



E. TRAILS PLAN



FINAL BIDWELL PARK MASTER MANAGEMENT PLAN UPDATE



BIDWELL PARK



TRAILS PLAN

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APRIL 2006

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1.0 Introduction

Bidwell Park was first established in 1905 with the dedication of approximately 1,093 acres of land from Annie Bidwell to the City of Chico. The original Park was located primarily along the corridor of Big Chico Creek. Since the initial donation, an additional donation of 302 acres by Annie Bidwell was added to the Park in 1911. The City also purchased additional land for the Park, including Cedar Grove in 1922, approximately 38 acres adjacent to State Route (SR) 32 in 1995, and 1,417 acres of land south of Big Chico Creek in 1995. The Park covers a variety of terrain, landscape types and ecosystems, from a developed city Park with pool, picnic and play areas, to grand vistas, oak woodland, grassland, riparian and wetland corridors. The Park is currently the largest municipal Park in the United States on a per capita basis. Although they create design, maintenance and operational challenges, the Park's sensitive plant species, sensitive viewsheds, thin soils and increased user demands are not unique. These same challenges are being faced by many Parks across the country and can be balanced to achieve a successful and healthy Park.

The first trails that developed in the Park were probably Native American travel routes and animal trails that were adopted or saw continued use by people over time. Later, ranch and farm roads were vehicle travel to transport supplies and equipment. At the time, these trails were not specifically designed, they simply evolved over time to accommodate connections to destinations people wanted to get to and from. With the dedication of Upper Park, these historic miles of trails transitioned to recreational use. Planning efforts towards a Trails Plan were undertaken in 2000.

A Trails Plan was conceptually approved by the Bidwell Park and Playground Commission in 2002. Environmental review for the Trails Plan was not completed and therefore the Plan was not implemented. The 2002 Trails Plan was used as the basis for the Trails Plan in this document. It has been revised and refined to reflect current uses, use patterns and desired outcomes. The Trails Plan focuses on upgrading and maintaining the existing trail system leaving decisions regarding significant new trails for future discussions. When approved, an initial five year implementation plan will be presented to the Bidwell Park and Playground Commission. The implementation plan will be reviewed annually.

The Bidwell Park Trails Plan is the culmination of discussions and public meetings that started in late 1990s. In the early discussions, there were two distinct components which have since been combined into the current Plan. First, a trail running the length of Bidwell Park was referred to as the Annie Bidwell Trail. The trail was originally envisioned to extend from the Sacramento River to the Pacific Crest Trail and then on to Mount Lassen. That portion adjacent to and/or in Bidwell Park was proposed to begin at the Bidwell Mansion and extend through the One Mile Recreation Area and Five Mile Recreation Area. The entire stretch



View of Bear Hole from South Rim.



Salmon Hole on Big Chico Creek.



Wildflower displays in the spring are one of the Park's many attractions.

was to be a Class A pathway for bicycles, and hiking. The proposal included closing the balance of South Park Drive from Cedar Grove to Centennial Avenue. The segment from the Five Mile Recreation Area east to the Ten Mile House Road was intended to be a Class B trail for equestrian, hiking and mountain biking.

The other component of the 2002 Trails Plan addressed the balance of trails in Upper Bidwell Park. Envisioning trails of varying difficulty incorporating existing trails, a system of loop trails was developed. One of the primary objectives was to provide a plan and develop a strategy for implementation. Specific focus areas were used to target high priority locations. While most of the discussion was on trails in Middle and Upper Bidwell Park, retaining and properly maintaining existing trails in Lower Bidwell Park was and is an important component of the overall Plan.



Horseshoe Lake and Monkey Face.



Bidwell Park contains habitat for many species of wildlife.

Trails are one of the primary attractions and destinations within Bidwell Park and range from paved paths in Lower Park to more rugged terrain in Upper Park. Increased use and intensity of use, both on designated trails and by off trail activities are creating additional pressures on the Park's resources. Conflicts between competing user groups who are demanding separate trails or requiring trails of differing design criteria are also occurring. These issues are expected to continue to intensify as the City of Chico and surrounding areas grow. Addressing each user group fairly and equally will require ongoing user surveys and communication with the general public and organized user groups. The sensitive resources within the Park are being impacted by increased use, and careful consideration to resource protection will need to be incorporated into any plans for future trail maintenance, construction, or closure.

Related Documents

The Bidwell Park Trails Manual – Standards and Guidelines for Trail Management – was completed in 1999 and outlines maintenance procedures and trail standards for the Park. Since its completion, the Trails Manual has been amended five times (2000, 2001a, 2001b, 2002a, 2002b). The Trails Manual, which provides great detail regarding implementation, should be consulted carefully in conjunction with this document.

The Master Management Plan (BPMMP) for Bidwell Park was first approved by the Bidwell Park and Playground Commission (BPPC) on July 31, 1989 and adopted by the City Council on January 2, 1990. The Park's 1990 Plan outlines recommendations for the overall management of the Parks resources and visitors. This Trails Plan has been developed simultaneously and in coordination with the update of the 1990 BPMMP. The updated BPMMP contains detailed information on Park resources as well as goals, objectives and implementation strategies for achieving the Vision for Bidwell Park. The document also includes an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act

(CEQA) analyzing the effects of implementation of the BPMMP on the environment, including implementation of this Trails Plan.

2.0 Purpose

This document is intended to serve as a guide for future trail maintenance, improvement, construction, and closure within Bidwell Park. It also aims to help prioritize budget expenditures and ensure that future improvements abide by the goals set forth by the City of Chico for the Park. The purpose of this Trails Plan in the context of the overall planning process for Bidwell Park is to ensure that any work undertaken as part of Trails Plan implementation is consistent with the Vision for Bidwell Park as well as the goals and objectives set forth in the BPMMP. As part of the BPMMP Update, area concept plans are also being completed for other select areas within the Park including the Cedar Grove, and the Horseshoe Lake concept plan areas. The area concept plans are intended to show proposed enhancements in greater detail and provide specific recommendations for phasing, management, maintenance, and improvements in these areas. Trails are a primary component of circulation and recreational use in the concept plan areas and must be carefully coordinated with the overall trail system.

Many of the trails within the Park are currently in need of maintenance, repair, or relocation. Increased use combined with sensitive shallow soils and improperly located trails have created eroded and expanded trailbeds which are difficult to maintain in some areas. Photos 1–22 illustrate some of the conditions that are occurring. Most of these issues can be resolved through a combination of a diligent maintenance program, user education, careful application of the designs outlined in the Trails Manual, and thoughtful approach to planning and approving new trails in the Park.

What is a Trails Plan?

Various levels of effort can be undertaken to complete a Trails Plan, depending on available funding, schedule, related processes and desired level of detail. Generally a Trails Plan is meant to serve as a guide for future development and maintenance. The plan outlines the goals of the trail system and their purpose within the context of the site (i.e., Bidwell Park) and addresses problems with existing trails, if applicable. The process for completing the plan usually includes an evaluation of previous documents, field studies, public input, establishment of goals and vision, implementation strategies, and written and graphic documentation. Detailed construction drawings or details are not always necessary at this planning stage. The process undertaken to complete this Trails Plan is outlined in the Methods section of this document.



Photo 1 - Drainage running down trail causes users to venture uphill of the trail, creating soil erosion and trail widening. Installation of drainage controls are needed.



Photo 2 - No drainage conveyances are installed and water is running directly down the trail alignment.



Photo 3 - Parallel trail along the fence at the North Rim Trail.



Photo 4 - Unofficial trail on the South Rim runs directly down the fall line, resulting in severe soil loss. No signs or other means are utilized to direct users away from this route.



Photo 5 - No drainage conveyances are installed and water is running directly down the trail alignment. Rock is beginning to become exposed.



Photo 6 - Official trail accesses from each trailhead to Lower and Middle Trails do not always exist, creating unofficial trails on unsuitable slopes.



Photo 7 - Trail marker placed at intersection with unofficial trail validates the use of the unofficial trail.



Photo 8 - Unofficial mountain bike trails on unsuitable slopes are causing significant erosion in some areas.

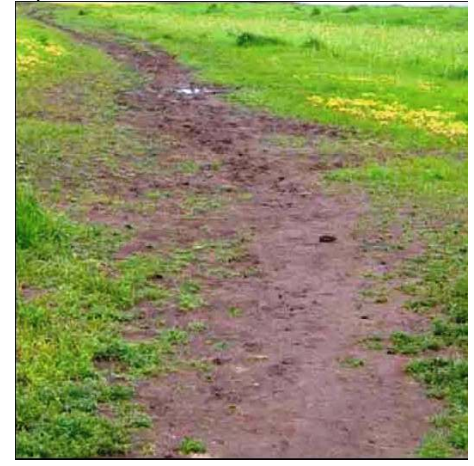


Photo 9 - Trails leading out of Horseshoe Lake lack clear definition of trail edge, and continue to widen.



Photo 10 - Log used to close trail unsuccessfully. In this case, trail provides the shortest route to parking and may continue to be used unless other barriers and signage are added.



Photo 11 - Trail is functioning as a drainage conveyance, eroding soil to expose rock.



Photo 12 - Original trail in center has become rutted, causing users to create other paths which are easier to navigate and usable when water runs in the center path.

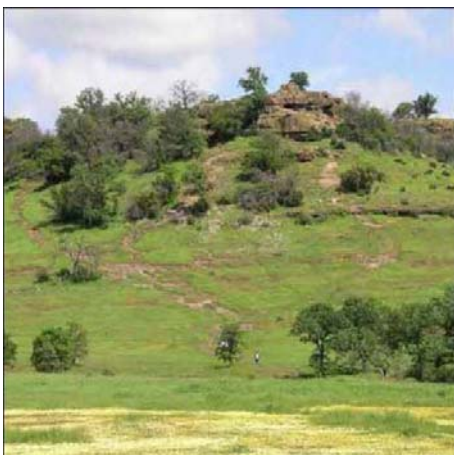


Photo 13 - Unofficial trails have created scars on Monkey Face which are highly visible from Horseshoe Lake.



Photo 14 - Skidding mountain bike users create trail ruts and often widen the trail.



Photo 15 - Even use of erosion matting has been unsuccessful in maintaining soil on this trail. Reconstruction and low barriers may help contain soils and users here.



Photo 16 - Many unofficial trails lead from the parking lot at Horseshoe Lake, there is no clear access point for the trail system.



Photo 17 - Improperly installed dip is creating a low point for drainage problems.



Photo 18 - Unofficial trail in Middle Park runs directly up the fall line and has serious erosion. Barriers and other reclamation efforts may be required to fully restore.



Photo 19 - Trail from Upper Park Road to Lower Trail runs through high groundwater areas. A boardwalk would alleviate resource impacts and increased maintenance.



Photo 20 - Improperly installed log water bar on a mountain bike unofficial trail.



Photo 21 - At least two parallel trails exist on many portions of the North Rim. Bordered trails and containment are the key to preventing further resource damage in these areas.



Photo 22 - Steep, eroded trail on the south rim. Steps should be installed or the trail should be re-routed.

Philosophy and Approach

The Trails Plan was undertaken with the following assumptions:

- Trails that are functioning correctly and safely will remain.
- Utilize functioning existing trail corridors for relocations or combined new trail routes where possible.
- New trails should be carefully located to avoid impacts to sensitive resources to the greatest extent possible.
- Re-routing of existing trails should be considered where the trail can no longer be maintained in its current location due to issues such as steep slopes, legally protected cultural or natural resources, groundwater seep, erosion or where user safety will be jeopardized.
- No specific plan revisions or re-alignments of trails shall occur without careful evaluation of impacts on trails within those areas and their connections within the overall Park system.
- Reasonable restoration of soils and plant communities should accompany trail route closures where exposure of significant soil-less hard pan surface or other significant erosion has occurred.
- Trails that provide duplicative access or experiences should be closed.

3.0 Goals and Objectives

The overall goal of the Trails Plan is to create and maintain a well functioning trail system which accommodates a variety of users while providing an enjoyable and safe experience while minimizing adverse impacts to sensitive resources within the Park.

Also refer to Section 3 of the BPMMP for detailed goals and objectives, as well as implementation strategies and guidelines pertaining to trails.

4.0 Project Description

The area included in the Trails Plan encompasses Lower, Middle and Upper Bidwell Park. The project area includes developed recreational Parkland, gently sloping meadows, wetlands, riparian corridors, and steep canyon side-slopes. Exhibit 1 and 2 illustrate locations for existing trails to remain, proposed new trails, proposed closures of existing unofficial trails, existing and proposed trailheads, and existing and proposed bridges.

The Trails Plan includes different trail designations during wet conditions. When other trails are closed, Upper Park Road is open for use as a trail, but closed to motor vehicles. In addition, there are trails that can be used during wet conditions while others are not for use until the potential for adverse impacts has diminished.

Proposed trails have been added to provide alternate easier access where the existing route is very difficult, to create a loop or connection between major trails, and to provide convenient access to trailheads. Key new trails include:

- Equestrian trail that parallels Upper Park Road from Horseshoe Lake to the Equestrian Center and Wildwood Avenue
- Re-configured access to the top of Monkey Face in conjunction with an improved overlook point
- The trail segment east of the Five Mile Recreation Area shall be on Centennial Drive
- Parallel trail to Annie Bidwell Trail south of the Golf Course through the Olive Grove
- Connections from multiple trailheads to Middle Trail
- Connecting the easterly end of North Rim to B Trail
- Easier parallel accesses from North Rim Trail to Upper Trail and Upper to Middle Trail in the vicinity of Bear Hole



Unofficial trails are clearly visible from trails on the South Rim.



Bloody Pin trail as seen from the South Rim.



Trails in many areas of the Park appear to pass through areas of high water table or drainage channels, making trail maintenance difficult.



Uppermost Parking Lot (U) does not allow sufficient turn-around space, especially when other vehicles are parked in the lot.



Existing Lower Park trail.



Yahi Trail ends without a safe means to cross Big Chico Creek, creating safety concerns and reduced accessibility for bikes and emergency services.

Alternatives

This Trails Plan includes two alternatives to address the small, unsafe turn-around area at existing Parking Lot U and the need to cross the upper end of Big Chico Creek. Each alternative is briefly described below and their proposed locations are conceptually shown in Exhibit 2.

Alternative A

- Upper Park Road Remains Open to Parking Lot U
- Reconfigure/Expand Parking Lot U
- Use Yahi Trail Connection to Bridge Crossing
- New Upper Bridge Crossing of Big Chico Creek

Alternative B

- Close Upper Park Road at Parking Lot T
- Closed Road Becomes Trail Connection
- Expand Parking Lots T and S
- Lower Bridge Crossing of Big Chico Creek

Related Facilities

Trails do not exist independently without related support facilities and destinations such as trailheads, restroom facilities, picnic/day use areas, swimming holes and overlooks. Detailed information regarding the locations of specific related facilities can be found in Section 2 of the BPMMP. Additional detail regarding the Horseshoe Lake area concept plans, Cedar Grove area concept plans and proposed disc golf facility at the SR 32 site can be found in Appendix F, G, and H of the BPMMP respectively. Detailed locations for trail alignments within the area concept plan are shown in each Specific Plan and have been coordinated for connectivity into the greater Trails Plan.

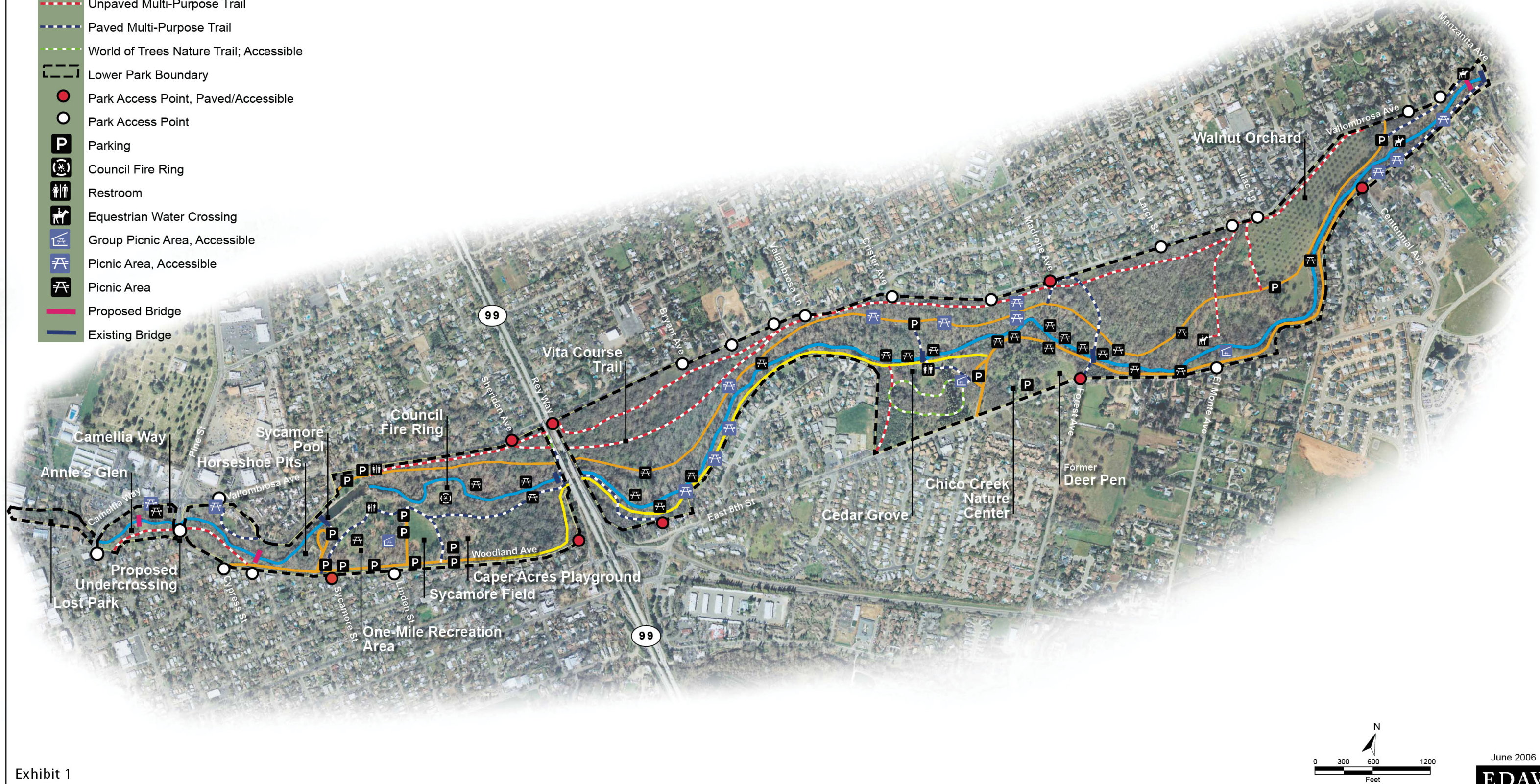
It is recommended that trailheads be monitored for volume and capacity of use to determine future necessary improvements. For example, as the regional population grows, some Parking Lots may need to be expanded to meet demand. Edges of trailhead Parking surfaces should be further delineated through the use of native boulders, timbers or other materials to prevent further resource damage at trailheads. Clearly delineating locations of trails from trailheads through the use of wayfinding signs and bordered trails will also help to minimize resource damage. Installation of picnic tables and benches is also recommended for key trailheads to reduce impacts to surrounding resources.

Bidwell Park Master Management Plan

TRAILS PLAN - LOWER PARK

LEGEND

- Paved Road, No Motor Vehicles Permitted
- Paved Road, Motor Vehicles Permitted
- Big Chico Creek
- Unpaved Multi-Purpose Trail
- Paved Multi-Purpose Trail
- World of Trees Nature Trail; Accessible
- Lower Park Boundary
- Park Access Point, Paved/Accessible
- Park Access Point
- Parking
- Council Fire Ring
- Restroom
- Equestrian Water Crossing
- Group Picnic Area, Accessible
- Picnic Area, Accessible
- Picnic Area
- Proposed Bridge
- Existing Bridge



Bidwell Park Master Management Plan

TRAILS PLAN - MIDDLE AND UPPER PARK

LEGEND

-  Existing Trail
-  Proposed Trail
-  Accessible Trail
-  Proposed Trail Closure
-  Paved Road
-  Unpaved Road
-  Upper Park Alternatives
-  Existing Bridge
-  Proposed Bridge
-  Existing Parking/Trailhead
-  Proposed Parking/Trailhead
-  Swimming Area
-  Park Boundary

Upper Park Alternative B

- Close Upper Park Road at Parking Lot S
- Closed Road Becomes Trail Connection
- Expand Parking Lot S
- Lower Bridge Crossing

Upper Park Alternative A

- Upper Park Road Remains Open to Lot U
- Reconfigure/Expand Parking Lot U
- Use Yahli Trail Connection to Bridge Crossing
- Upper Bridge Crossing

Note: Trail alignments shown are general corridor locations. Minor relocations of existing trails may be required within the corridors shown. All alignments and relocations to be designed and field verified prior to construction.



Restrooms are currently blue portable toilets, which create an unsightly appearance from the adjacent Parking areas and trails as well as impacting the views from the rim trails. It is recommended that at a minimum, restroom enclosures be added to mitigate this problem. Enclosures can be a combination of wood and native stone material to reduce their visual impacts on the Park. As user volume increases in the future, composting or permanent vault toilets may be a more cost effective and aesthetically pleasing solution.

5.0 Methods

The planning process used during the preparation of this Trails Plan for Bidwell Park is illustrated in Exhibit 3. The process for the Bidwell Park Trails Plan varies slightly from the typical process in that limited field analysis was conducted (key locations only, not entire trail system), field verification had been completed as part of previous planning efforts and the Trails Manual already contains detailed information on trails classifications and typical details which would typically be covered in a Trails Plan.

Typical processes span the range from a simple planning exhibit often completed at a Park's inception to secure funding and generate public support, to a highly detailed Plan including a field verification of each mile of trails as well as typical construction details.

Only a limited field review of key locations was conducted as part of the preparation of this plan. Areas visited included those with known issues pertaining to the planning process such as accelerated erosion, challenging terrain, or resource degradation. Areas evaluated on-site include the following:

- Horseshoe Lake/Monkey Face
- Lower Portion of North Rim Trail
- South Rim Trail
- BLM parcel of new addition (site of proposed disc golf facility)
- Annie Bidwell Trail near Golf Course
- Jeep Trail (on south side, east of Day Camp)
- Upper Park Road and associated trailhead Parking



Boulders are currently used in some locations in the Park to successfully delineate trailhead Parking Lot edges.



Example parking lot showing clearly marked trail access point. Wheelstops and low boulder wall create use barrier. Adjacent gravel path is provided for trail access.



View of Horseshoe Lake from the North Rim Trail.



Monkey Face.



Successful use of steps to access the North Rim Trail.

A detailed analysis was not completed for all corridors shown in Exhibit 2. Therefore, proposed new trail corridors shown in Exhibit 2 will have to be further evaluated and assessed before exact alignment for a new trail can be determined. Similarly, proposed trail closure sites or potential trail re-routes will need to be evaluated in the field to assess existing conditions and assess impacts to sensitive resources. Detailed recommendations for implementing this review are already included in the Trails Manual and additional recommendations are also described in the implementation section of this document.

Public Involvement

A series of eight Citizen Advisory Committee (CAC) meetings as well as one focused technical meeting on trails and one focused technical meeting on disc golf were held during the planning process. Two of the CAC meetings focused on trail planning. A list of stakeholders and technical advisory committee members are included in Section 5 of the BPMMP. User surveys conducted as part of the BPMMP update also included information on existing and desired trail use. A summary of the user survey is included in Appendix B of the BPMMP.

Through the course of the public involvement, site visits, and consultation with City staff and other members of the planning team, key areas of concern were identified and are indicated in Table 1 below.

Table 1 - Areas of Concern

Location	Primary Concern
Monkey Face	Multiple unofficial trails extend up the face, creating an unsightly appearance from Horseshoe Lake and causing erosion.
Jeep Trail	Steep grade of trail alignment down the fall line is creating substantial erosion.
North Rim Trail	Eroding and widening of trail, very rocky trail surface.
B Trail	Steep grade and switchbacks are eroding.
Bloody Pin Trail	Steep grade and switchbacks are eroding.
Equestrian Trail	An off-road trail needs to be identified for equestrian only use in the Middle Park area.
Big Chico Creek Crossing	Safety concerns over users crossing upper Big Chico Creek to get from Ten-Mile House Road/Annie Bidwell Trail to Yahi and Middle Trails.

6.0 Implementation Strategies

As described in the Methods section (5.0) of this document, limited field review was conducted in the preparation of this Trails Plan.

Further field review, documentation, and monitoring will be required to implement a successful trail system. City staff will need to take over the process where this document ends. Recommended next steps for implementation are detailed in the following paragraphs. Use of the City's GIS/GPS capabilities is a simple way to begin the detailed review and documentation process. This has already been a useful tool in locating current alignments as shown in the Trails Plan Maps (Exhibits 1 and 2).

In addition, the Trails Manual currently contains detailed information regarding implementation, installation, and construction of trails. In general, many of the Park's trails are simply in need of routine maintenance to divert or shed water, including the installation of water bars, rolling dips, turnpikes, or steps. Recommendations included in the Trails Plan are intended to be supplemental by the Trails Manual, exploring broad strategies for implementation, rather than installation details.

Priorities for Implementation

Based on public input received to date, the following priorities for trail planning and maintenance have been established and will be addressed as funding and staff are available:

1. Maintain existing official trails. Exact locations for priority areas can be determined through the site assessment outlined below.
2. Discourage off-trail use.
3. Maintain, upgrade or re-route trails in known problem areas. As defined by City and public input these areas include Monkey Face, the Jeep Trail, North Rim Trail, B Trail, and Bloody Pin Trail. Erosion, viewshed, and safety concerns should be addressed in their entirety in these areas before the maintenance program is expanded to other areas. Maintenance funding and staff should be focused at these high priority areas.
4. Address unofficial trails for either closure and restoration or establishment as an official trail. Unofficial trails recommended for official status are identified on the Trails Plan Map (Exhibits 1 and 2). Exact locations for priority areas can be determined through the detailed site assessment outlined below. Unofficial trails that will be designated as official trails should be upgraded to meet applicable trails' manual standards.



The South Rim trail comes very close to steep cliffs and drop offs.



Highly eroded Annie Bidwell Trail near golf course.



Parking along Upper Park Road.

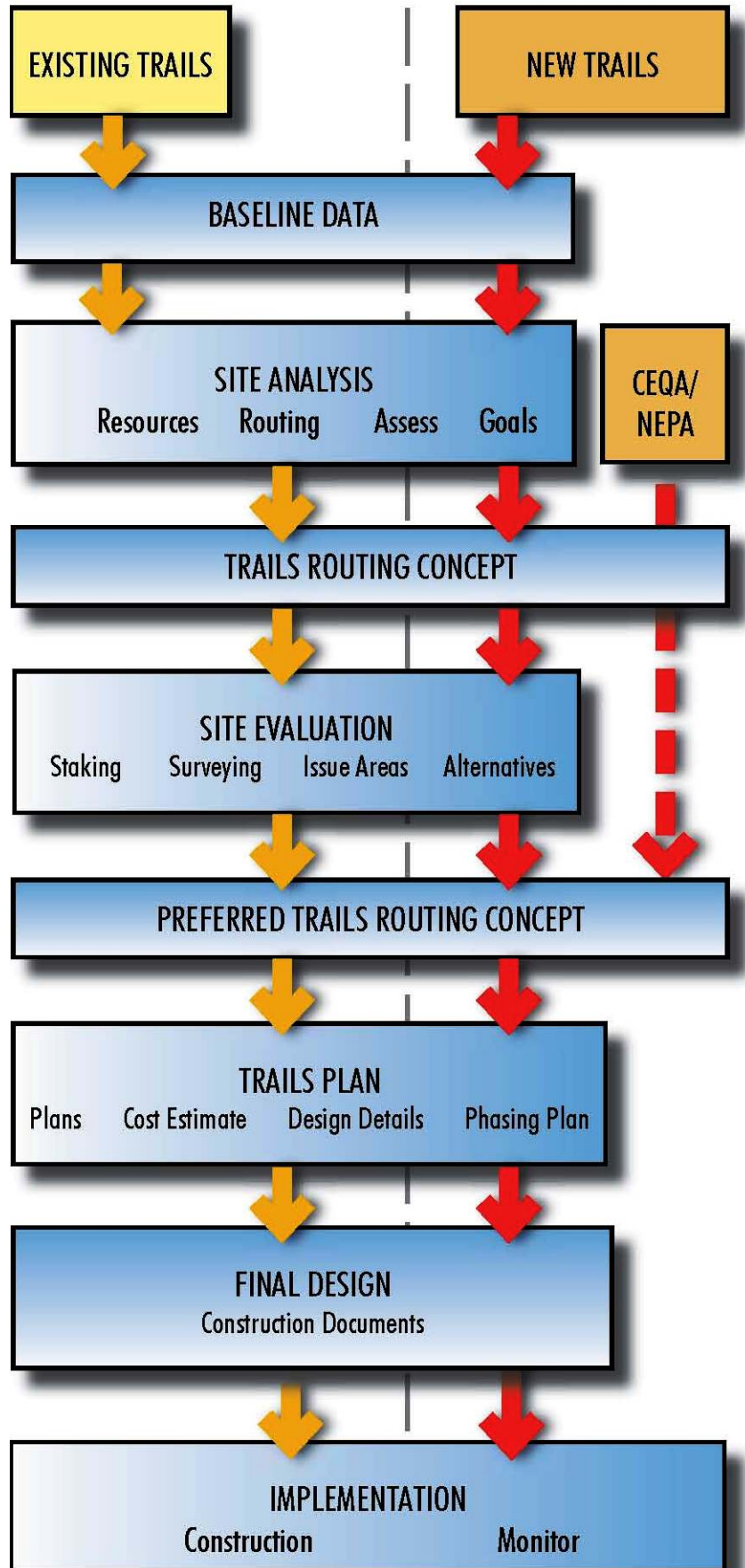


Exhibit 3 – Typical Trails Plan Process

5. Construct proposed trails. Trails which provide connections to key areas that are not easily accessible now, or trails which alleviate safety concerns (such as alternates to cross Big Chico Creek) should be considered first priority.

Maintenance projects are prime candidates for phasing and prioritizing, with opportunities to extend the length of the maintained areas as funding allows. New construction can be phased for areas which still provide a complete loop access. Trails should not be phased to create dead-ends which will entice users to set out on their own path to reach a destination.

Site Assessment for Existing Trails

Inventorying current trail locations and problem areas is the first step in a detailed site assessment. As general alignments for most existing trails are already included in the City's GIS database, the next step will be identifying and then prioritizing problem areas in detail.

This analysis should include walking every mile of trail and inventorying features such as functional and failing water bars, steps, drainage problems, and trail widening areas. A list of all possible categories should be developed, then the start and end points (if applicable) of each of these items should be identified. An example of this type of inventory is shown in Appendix A. These data will be invaluable for determining priorities, scheduling assignments for City trail maintenance staff and assessing funding needs for maintenance and relocation efforts. The assessment of the condition of existing trails will be ongoing. Assessment time should be included in the Park's annual maintenance budget and should be done at a regularly scheduled interval, perhaps annually or as funding allows.

University students studying recreation, GIS or natural resources, as well as volunteers may be valuable resources working alongside City staff for completing the site assessment in a cost effective and timely manner. A qualified City staff member or qualified consultant should always be included as part of an assessment team in order to ensure that the overall goals of the Trails Plan are of the highest consideration.

Site Assessment for Proposed Trails

Several new trail corridors are shown on the Trails Plan maps (Exhibits 1 and 2). The corridors can be assessed per the location shown on the map by first creating GIS/GPS points for these locations, then walking them on the site. Qualified City staff along with qualified consultants or members from respected trails organizations such as the International Mountain Bicycling Association (IMBA) should walk each corridor and determine the best location for the trail that will be able to meet the design and maintenance criteria described in the Trails Manual as well as the goals outlined in this document. Locations for proposed drainage



Guardian trail as seen from the South Rim.



South Rim Trail on steep slide slope.



Upper Park Road.



Un-delineated parking area in Upper Park.



Un-accessible path to swimming hole.



Using a GPS to inventory trail system features.

improvements, steps, water bars, etc, should be located with start and end points just as in the existing trail analysis, as this will allow a detailed analysis of construction costs. Impacts to sensitive resources should be avoided if at all possible and where required by BPMMP policies. Creative solutions such as boardwalks and turnpikes should be explored to minimize any impacts. Please refer Section 2 of the BPMMP for implementing strategies to minimize impacts to sensitive biological and cultural resources and to Section 4 (EIR) for mitigation measures for unavoidable impacts.

Alternatives, as identified in the Trails Plan maps (Exhibits 1 and 2) should also be evaluated at the time of the detailed site assessment. City staff should then make a decision on the preferred alternative based on available data for trail experience, future trail maintenance, trail safety, construction cost, and resource impacts.

Accessibility

Per the BPMMP, all existing facilities, including leased facilities in Bidwell Park should comply with ADA and accessibility guidelines whenever feasible. Providing trail access for users of all abilities is an important aspect of the Bidwell Park Trails Plan. The following shall be implemented:

- Any and all new and/or altered trail facilities shall comply with the Americans With Disabilities Act (ADA) (42 U.S.C. 12101, et seq.) and with the Recommendations for Accessibility Guidelines: Outdoor Developed Areas (RAG: ODA), as developed by the United States Architectural and Transportation Barriers Compliance Board. Alterations are distinguished from, and do not include, routine or periodic maintenance/repairs. Examples of these include, but are not limited to the following:
 - ♦ Routine maintenance/repairs include efforts to return a trail or trail segment back to the standards or conditions to which it was originally designed and built. Routine maintenance/repair includes, but is not limited to, the following:
 - ♦ Removal of debris and vegetation such as downed trees or branches in the trailway, or the clearing of trail encroachments from such items as brush, grasses, or rock slides.
 - ♦ Maintenance of trail tread such as filing or ruts and entrenchments, reshaping trailbed, repairing trail surface and washouts, installing rip rap (rock placed to retain cut and fill slopes).
 - ♦ Erosion control and drainage, replacing or installing necessary drainage structures such as drain dips, waterbars,

or culverts; realigning sections of trail to deter erosion or avoid wetlands.

- ◆ Repair trail and/or trailhead structures. This includes replacing deteriorated or damaged structures such as sections of bridges, boardwalks, informational kiosks, directional signs, fencing and rails; painting, or removal of graffiti.

Exceptions to ADA/RAG: ODA compliance for new/alterd trails include:

- Where compliance would cause substantial harm to cultural, historic, religious, or significant natural features or characteristics;
- Where compliance would substantially alter the nature of the setting or the purpose of the facility, or portion of the facility;
- Where compliance would require construction methods or materials that are prohibited by Federal, State or local regulations or statutes;
- Where compliance would not be feasible due to terrain or the prevailing construction practices.

Current Recreation Uses similar to many other Parks, Bidwell Park is currently struggling with conflicts between user groups. Accommodating mountain bikes, equestrians, hiking, picnicking, swimming, birding, and wildlife viewing within the same trail system can be a challenge. Implementing the following course of actions may help to minimize conflicts:

- Identify large user groups i.e., Chico State University and continue awareness and education programs for these groups;
- Encourage cooperative volunteer trail work days i.e., mountain bike, and equestrian groups working together;
- Implement a regulatory, educational and interpretive sign plan, program and system to include:
 - ◆ Park rules and regulations
 - ◆ Natural resource protection
 - ◆ Natural resource systems
 - ◆ Trail use and courtesy



Mountain bike route over boulders runs directly down the fall line. Installation of steps in areas like this maintain the challenge level and prevent erosion. A "cheater line" is on the left.



Steps create technical challenges for mountain bike while preventing erosion.



Trails at the beginning of Upper Park Road appear to be used as a "half-pipe" for mountain bikes. Installing low barriers along the road would alleviate this problem.

New Recreation Uses



Twenty years ago, there were minimal numbers of equestrian and mountain bike trail users. As these varied uses grow in popularity, trail systems and management policies have evolved to accommodate all user groups and address conflicts created by these multiple user groups. No one can anticipate what new recreation activities will occur ten years from now. Activities such as mountain boarding and freeride mountain biking are currently gaining in popularity and some Parks are taking measures to exclude or include them as Park users. The City should make its stand clear on unofficial mountain biking trails. If it is decided that such use is not allowed in Bidwell Park the regulation should be clearly stated at trailhead regulatory signs and in brochures and trail maps. New types of uses should be reviewed each time the Trails Plan is updated. Uses should be evaluated by Park staff, citizen groups, and Park stakeholders to assess their fit with the Park goals and vision.

Signage



Trail markings within the Park are inconsistent in placement and design.

A clear, concise, and highly visible sign system is also key to the success of the trail system. Signs encourage users to follow regulations as long as they are clearly posted. The Park Department sign standards should be evaluated and updated with any modifications to the Trails Plan or trail system. A coordinated sign system should be developed to coincide with the Trails Plan. This will allow the City to assess overall and annual needs for new signs as well as implement sign installation as part of regular maintenance or through the use of volunteers. Appendix B illustrates examples of various types of trail signs.

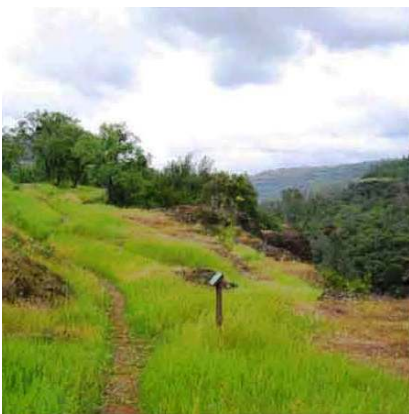
Funding

A discussion of funding related issues pertaining to overall Park management as well as trails is included in Chapter 2 (existing conditions). A list of references and websites related to funding and trail design is included as Appendix C.

Trail Construction Costs

Although every Park is unique, available data on trail construction costs can be helpful in determining project budgets and establishing shortfalls. Typical costs for construction of trail vary based on type of labor used (volunteer or paid contractor), type of equipment used (hand installation or trail machines), ease of access to the site, trail materials and design and the environment in which the trail is constructed (hilly site with steep side slopes vs. flat valleys).

Natural surface singletrack trail 18–24" wide typically costs between \$10,000 to \$20,000 per mile to construct depending on the number of drainage or hard structures needed as well as the items discussed above. Using a combination of a contractor to do the preliminary trail



Interpretive sign along the Yahi Trail.

construction with a trail machine and volunteers to finish the outslope and backslope is one creative way to reduce costs for this type of construction.

All-weather accessible gravel trails 8–10 feet in width on relatively flat terrain can vary from \$40,000 to \$60,000 per mile. Volunteer labor can also be used in some capacity to reduce costs.

Concrete or asphalt all-weather trails such as those found in Lower Park, cost substantially more (\$100,000 to \$250,000 per mile) and generally require installation by a qualified contractor or City construction crew.

Bidwell Park is not unique in its struggle to acquire funding for maintenance, design, and construction projects. Perseverance, creativity, dedication, and community support can provide solutions which will preserve and enhance the Park for use by future generations.



Volunteer and City constructed trail edge border near Horseshoe Lake is successfully controlling path width.



Highly used North Rim Trail in Middle Park has proper grade and good soil compaction, making for an enjoyable user experience and minimizing maintenance.



Asphalt trail adjacent to main Park Road in Middle Park.

7.0 References

City of Chico, California, Park Department. Bidwell Park Trails Manual - Standards and Guidelines for Trail Management. 1999.

Colorado State Parks, Trails and Wildlife Task Force; and Hellmund Associates. Planning Trails with Wildlife in Mind, A Handbook for Trail Planners. 1998.

International Mountain Bicycling Association. Trail Solutions, IMBA's Guide to Building Sweet Singletrack. 2004

Parker, Troy Scott. Natural Surface Trails by Design, Physical and Human Design Essentials of Sustainable, Enjoyable Trails. 2004.

U.S. Architectural and Transportation Barriers, Compliance Board. Recommendations for Accessibility Guidelines: Outdoor Developed Areas, Final Report. September, 1999.

Appendix A – Sample Trail Inventory

Bushkill Falls Trails Inventory and Analysis													
Key													
tri	trail		ts		top of step								
rl	railing		bs		bottom of step								
gri	guardrail		culv		drainage imp								
Point Information													
Point	Trail	Point Location	Approx. Width	Gravel Trail	Gravel Steps	Wood Steps	Wood Deck	Border	Step Railing	Guardrail	Other	Notes	Recommended Improvements
1	R-G-Y	begin trail	12	x									Border both sides - 12' width to PT 002
2	R-G-Y	ts	8		x								Border both sides of steps
3	R-Y	bs	8		x				2				Replace rail, add border both sides
4	R-Y	ts	12		x								
5	R-Y	bs	6	x				x		1			Replace rail, add border both sides
6	R-Y	ts	6		x					1			Replace rail, add border both sides
7	R-Y	bs	6		x					1			Replace rail, add border both sides
8	R-Y	bs	6		x					1			Add gravel steps, deck over exposed roots
9	R-Y	ts	6	x	x					1			Add gravel steps, deck over exposed roots
10	R-Y	mid pt	6	x						1			Replace rail, add border both sides
11	R-Y	bot of rock	10	x						1			Add steps over rock outcrop to even trail surface, replace rail, add border
12	R-Y	top of rock	10	x						1			Add steps over rock outcrop to even trail surface, replace rail, add border
13	R-Y	bot of rock	6	x						1			Fill uneven spots w/ gravel, add border, replace rail
14	R-Y	top of rock	6	x						1			Fill uneven spots w/ gravel, add border, replace rail
15	R-Y	top of rock	6	x						1			Install decking over rocks, add border, replace rail
16	R-Y	bot of rock	4	x						1			Install decking over rocks, add border, replace rail
17	R-Y	ts	4		x			x		1			Fill in gravel steps, add border, replace rail
18	R-Y	bs	5		x	x				1			Replace railing both sides
19	R-Y	ts	5		x	x				1			Replace railing both sides
20	R-Y	bs	5		x		x			1		Timber wall	Replace railing one side
21	R-B	tri int	5		x		x			1			Replace railing, fill in trail with gravel
22	R-B	mid pt	6	x									Replace railing, fill in trail with gravel, add border
23	R-B	bot of slope	8	x								Guardrail ends	Add 8' wide decking across drainage area
24	R-B	end bridge	3	x							x	Bridge at drainage crossing	Add gravel, add 12' wide border. downhill side
25	R-B	end bridge	3	x							x		Add gravel, add 12' wide border. downhill side
26	R-B	tr cl	8	x									Add gravel, add 12' wide border. downhill side
27	R-B	tr cl	12	x									Add gravel, add 12' wide border. downhill side
28	R-B	tr cl	12	x									Add gravel, add 12' wide border. downhill side
29	R-B	tr cl	12	x									Add gravel, add 12' wide border. downhill side
30	R-B	tr cl	12	x									Add culvert at lowpoint
31	R-B	tr cl	8	x									Add culvert at lowpoint
32	R-B	tr cl	8	x									Add culvert at lowpoint
33	R-B	tr cl	8	x									Add culvert at lowpoint
34	R-B	tr cl	8	x									Add culvert at lowpoint
35	R-B	tr cl	8	x									Add culvert at lowpoint
36	R-B	end bridge	10	x							x	Bridge at drainage crossing	Gravel steps down slope to bridge
37	R-B	end bridge	5	x							x	Bridge at drainage crossing	Gravel steps down slope to bridge
38	R-B	tr lp	8	x									8' wide border right side. End 15' past drainage
39	R-B	tr cl	6	x									Railing on downhill side
40	R-B	new overlook	8	x									Overlook deck w/ railing - 12' + 12'
41	R-B	end bridge	8	x							x	Bridge at drainage crossing	Railing on downhill side
42	R-B	end bridge	8	x							x	Bridge at drainage crossing	Add step railing one side
43	R-B	bs	4		x			x	x				Add step railing one side
44	R-B	step mid pt	4					x	x				Add step railing one side
45	R-B	ts	4					x	x	x			Fill in ex. Gravel steps & replace railing one side



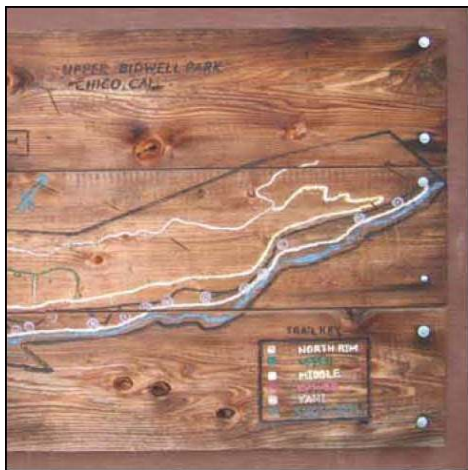
Existing interpretive sign helps educate users about Park resources.



Existing use area sign contains general Park regulations.



Existing seasonal/weather related trail closure sign does not contain detailed information on closure.



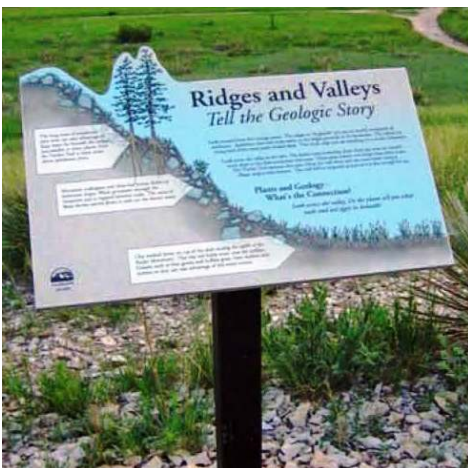
Existing trail map is hard to read and easily vandalized.



Existing kiosk at Horseshoe Lake.



Example of trail wayfinding sign at intersection. A fence behind prevents short-cutting.



Example interpretive sign explains area geology.



Example of combined trail courtesy and trail wayfinding sign.



Example sensitive wildlife area sign warns of sensitive habitat ahead on the trail and acceptable behaviors for this area.



Example information kiosk.



Example trail courtesy sign.



Example temporary trail closure sign and gate explaining impacts of use while trail is muddy.



Example permanent trail closure sign explains reasons for closure.



Example trail closure for wildlife habitat protection.



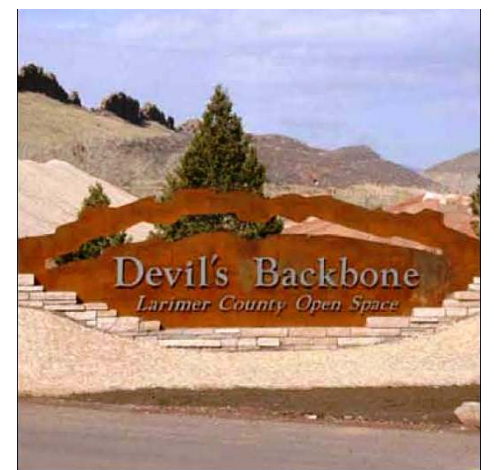
Example trail closure sign for rare plant habitat.



Example trail distance sign.



Example of a small, visually un-intrusive wildlife interpretive sign integrated into low trail edge barrier.



Example park entry sign.

Website References for Funding and Trail Design

American Trails

<http://www.americantrails.org/>

American Hiking Club, Funding + Grants

<http://www.americanhiking.org/alliance/fund.html>

Backcountry Horsemen of California

<http://www.bchc.com/>

Bidwell Park Centennial

<http://www.bidwellPark.org/>

California State Parks, Grants + Funding

http://www.Parks.ca.gov/default.asp?page_id=22226

Chico Hiking Association

<http://www.chicohiking.org>

City of Boulder, Colorado, Open Space and Mountain Parks

<http://www.ci.boulder.co.us/openspace/index.htm>

City of Chico, Park Department

http://www.chico.ca.us/Parks/Home_Page.asp

International Mountain Bicycling Association,

Mountain Bike Management

http://www.imba.com/resources/bike_management/index.html

International Mountain Bicycling Association, Trailbuilding and Maintenance

http://www.imba.com/resources/trail_building/index.html

Larimer County Open Space, Colorado

<http://www.larimer.org/Parks/openlands/>

Leave No Trace

<http://www.lnt.org/>

National Center on Accessibility

<http://www.ncaonline.org>

National Recreation and Park Association

<http://www.nrpa.org/>

National Trails Training Partnership

<http://www.nttp.net/>

U.S. Department of Agriculture, Forest Service Accessibility Guidelines

<http://www.fs.fed.us/recreation/programs/accessibility/>

U.S. Department of Agriculture, Forest Service National Trail Drawings and Specifications

<http://www.fs.fed.us/ftproot/pub/acad/dev/trails/trails.htm>

Rivers, Trails, and Conservation Assistance Program

<http://www.ncrc.nps.gov/rtca/>