

A scenic landscape photograph of a river valley. In the foreground, a wide, calm river flows through a lush green valley. The middle ground is filled with dense green vegetation and trees. In the background, a range of mountains is visible, with a prominent, snow-capped peak on the right side. The sky is blue with scattered white clouds. The text is centered over the image.

TOWN OF SILVERTHORNE
BLUE RIVER TRAIL
MASTER PLAN

Blue River Trail Master Plan JSA to Town Hall June 2004

Prepared for:

- Silverthorne Town Council
- Silverthorne SPORT Committee
- Department of Recreation and Culture
- Silverthorne Public Works
- Silverthorne Community Development

By:



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PURPOSE AND STUDY AREA

This plan is intended to be a specific guide for the design and construction of the Blue River Trail from the Town Hall to the northern Town limits. The proposed trail will be a continuous 10'-wide paved, multi-use facility accommodating pedestrians, bicyclists and wheelchairs. The plan also identifies trailheads and access for anglers and paddlecraft.

This plan will be the primary reference for right-of-way acquisition, budgeting, fundraising, construction drawings and phasing of the Blue River Trail.

The project study area consists of the Blue River Corridor through the Town of Silverthorne from the current terminus of the Blue River Trail—just north of the Town Hall—to the Town Limits adjacent to the Joint Sewer Authority (JSA) facilities.

TRAIL PLANNING & DESIGN GUIDELINES

A number of important trail planning and design guidelines have been identified. They come from the Silverthorne Parks, Trails and Open Space Master Plan, comments by the SPORT Committee, Staff, Town Council, landowners, agencies and other stakeholders. These include:

- Part of an integrated network of multi-use trails readily accessible from neighborhoods, schools, businesses, activity centers, and transportation systems, regardless of income, age, or physical ability.
- Meets state-of-the-art design standards appropriate to the types of trail uses, with attractive fixtures and furnishings and an integrated information/ interpretive system.
- Runs through pleasant settings offering a variety of experiences.
- Grade-separated from street traffic using safe underpasses and overpasses.
- Trail and trail facilities are compatible with homes, places of business, roads and the natural environment.
- Designed to serve multiple objectives such as drainageway maintenance roads and non-motorized transportation.
- Avoids user conflict and overcrowding.
- Safe and affordable to build and maintain.
- Foremost, protect aquatic habitat. Also protect riparian habitat, confluence and tributary areas and movement corridors, especially from the confluence of Willow Creek north. This includes River Otter (Colorado Endangered Species), Moose and other large and small mammals that move along this corridor.

PURPOSE OF THIS PLAN

Identify the actual trail alignment and cross sections.

Identify trailheads and access points for trail use, boating and fishing.

Identify rights-of-way—existing and recommended for acquisition.

Estimate cost estimates for budgeting and funding.



Include users, property owners, residents, businesses and other stakeholders in the planning process.

Establish a phasing and implementation schedule for building the trail from the Town Center to the North



- Specifically identify and delineate wetlands that will be impacted by the trail. There are a number of high quality wetlands along the corridor. First objective is to avoid wetlands and aquatic degradation.
- Avoid degradation of the riverbank by the trail, anglers and recreationalists. Do this by designing and regulating to direct users to less vulnerable places along the river, including thick vegetative buffers. Also, buffer the river from the trail, parking lots and other contaminant sources
- Retain the navigability of the river (Don't obstruct paddle craft with bridges or other structures.)
- Loose animals can be detrimental. Must enforce leash law and pets-at-large management.
- Aquatic improvements by the Town should include enhancement of the riparian edge as well as in-stream work.
- Structures including bridges and underpasses must not impede flood flows or raise flood level.
- Maintenance activities including snow removal must be clean without harmful chemicals.
- Construction specifications, maintenance procedures and supervision must adhere to best practices and all permit requirements to avoid habitat and resource damage.
- Be sure aquatic vegetation is maintained and enhanced beneath and adjacent to the pedestrian bridge abutments and other river edge structures.

LAYOUT AND ALIGNMENT

The project is divided into five segments:

- Segment 1: JSA to Hamilton Creek Road (North Pond)
- Segment 2: Hamilton Creek Road to Bald Eagle Road
- Segment 3: Bald Eagle Road to Mesa Drive
- Segment 4: Mesa Drive to Town Hall
- Segment 5: Cottonwood Park Primitive Walk

Total length (Segments 1-4) is 2.3 miles plus the 1900' primitive walk (Segment 5)

The plan also considers an alternative alignment for Segment 3.

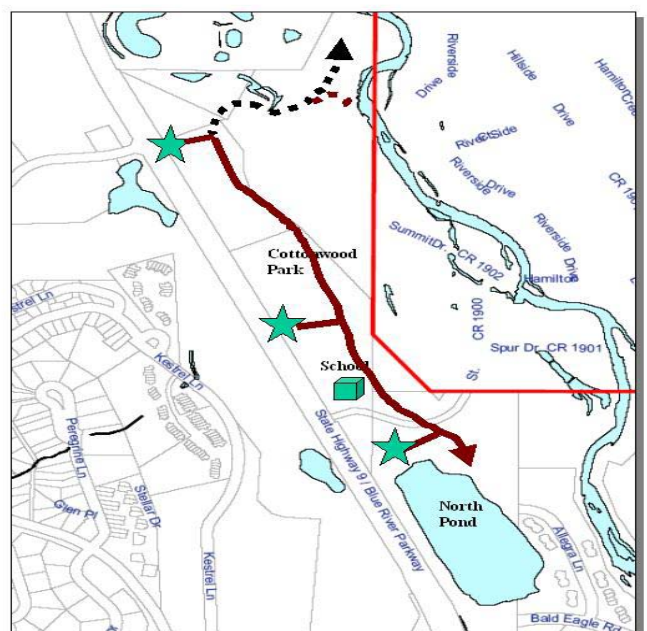
SEGMENT 1: JSA TO HAMILTON CREEK ROAD

Overview

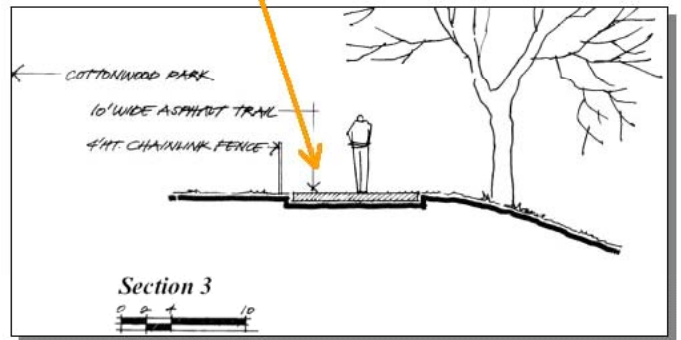
The 10'-wide asphalt trail begins just south of the JSA facility and extends through Cottonwood Park to Hamilton Creek Road terminating at the trailhead in North Pond Park. It also connects to the Cottonwood Park Natural Area Primitive Walk (Segment 5). In the future the paved trail will continue north along the river to link with the Maryland Creek Trail.

Components

- 10'-wide asphalt pathway from North Trailhead at JAS to trailhead at North Pond (2800').



- Trail stubs to Cottonwood Park parking area, to elementary school, and to North Pond Park Trailhead.
- North Trailhead and parking area (asphalt surface) located at the north end of Cottonwood Park with parking for 20 cars, entry signage and trail access display. Lot also provides boater and angler access via the primitive trail to the river.
- Rest area with storm shelter at north end of Cottonwood Park. Rest area at stub to Cottonwood Park.
- Wet meadows interpretive display at trail stub rest area.
- Waterless toilet at North Trailhead. Waterless toilet at Cottonwood Park (part of park project).
- Trailhead access display sign with trail wayfinding and accessibility information at North Trailhead, Cottonwood Park and North Pond Park parking lots.
- Rest area with shelter, toilet, parking and trailhead access display at North Pond Park as part of park improvements.
- Safety and directional signage.
- Walk-in boater and angler access from North Trailhead via primitive path to river near JSA.



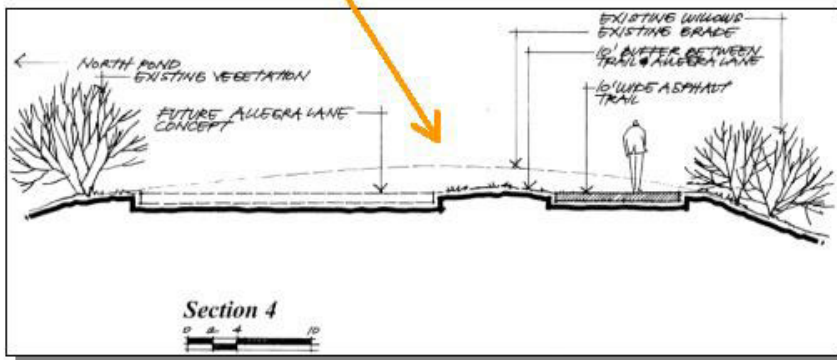
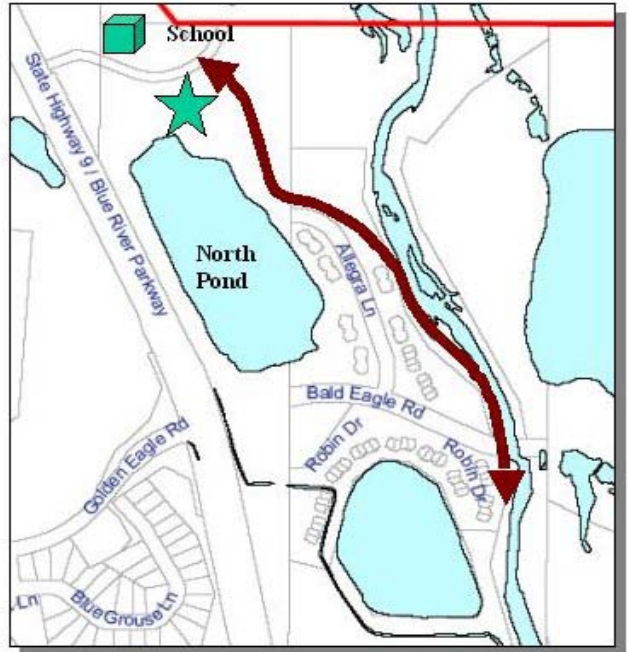
Cottonwood Park Trail Segment Concept



SEGMENT 2: HAMILTON CREEK ROAD TO BALD EAGLE

Overview

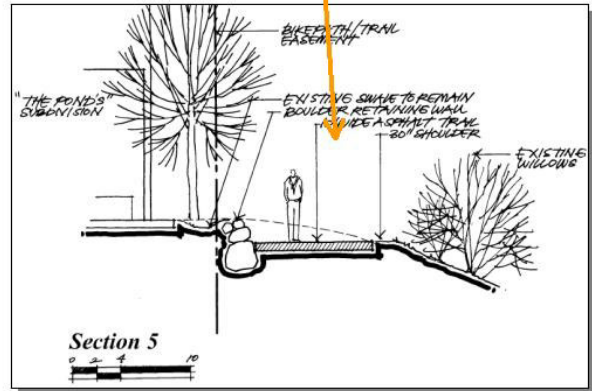
The 10'-wide asphalt trail continues from the North Pond Trailhead on a causeway between the pond and wetlands. The design anticipates the possible future extension of Allegra Lane with the trail located to the east of the roadway. The trail then continues along the west bank of the river adjacent to the Ponds at Blue River residences, using an existing dedicated easement. The design strives to integrate the trail with homes by using grading and landscaping. A trail stub accesses Allegra Lane midway through the development. This segment terminates with a ramp to the street at Bald Eagle Road.



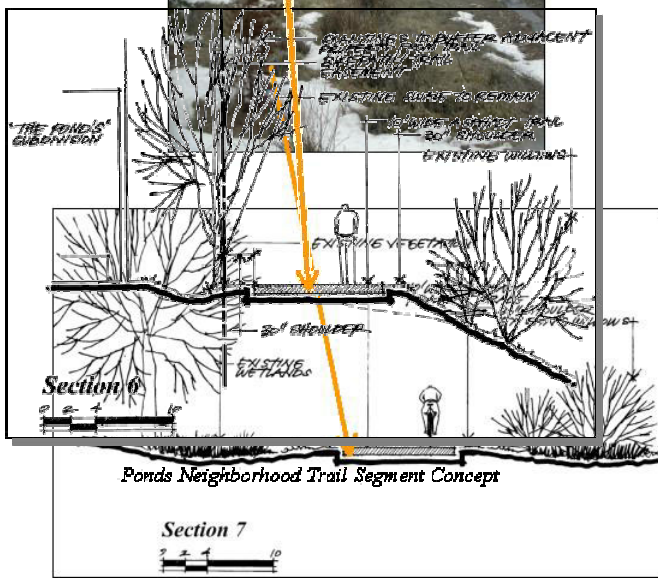
Allegra Road Trail Segment Concept

Components

- 10'-wide asphalt pathway from trailhead at North Pond Park to Bald Eagle Road (2400').
- Consider landscaping, including trees and shrubs, between the trail and the homes, laid out to promote a sense of privacy and trail safety, while not obstructing views from the housing units.
- Rest area with storm shelter overlooking the pond.
- Wetland interpretive signage overlooking wetland.
- Safety, directional and *respect-residents'-privacy* signage.



Ponds Neighborhood Trail Segment Concept



Riparian Trail Segment Concept Near Ponds Neighborhood

SEGMENT 3: BALD EAGLE ROAD TO MESA DRIVE

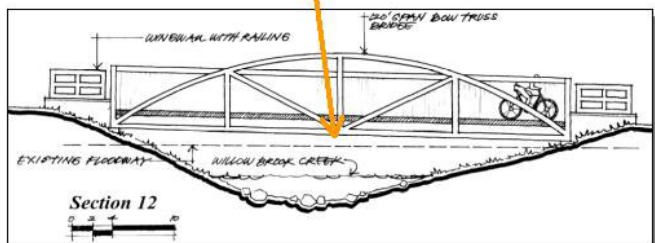
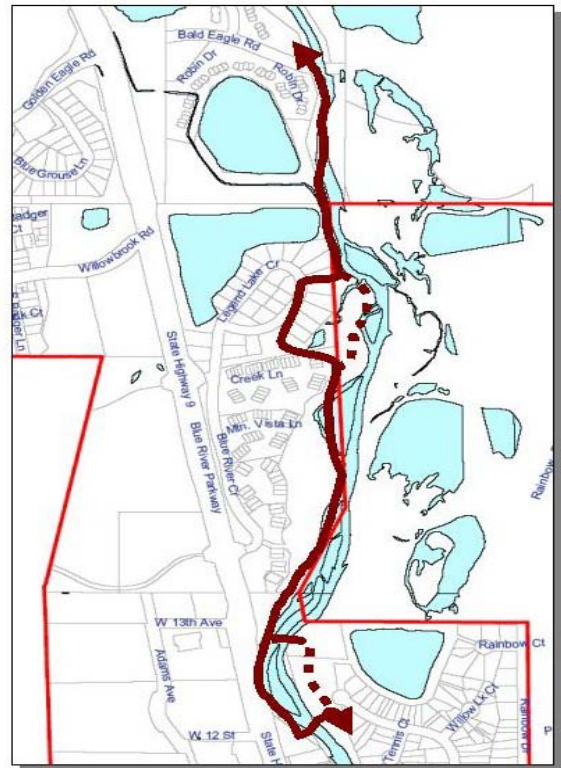
Overview

The 10'-wide asphalt trail passes under the reconstructed Bald Eagle Road viaduct with ramps to street level on both sides. The asphalt trail continues along the west bank of the river in an existing easement, past residences, to the Blue River Run neighborhood. The trail then passes through that single-family residential area on street (Legend Lake Circle) for several hundred yards before crossing Willow Creek and entering the southern portion of Blue River Run Townhomes. The trail then continues through floodplain lands owned by the Town, along the west side of the river. At the south end of Blue River Run, the trail crosses privately held floodplain land (easement required) to the CDOT right-of-way (permit required) and follows the west bank on a constructed bench. Opposite Mesa Drive, the trail crosses to the east side of the river on a clear-span pedestrian bridge.

Alternate routes have been proposed, subject to landowner approval and wetland permitting. These include a trail on a deck through floodplain land at the confluence with Willow Creek and a clear-span 230' crossing upstream of the islands in the river near Mesa Drive (please see detail below).

Components

- 10'-wide asphalt pathway from Bald Eagle Road to Mesa Drive cul-de-sac (4900').
- Crusher fine trail stub to overlook on South Lake (800')
- Two rest areas (one with shelter at South Lake).
- On-street segment with "share-the-road" signage for 400' along Legend Lake Circle.
- 100' pedestrian span over Willow Creek above floodway.
- Trail-on-bench (400') with combination retaining wall along edge of Highway 9. This leaves riverbank intact with riparian vegetation enhancements installed.
- 180' clear-span pedestrian bridge over river to connect to east bank at Mesa Drive.
- Trail stubs access Blue River Run neighborhood and Mesa Drive neighborhoods.
- Trailhead access display signs at Legend Lake Circle, Blue River Run access stub and at Mesa Drive access point.



Willow Creek Trail Span Concept

- Riparian and trout fishery interpretive signage overlooking river at Mesa Drive.
- Safety and directional signage.
- Upgrade Bald Eagle Road to accommodate bicycle and pedestrian traffic.

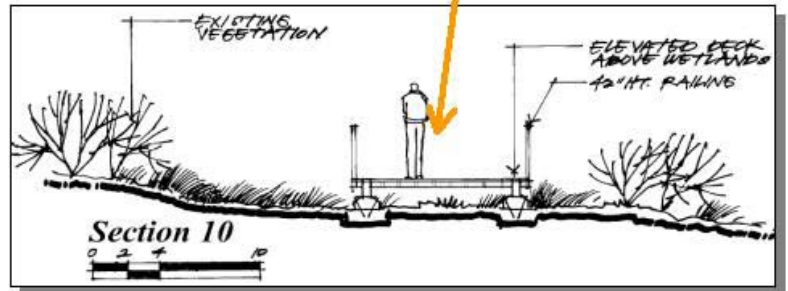
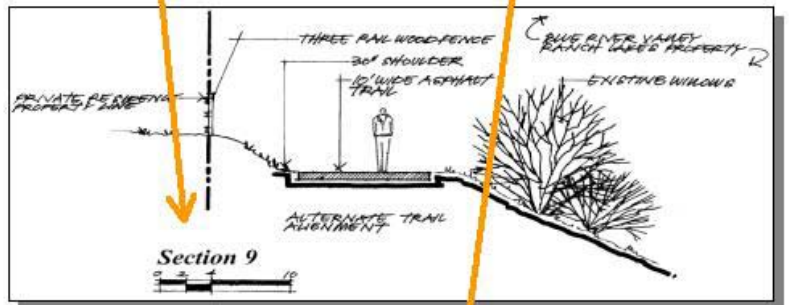
Upgrades and Alternatives

(BRVLE Upgrade) Pursue with property owners (Blue River Valley Ranch Lake Estates) upgraded trail routing with a combination of trail-on-grade and on a deck (500') through wetland areas and along the west bank of the river, proximate to the confluence with Willow Creek, providing an alternative to the on-street link through Blue River Run. Decking should be set 5' above ground surface.

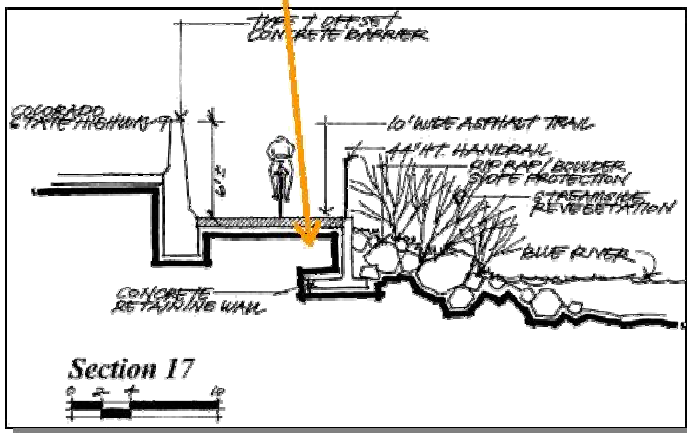
Pursue with property owners (Continental Divide Land Trust) a 230' clear-span pedestrian bridge to the east bank of the river 600' upstream of Mesa Drive as alternative to benched trail along the Highway 9 right-of-way.



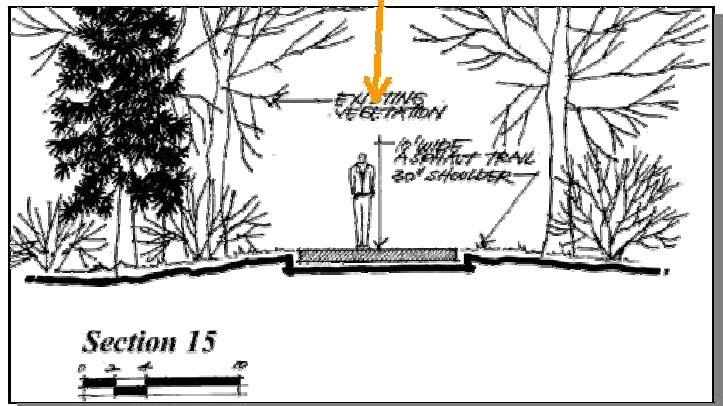
Example of Deck Near Frisco



Wetland Trail Segment Concepts



Integrated Traffic With Retaining Wall Concept



Riparian Area Trail Concept

SEGMENT 4: MESA DRIVE TO TOWN HALL

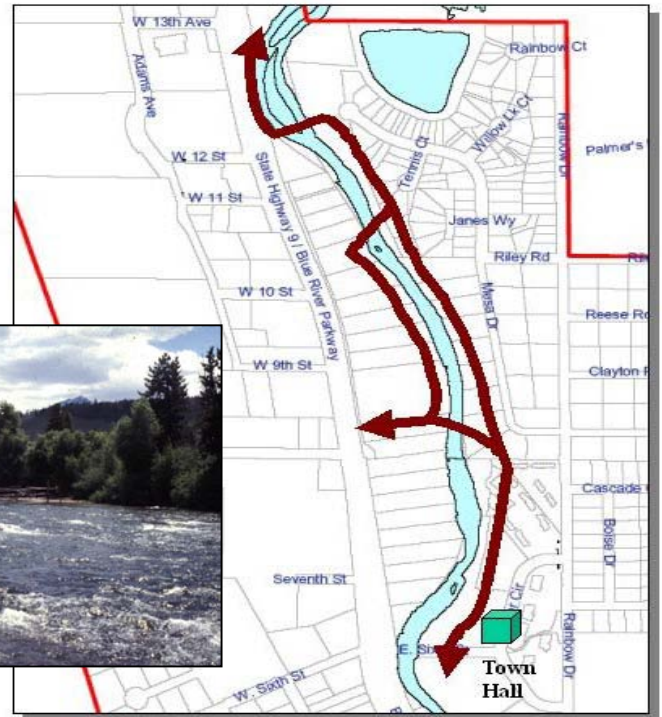
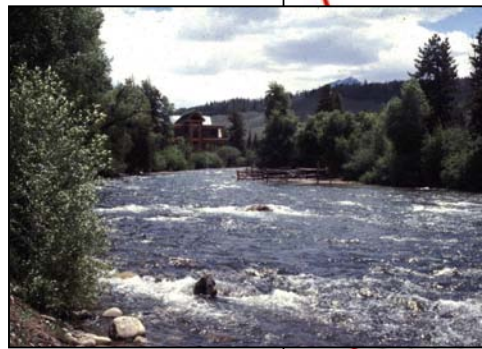
Note: Two routes are being considered for this segment—an east side route and a west side route. When both routes are in place, the trail system will provide a loop with pedestrian crossings of the river.

East Side Route

The 10'-wide asphalt trail follows the east bank of the river using an existing easement for approximately 750'. The trail then follows an elevated deck for approximately 150' and then continues another 900' along the east bank the entire length to the Town Hall. Approximately 250' of the trail is cut into the bank with a rock retaining wall.

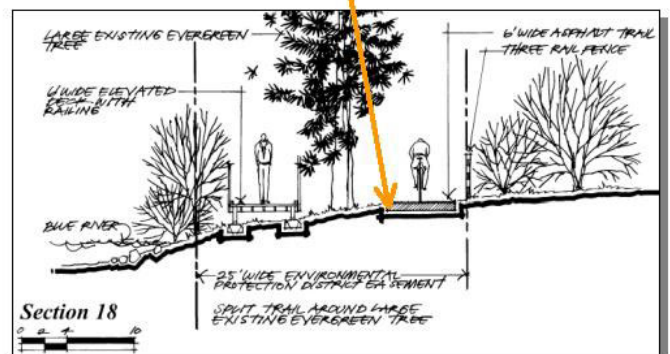
West Side Route

The trail crosses to the west bank on a 220' clear-span pedestrian bridge. The trail then follows the west bank for approximately 800' (with land owner agreements) to a Town-owned parcel— where a trail link to Highway 9 and west side neighborhoods can be provided. The trail then crosses back to the east bank on a 230' clear span pedestrian bridge where it joins the existing paved Blue River Trail approximately 900' north of the Town Hall. In the future, the west side trail will continue north to a proposed pedestrian bridge at Mesa Drive.



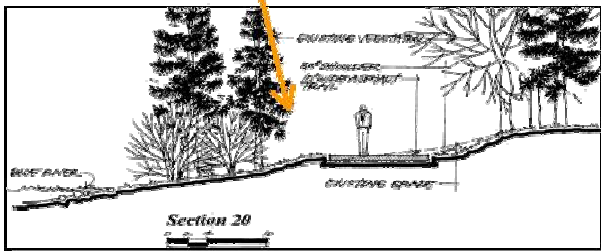
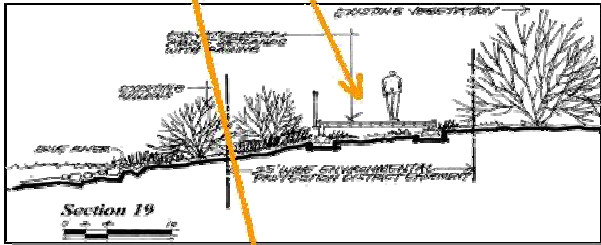
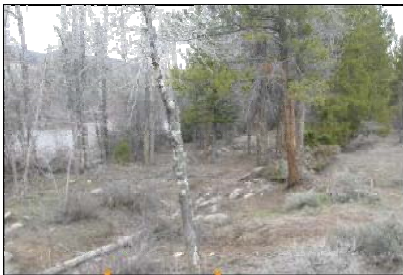
Components

- 10'-wide asphalt pathway from Mesa Drive to link to existing trail north of Town Hall (1700').
- Trail on deck along east bank to protect riparian area (175').
- Two clear-span pedestrian bridges over the river.
- Trail link through Town-owned property to Highway 9, providing access to west side neighborhoods and commercial areas. All improvements must be compatible with site's intended drainage functions..
- Trailhead access display at Town Hall.
- Riparian and trout fishery interpretive signage overlooking river at west bank trailhead.
- Safety and directional signs.
- Maintain fishing access along east bank.
- Trail on deck that splits around large tree.

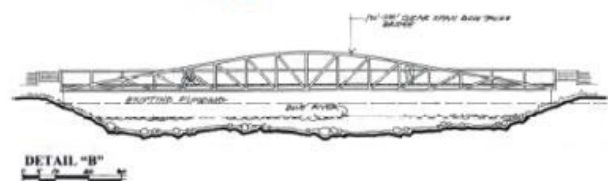
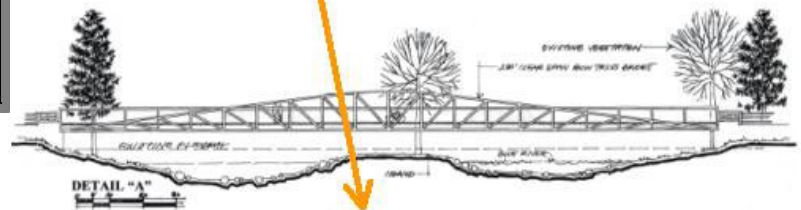


Concept for Split Trail Around Tree (East Bank)

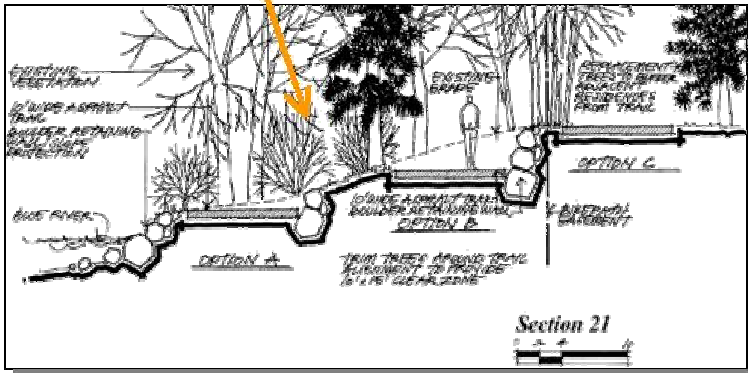
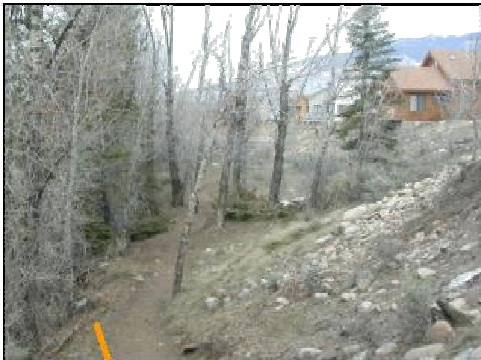
- Alternative trail routing, approximately 500' of trail on grade (with property owner permission). Note: alternative trail routings through this area include placing trail within the current access easement or benching the trail into the bank of the river. Both routes would require significant riparian vegetation removal with replacement vegetation planted between the new trail and the adjacent yards as well as replacement of riparian vegetation along the disturbed riverbank.
- Approximately 250' of trail benched into bank of river with retaining wall.
- Attractive security fencing where desired and appropriate.
- Private property signage as appropriate.



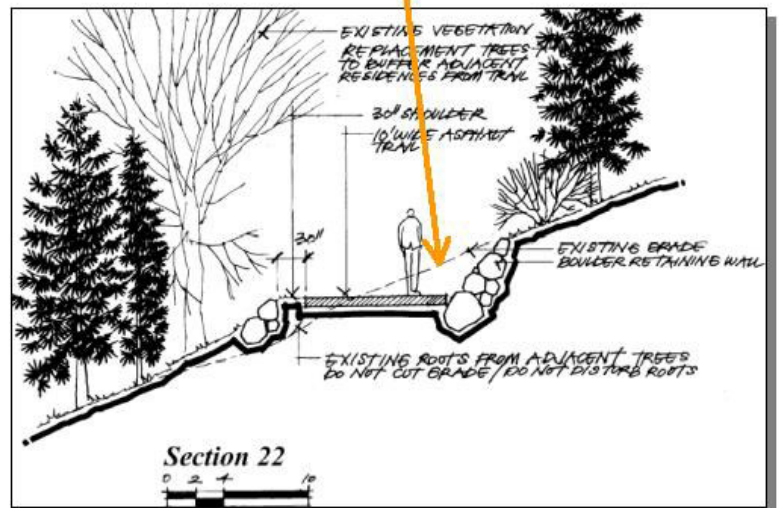
Concept For East Bank Riparian Zone Trail



Blue River Trail Span Concepts



Alternative East Bank Trail Concepts



East Bank Benched Trail With Retaining Wall Concept

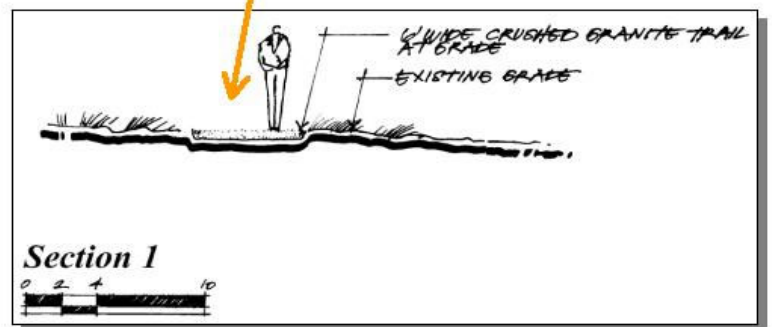
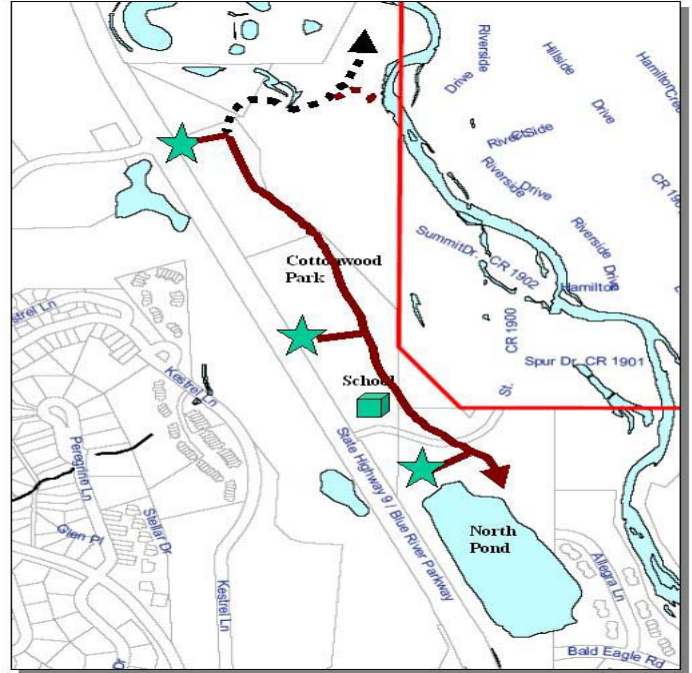
SEGMENT 5: COTTONWOOD PARK PRIMITIVE WALK

Overview

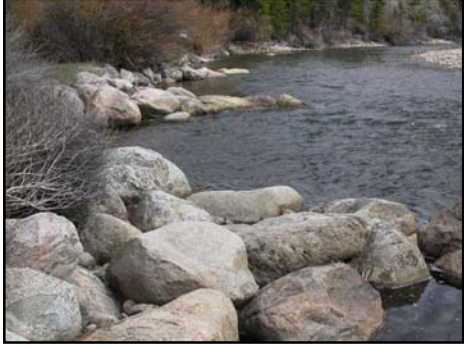
The 6'-wide crushed granite walking trail begins at the North Trailhead just south of the JSA facility and winds through the floodplain area accessing the riverbank and wooded areas to the east of the JSA facility. Open space and vegetative buffering are included to protect sensitive areas. This trail serves as an interpretive walking/jogging path and also provides boater and angler access to the Blue River. Bicycles, including mountain bikes, are prohibited on this trail. Wheelchairs and electric mobility devices for people with disabilities are permitted. In the future, the portion of this trail that extends to the north—along the river—will become a 10'-wide paved multi-use trail continuing northward into the County, and ultimately connecting to the proposed Maryland Creek trail and loop trail system that encircles Silverthorne.

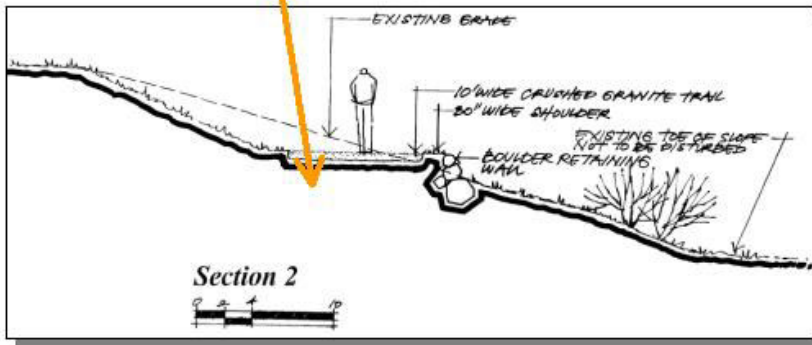
Components

- 6'-wide crushed granite pathway loop and spur trail through woods (1,900'). Trail on 10'-wide deck over wetland areas (200').
- Ramp with retaining wall accessing the lower meadow area.
- Picnic tables and benches.
- Informal boat landing (existing).
- Wet meadows and historic ruins interpretive displays.
- Trailhead access display sign with wayfinding and accessibility information.
- *Boater-Access* display sign at boat launch.
- Safety and directional signage.
- Walk-in boater and angler access from North Trailhead via primitive path to river near JSA.



Crusherfine Trail Segment





Ramp Accessing Primitive Trail Concept



IMPLEMENTATION

The following key steps are recommended to implement the trail plan:

1. Identify a project implementation team recruited from Town staff and The SPORT Committee and assign specific roles and responsibilities.
2. Build community consensus and adopt this plan.
3. Pursue the remaining rights-of-way and landowner agreements to assemble the complete trail corridor including the BRVE alternative corridor.
4. Pursue and refine applicable regulatory requirements, including the Riverfront Mixed Zone District ordinance, that are appropriate and supportive of the trail implementation effort.
5. Work with the Colorado Department of Transportation to address possible trail routing next to Hwy. 9 in the right-of-way.
6. Identify, map and flag all wetlands in the immediate vicinity of the proposed trail corridor and define any areas directly impacted.
7. Secure Colorado Division of Wildlife and U.S. Army Corps of Engineers approvals and secure any necessary permits under Section 404 of the U.S. Clean Water Act.
8. Establish a project budget and implementation schedule with annual goals and funding requirements.
9. Identify potential funding sources and pursue grants for trail engineering and construction.

RECOMMENDED PHASING

The phasing strategy is based on several rationales:

- Logical and usable trail segments.
- Feasible projects that are timely from a financial and right-of-way acquisition standpoint.
- Strategic projects that bring maximum benefit from limited resources.
- Projects that showcase the Blue River and the parks and promote the ultimate completion of the entire trail.

Pursuant to these rationales the following sequence of projects is recommended:
(see table on page 15 below)

PROJECT	EST. COST	RATIONALE	YEAR
Secure Trails Rights of Way	To be negotiated	Will take time to secure rights of way on east and west banks. May be able to work cooperatively with some owners as sites develop. Could have interim footpaths.	2004-08
Compliance Studies	To be negotiated	Includes site specific wetland delineation once trail route is finalized	2004
Construct Segment 1: Trail Only	\$ 258,000	Links parks and school and can be built in conjunction with parks. Minimal right-of-way and permitting requirements	2005-06
Construct Segments 2: Trail Only	297,102	Links neighborhoods to school and parks and to Hamilton Road.	2006-07
Construct Segment 5	305,292	Element of Cottonwood park. Can be built by volunteers or with in-kind crews, materials and equipment.	2006-07
Construct Bridge to West Side Lot	538,000	Provides link to west side, Rt. 9 Path and Commercial areas	2007
Construct Segment 3: Trail Only	1,571,000	Links to Mesa Drive and east side neighborhoods.	2008-09
Construct Segment 4 East: Trail Only	534,000	Completes trail corridor	2008-09
Construct Segment 4 West: Trail Only	612,391	Completes trail system, enhances west side	2009-10
Add Amenities	To be determined	As funds are available	2004-10

Table 1: Project Phasing Strategy