Gatehouse and Visitor Center
- Geotechnical investigation and hazmat survey of the Gatehouse and Visitor Center
- Site investigation to supplement desktop review of existing electrical and telecommunications systems particularly at the Gatehouse, Visitor Center and Campground
- Additional drainage and floodplain analysis
- Conduct natural resource site surveys to supplement desktop review; some suggestions include surveying for rare plants, burrowing owl, and other migratory birds, and mapping vegetation communities.
- Confirm impacts to wetlands and waters of the US and associated permitting, particularly at the Gatehouse, Big Soda Lake and Bear Creek Reservoir
- Incorporate building and accessibility code requirements
- Confirm code requirements for proposed campground bunkhouses with City of Lakewood Building Official
- Coordination with USACE, Soda Lakes Reservoir and Mineral Water Company, and Denver Water
- Coordination with CDOT on access improvements to the Park
- Coordination with Mount Carbon Metro District and Town of Morrison on connecting the Park water and wastewater systems to their municipal system



