

St. Vrain Greenway Master Plan

East Corridor Update

City of Longmont

Longmont, Colorado

Parks and Recreation Division



Prepared by Design Workshop
July 2001

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Kayaker East of County Line Road

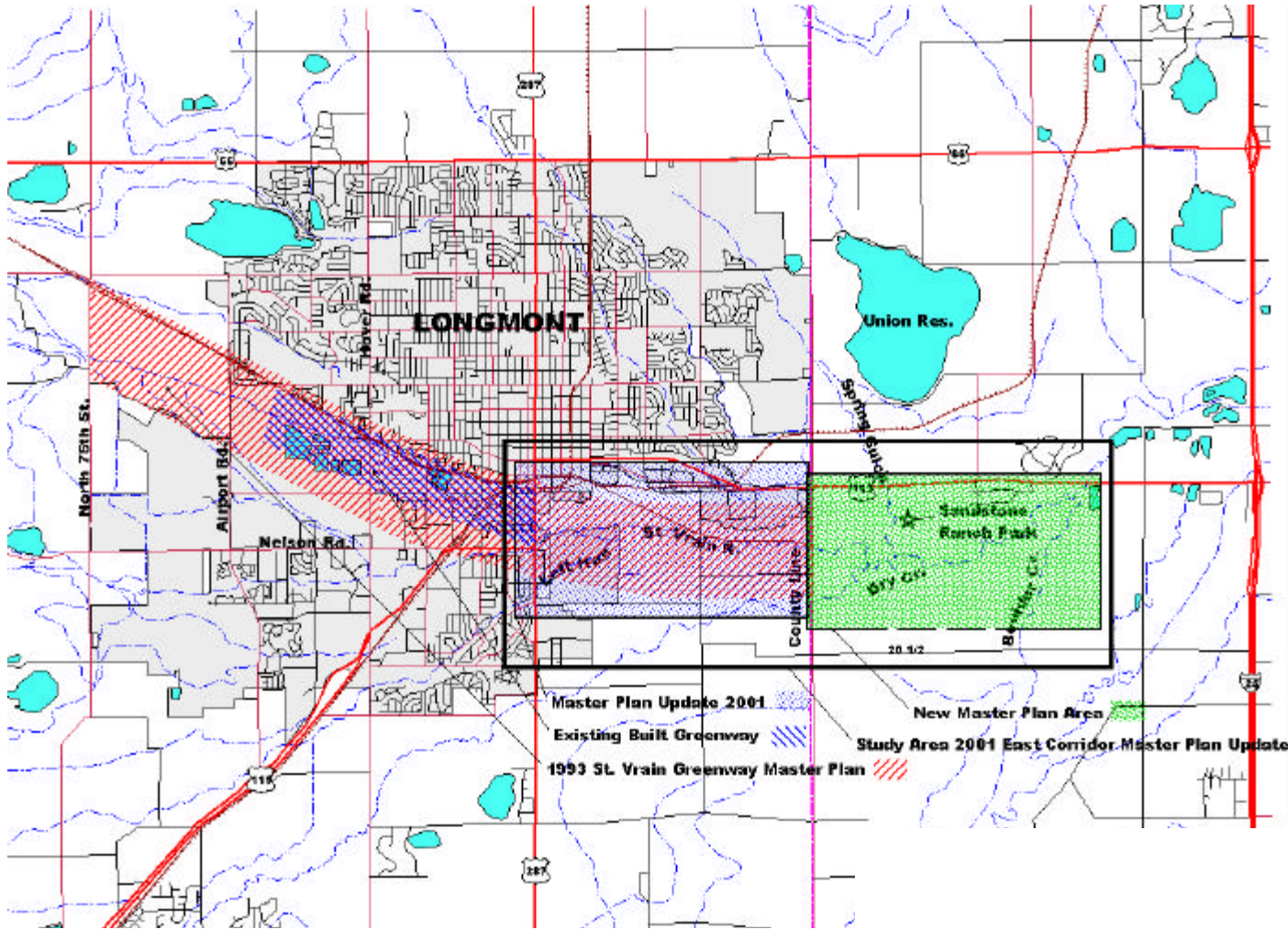
Introduction

The St. Vrain River has historically played a significant role in the lives of Longmont citizens. While the function the River plays within the community has continued to evolve, its importance remains undeniable. The Longmont Area Comprehensive Plan (LACP) designates the St. Vrain River Corridor as a District Park that is intended to serve residents of the entire City as well as areas outside the City. The Comprehensive Plan also states that the St. Vrain River Corridor District Park "Locate improvements within the Greenway to minimize negative impacts on wildlife habitat and quality vegetation." When the City included an Open Space component into the LACP, the St. Vrain River Corridor was identified as the primary focus of the City's open space network and given the highest priority. Recommendations in the City's Strategic Plan, Vision 2020, also include improving the St. Vrain River Corridor as a high priority.

Today, approximately three miles of the St. Vrain Greenway have been constructed and citizens continue to demand an even larger system of trails and recreation to accommodate a rapidly expanding community desire for these uses.

To assist the City in establishing the River Corridor as a unique civic feature, the original St. Vrain River Greenway Master Plan was adopted in 1993 to set clear goals, identify objectives, develop a Comprehensive Plan, and prioritize improvements for a coordinated plan of action for the River. The St. Vrain Greenway Master Plan - East Corridor Update was undertaken in the summer of 2000 to respond to changing circumstances on the east side of Longmont. The East Corridor Update process involved a very comprehensive public participation process. Goals and Objectives were revisited, a thorough inventory of natural and cultural features was conducted, and an innovative landscape analysis was undertaken to enlighten a diligent design process. Public comment was used to refine a preferred Vision Plan for the 4¾-mile Corridor east of Main Street and that vision, along with implementation and management strategies, is included in this report.

The study area of the St. Vrain Greenway Master Plan - East Corridor Update is a 4¾-mile Corridor from South Pratt Parkway east to the eastern edge of the City compost facility/closed landfill site. County Line Road represents the approximate halfway point for the update study area and reflects the point at which new concepts have been expressed. The area between Main Street and County Line was a part of the 1993 St. Vrain Greenway Master Plan, and the area east of



County Line Road, therefore, expresses new ideas. Areas of the original St. Vrain Greenway Master Plan (1993) west of South Pratt Parkway to North 75th St. were not discussed in this update. The 1993 Master Plan will still govern the portion of that study area west of South Pratt Parkway until a future update process occurs for that specific area.

Vision Statement:

The vision statement developed with the 1993 Master Plan remains unchanged: *The St. Vrain River Corridor will become the recreation and open space spine of Longmont. The Corridor's natural qualities will become the City's "Crown Jewel," and will be one of the major features for which the City is recognized by residents and visitors. The River Corridor will be transformed into a greenway by developing its recreation potential and by protecting and enhancing its natural qualities, while maintaining flood control and the conveyance of irrigation water.*

Left Hand diversion structure from west (upstream)

The development of the St. Vrain Greenway will enhance the community's quality of life through the creation of a continuous trail system to link to the City's residential neighborhoods, parks, commercial areas, and civic buildings, and through the development of passive recreation activities that take advantage of the Corridor's unique scenic and natural qualities without compromising the integrity of its natural character.

The Master Plan Update Process

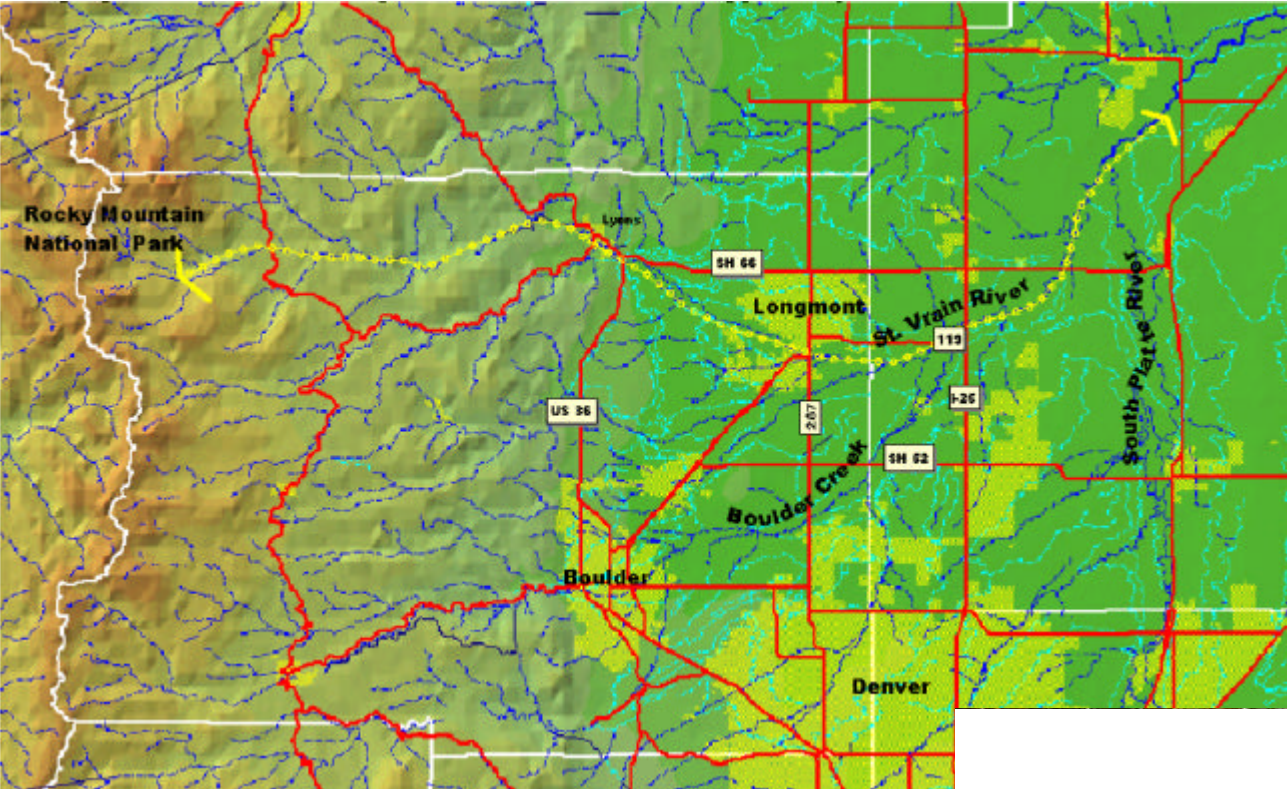
Both Boulder County and Weld County plans have expressed a strong desire to join with Longmont in the development of the St. Vrain as a regional system of trails and Corridor protection that links the mountains with the plains. The St. Vrain Greenway Master Plan - East Corridor Update seeks to demonstrate how the St. Vrain Corridor can serve the dual purpose of environmental protection and recreational opportunity.

INVENTORY AND ANALYSIS PROCESS

The first phase of work for the St. Vrain Greenway Master Plan - East Corridor Update consisted of a detailed inventory and analysis process. A Geographic Information System (GIS) database was used to collect the relevant natural and cultural features of the St. Vrain East Corridor. This inventory was used to analyze the Corridor for opportunities and constraints for access and recreational elements. The GIS database included new studies initiated by this planning process to identify wetlands, riparian vegetation and Preble's Meadow Jumping Mouse habitat. An environmental consulting firm that specializes in the delineation of these features conducted the inventory, mapped the resource limits and published their respective reports during the summer of 2000. Additional information was collected to help inform a comprehensive design process. Prints from this GIS database were published at the end of this phase of work under a separate cover entitled "Atlas of Natural and Cultural Features" and is included as Appendix A at the end of this document. Addition details about the Inventory and Analysis process is included in Section Four of this Master Plan document starting on page 54.

The Atlas includes the following Natural and Cultural Features:

- Solar Exposure
- Elevation
- Floodways
- Habitat Types
- Slopes
- Soils
- Wetlands
- Ownership



Historic Features Aerial Photograph

Regional Context –
Yellow dotted line denotes the regional desire for trail connections from Rocky Mountain National Park to the Platte River.

These GIS inventory maps were used to conduct an analysis process of the East Corridor. Public meeting exercises were used to identify the issues related to successful design of this Greenway system. These goals and issues were grouped into three general categories; 1) Economic Concerns, 2) Environmental Concerns and 3) Social Concerns. The Technical Advisory Team (TAT), along with the consultants, identified the elements that characterized each of those categories and a list of evaluation criteria emerged. For example, economic costs were characterized as avoiding steep areas and areas that require special permitting, etc. Other specifics of this analysis process are included in Section Four of this document.

The specific criteria identified during this analysis phase were used in conjunction with the GIS to isolate those features and combine them together on a series of analysis maps. A separate map was created to each general category: **Economic Feasibility, Environmental Capability, and Social Desirability.** The Economic Feasibility map includes siting features that impact the cost of trails

A view from the River on a Fall Float Trip

and recreational elements, while the Environmental Capability map depicts the natural resource values identified along the East Corridor. Social Desirability reflects destinations and connections along and adjacent to this Corridor.

These Analysis Maps were used first to influence the preliminary design concepts and again as the initial design concepts were synthesized into a draft plan. When design concepts conflicted with these Economic or Environmental sensitivity maps, the concepts were revised to minimize their impacts.

PUBLIC PROCESS

The St. Vrain Greenway is a public landscape and, as such, it was determined that public values should direct its design. An intensive public participation component was devised to ensure that citizens could express their concerns and objectives and witness the development of a Plan that was responsive to issues. The Master Plan Committee, composed of approx. 85 interested citizens and special interest groups, was formed to provide a public voice. A series of workshops with this Master Plan Committee were scheduled and critical design issues were refined directly from their input. The role of this Master Plan Committee includes the following planning directives:

- 1) Confirm Goals and Objectives for the Greenway Master Plan
- 2) Refine the Greenway Program of Potential Uses
- 3) Review and Comment on Greenway Plan Alternatives
- 4) Direction for the Synthesis of a Draft Master Plan

Public Input:

Public participation has been a primary focus for this planning effort. A range of committees and public outreach efforts have been used to collect as much public insight as possible. Listed below are some of the methods used for this update process:

- 1) The Master Plan Committee
- 2) Landowner Meetings
- 3) Web page project updates
- 4) Brochures / Newsletters
- 5) Newspaper Articles
- 6) Telephone Hotline and Voicemail Box
- 7) Comment Cards
- 8) Display boards in public areas



Master Plan Committee at work

Landowners:

Private landowners that live along the Corridor were active in this planning process. All owners were identified from landowner mapping prepared for this study, and invitations were sent prior to the Master Plan Committee public meetings. Landowner meetings happened individually with selected owners, as well as within group open house sessions held at Isaac Walton Clubhouse. The landowners were presented with an overview of the planning process, engaged in question and answer sessions involving community and personal concerns, and encouraged to participate in the ongoing planning process as a member of the Master Plan Committee.

Meeting dates for landowner open house during Phase One were October 17, 2000 and October 26, 2000.

A complete list of Sign-up Sheets and Meeting Minutes has been included in Supplemental Appendix One of this report.

A list of landowners or representatives follows:

Paul Hoffman, Dan Wolford & Rich Koopman, Boulder Co. Open Space; Shirli Hayes, Connie Davis, Aggregate Industries; Gary & Mhari Peschel, Temperature Processing; Lee Quaintance, Boulder Creek Estates; James Mauck, VFW; Earnest Peterson; Dave Knowlton; Don Sherwood; Jerry & Carol Bradford; Kim Knake & Sue Connelly; Vivian and Kirk Collins, Burlington Northern Railroad; Frank & Andrea Bigelow, George Pavlakis, CFP Estate LTD; Stephen & Margaret Strong, Stewart & Reggie Golden, Golden Farms; Donald Baker; Larry Ohmie; Tom Duffy; Richard Thomas; Richard & Carol Patnoe, Holmes Tire of Colorado; Jim and Ken Kanemoto, Royal Mobile Park

The Technical Advisory Team (TAT):

The Technical Advisory Team consists of inter-departmental staff involved in a review capacity since the project began. This team of local staff proved to be the most informed about local issues, desires and on-going projects. Their participation provided critical information early in this planning process and timely feedback as the plan emerged.

Meeting dates for the Technical Advisory Team during this planning process were:

August 24, 2000, October 31, 2000, November 13, 2000, January 18, 2001, and April 18, 2001.

Sign-up Sheets and Minutes from these meetings are included in Supplemental Appendix One of this report.

A list of TAT participants follows:

*Paula Fitzgerald, Parks Development, Project Manager
Steve Ransweiler, Parks Development, Assistant Project Manager
Phil DeVecchio, Community Development
Scott Snyder, Fire
Mary Murphy-Bessler, Longmont Downtown Development Authority
Gloria Cox, Longmont Power and Communications
Lauren Greenfield, Museum – Art in Public Places
Gene Kraning, Parks and Forestry
Don Bessler, Parks and Recreation
Brien Schumacher, Planning
Brad Schol, Planning
Froda Greenburg, Planning, Long Range
Craig Earhart, Police
Nick Wolfrum, Public Works
Barb Huner, Public Works
Mike Woodruff, Public Works Maintenance
David Hollingsworth, Public Works, Storm Drainage
Jeff Friesner, Recreation
Kevin Boden, Water Resources
Barb McGrane, Water Wastewater
Kevin Boden, Water Wastewater, Raw Water
Cal Youngberg, Water Wastewater, Water Quality
Don Osborn, Water Wastewater, Water Treatment*

Copies of the Brochure, Newspaper Articles and Newsletters are located in the Supplemental Appendix One.



Master Plan Update meeting



Attending Master Plan meeting

Goals and Objectives

As a result of public meeting exercises, nine goals were identified for the Greenway Master Plan and a list of objectives was developed for each goal. Based on the project goals and community needs, proposed activities including recreation, education and transportation opportunities were compiled and prioritized at the first public meeting.

1. *Preserve and enhance the natural character of the River Corridor*

- Preserve existing native plant communities
- Revegetate areas of poor vegetative quality
- Protect and improve fish and wildlife habitat
- Enhance landscaping
- Perform weed management
- Recognize and protect the wildlife corridor

2. *Maximize recreational opportunities*

- Provide a multiple-use trail system for activities such as walking, inline skating, jogging, bicycling, and equestrian
- Provide views and easy access to the water's edge where appropriate
- Integrate the Greenway into park and open space systems, and link it to a broad range of recreation uses
- Provide a safe and accessible system

3. *Use the River Corridor to link the Longmont neighborhoods and activity centers and to control access*

- Provide continuous trails separated from the street system
- Maximize neighborhood access to the Greenway
- Connect the Greenway trail system to other City and County trail systems to create a continuous interconnected network through the City
- Promote year-round use
- Connect to where people live and work
- Avoid sensitive areas in trail design

4. *Preserve and enhance the quality of the River and protect the visual Corridor*

- Remove solid waste and debris/clean up area
- Improve the water quality
- Increase the stream flows
- Improve the fish habitat

5. *Use the Greenway to attract appropriate adjacent uses for economic development*

- Promote riverfront development and commercial uses that are compatible with and enhance the River as a scenic and recreation source
- Provide activities on the Greenway to attract out-of-town visitors
- Recognition of alternative modes of transportation route
- Make strong connection to downtown Longmont

6. *Use the River Corridor as an educational tool*

- Highlight the unique characteristics of the Greenway and provide interpretive information associated with the River, such as natural systems, historical and agricultural, development that has been dependent on the River, and the significance of the River in the development and growth of Longmont.

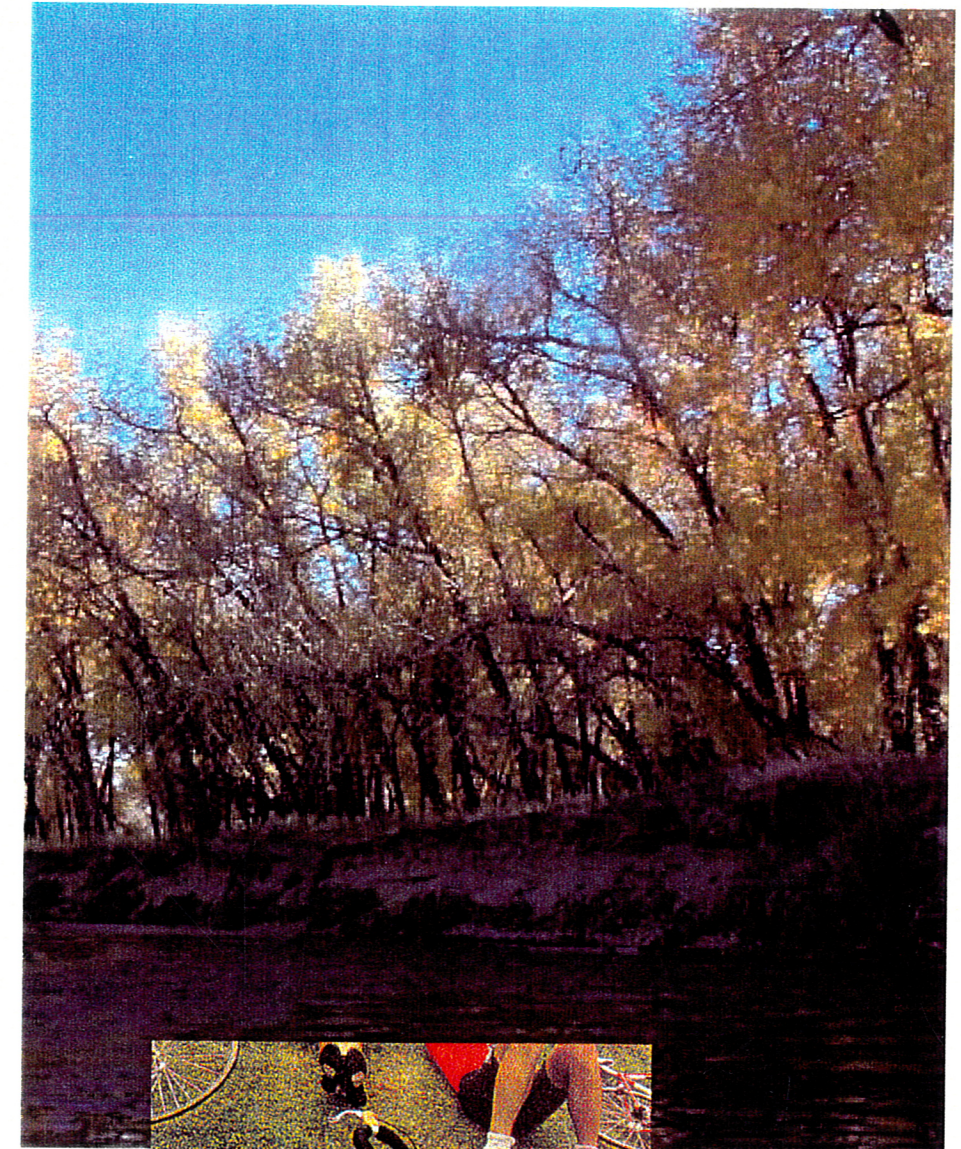
7. *Be sensitive to adjacent uses and landowners and provide appropriate buffering to mitigate impacts*

8. *Maintain the Greenway and provide programming to promote year-round local and regional uses*

- Continue funding an appropriate entity or agency to maintain and program activities for the Greenway
- Continue funding an entity that will have long term responsibility for the Greenway
- Use the Greenway as marketing for the quality of life of Longmont

9. *Highlight the River as Longmont's "Crown Jewel"*

- Improve the visibility of the River and recognize its importance at all crossings
- Use consistent design themes, public art that ties into the environmental character of the Greenway, and high-quality construction materials to build the Greenway
- Promote the improvement of the Greenway as a symbol of Longmont's commitment to provide a high quality of life



Steep banks near old landfill site



Cyclists take a break in the Park

Greenway Vision Plan

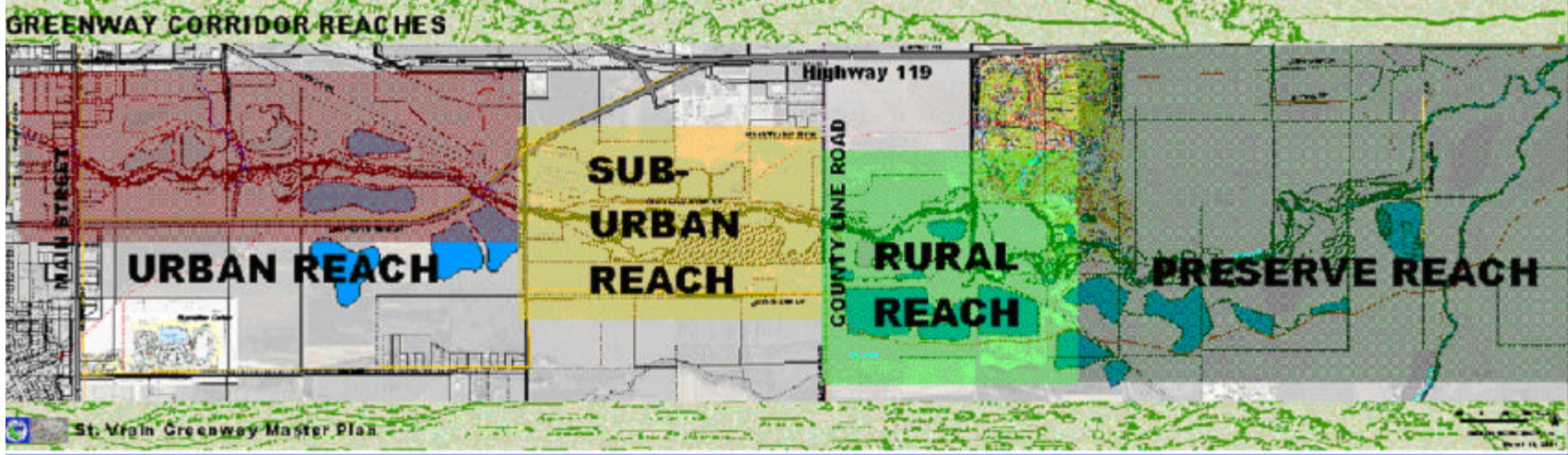
Greenway Corridor Reaches:

This East Corridor represents broad landscape diversity that transitions from a river through an Urban Context on the west end to a river bottom with significant environmental value on the east end of the Corridor. To design trails and recreational elements that harmonize with each of these landscape types we characterized the various segments of the River into a series of zones. Each zone was described as a 'Reach'. A Reach is a hydrologic term used by engineers to define portions of these river systems into smaller subsections with similar characteristics. This is the intent of our use of this term, to characterize the present status of the River and develop recreational concepts that magnify and protect these characteristics. The four different Reach Zones identified

for the East Corridor were: **1) Urban Reach, 2) Suburban Reach, 3) Rural Reach and 4) Preserve Reach.** These zones are illustrated on the following diagram of the East Corridor.

The organizational logic to structure recommended improvements along the East Corridor were these four Reaches. The following is a description of activities and improvements for each of the East Corridor Reaches and a set of criteria to be used in the implementation of these improvements. The Reach descriptions are not intended to reflect adjacent land uses along the Corridor, but identify the character of the River bottom itself.

Diagram showing the four Reaches



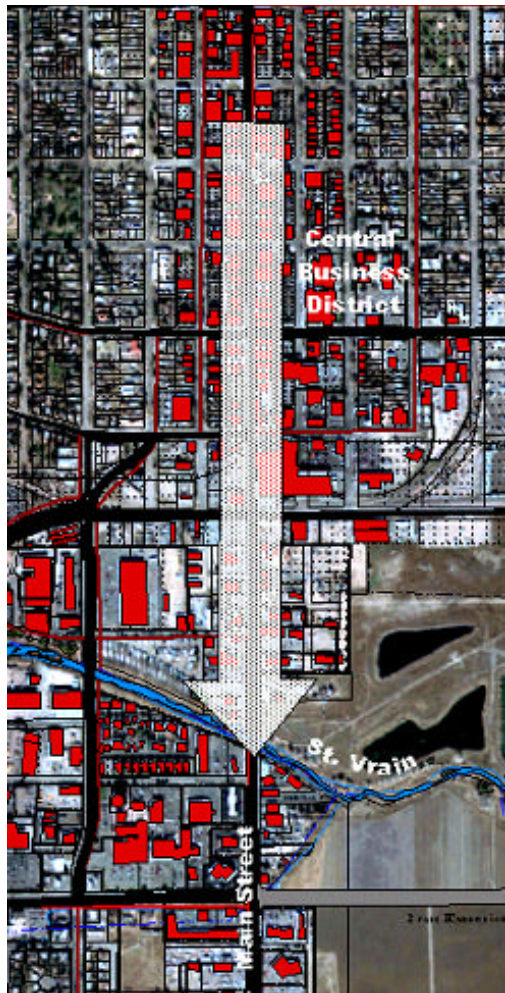
Willow lined St. Vrain River East of County Line Road, located in the Preserve Reach



Panorama looking east from Main Street bridge located within the Urban Reach

Urban Reach overview

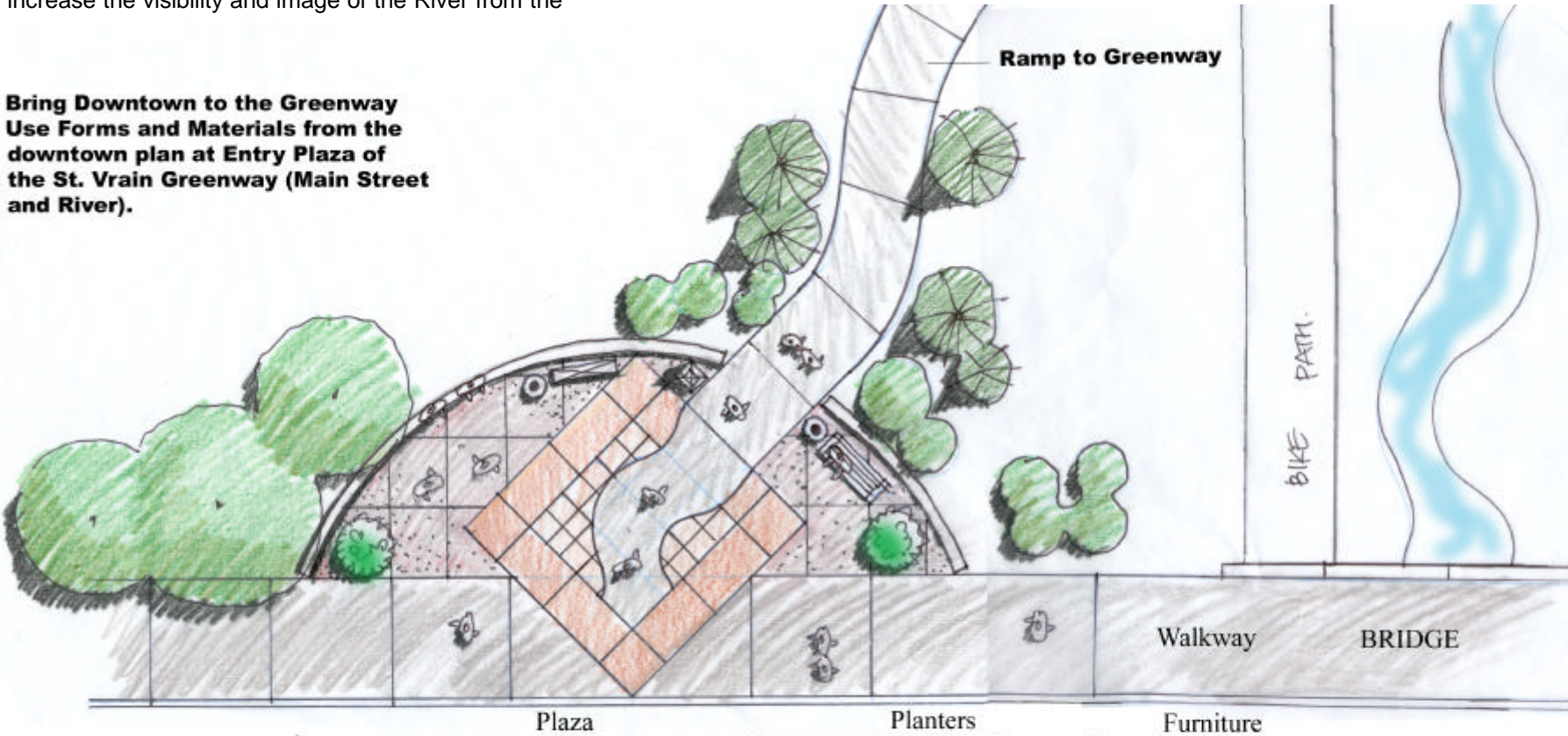
The Urban Reach extends from South Pratt Parkway east to 119th Street. This Reach is the most active segment of this Vision Plan, as it needs to respond to the very active context. The St. Vrain Greenway requires a very visible presence on Main Street, to announce to all auto traffic that this Greenway system is both attractive and worthy of further exploration. The recent Downtown Improvement Plan along the Main Street Business District echoed the desire to bring influences of the River up to the Business District and extend the Business District toward the St. Vrain. An expression of the Greenway needs to be recognizable at the sidewalk and street level of South Main to invite Main Street uses to interact with the Greenway system. A small plaza at street level will lead to ramp access to the Greenway level along the River.



Improvements should be developed to accommodate large numbers of users. Where possible, trails on both sides of the River channel will provide a loop system that adds interest and promotes use. Trails need to be designed to provide access to the River while still protecting wetland and habitat areas of high quality.

Riparian restoration is needed in the Urban Reach to negate the impact of 100 years of urban and industrial uses. Revegetation needs to provide plant cover to promote the movement of animals through the Corridor, screen some of the adjacent industrial development along the Greenway, and increase the visibility and image of the River from the

**Bring Downtown to the Greenway
Use Forms and Materials from the
downtown plan at Entry Plaza of
the St. Vrain Greenway (Main Street
and River).**



Main Street

intersecting streets.

Recent City acquisition of additional property west of the Longmont Water Treatment Facility can provide a needed green space and park. This Park can become the attractive element visible from Main Street. Commercial property on the south side of the St. Vrain should be encouraged to front onto the Greenway and provide activities that are complimentary to Greenway activities. Uses such as restaurants, bike rentals and art galleries would all be considered complimentary to Greenway activities.

This Reach has the most direct access to the River for water play, and a concept for a white water park for kayaks and tubes should be considered downstream from the Left Hand Creek confluence with the St. Vrain River.

Trailheads will be located in several areas in this Reach. On the west side of S. Main St., a cooperative agreement could be arranged with the Burlington Village Shopping Center south of the St. Vrain River on an "off-hour" parking easement. This parking opportunity may help increase commercial business use

from Greenway visitors. South of the River and east of Old Dry Creek, a proposed RTD Park-N-Ride is being designed as part of the Ken Pratt Boulevard project. Some of this parking area could be devoted to Greenway use with a spur trail and bridge accessing the Greenway trail system.

Martin Street will ultimately cross the St. Vrain River just west of the wastewater treatment plant. A trailhead off future Martin St., into the City-acquired parkland, is ideal. It is here that a new urban park tentatively called Dickens Park has been located.

Finally, connection to the Greenway from the new Recreation Center and Museum/Cultural Center at Quail Campus along Left Hand Creek will be added. The parking at the Quail Campus can be considered a remote trailhead.



Suburban Reach overview

The Suburban Reach extends from 119th Street to Weld County Road 1 (County Line Road). While still active, it will have less activity as the Corridor moves out of the urbanized area. This Reach should provide for a combination of passive recreation and some limited activities such as trails, picnicking, and River access that are carefully located to maintain the existing habitat. Through trails need to be separated from existing habitat areas. A planted shrub buffer between the through trail and existing riparian edge should be developed. Park trails and discovery paths that provide access to the water should be developed in limited areas where riparian vegetation does not currently exist to provide for adventure, exploration, and education opportunities. Trails need to be located to avoid impacting riverbank stability and the wildlife habitat. Revegetation plans should maintain and develop continuous cover to permit the movement of wildlife through the River Corridor and to increase the diversity of food supply and nesting.

A trailhead is proposed for the Greenway around 119th Street to provide a trailhead and picnicking near the River. Another trailhead is proposed a mile to the east where the St. Vrain meets County Line Road. This site, part of which is Boulder County- owned land, also includes the significant interpretive opportunity of an existing prairie dog colony. This Reach has high restoration potential and will require a detailed restoration plan to reconstruct a depleted riparian zone. Existing and proposed residential areas both north and south of the Greenway Corridor need to be linked to the Greenway through a series of controlled access points. The through trail would be constructed primarily on a section of railroad bed being purchased by the City in conjunction with the Ken Pratt Boulevard project. Although limited in width, this reach of trail will be elevated on the railroad bed outside of sensitive wetland and habitat areas.



Rural Reach overview

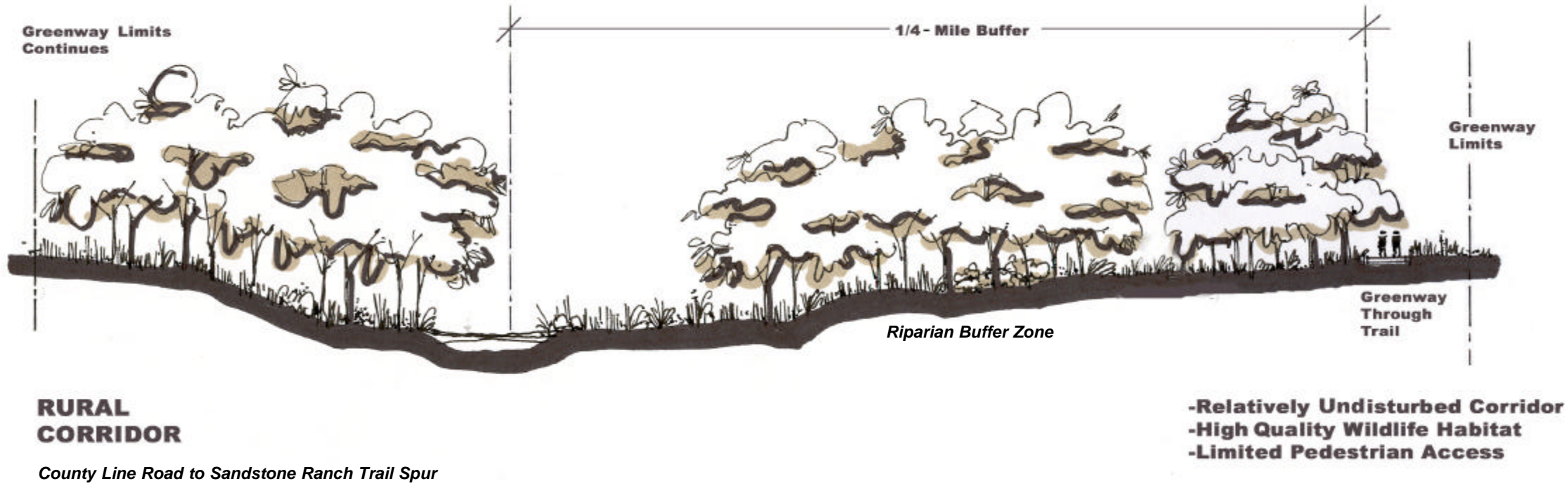
The Rural Reach represents a transition zone between a rapidly developing Suburban Reach and an environmentally rich Preserve Reach. This Reach extends from County Line Road WCR1 to the Sandstone Ranch District Park spur trail. Significant landform begins to build on the north side of the River in this Rural Reach, while the south side is scheduled for significant modifications due to gravel mining activity. The value of the existing riparian corridor is significant within this Rural Reach also and it is recommended that the Greenway through trail be kept as far away from the River as possible, by as much as ¼-mile. Future residential uses in the area should not be allowed to occur between the Rural through trail and the St. Vrain River. The through trail should act as the viaduct channeling Greenway visitors along the Corridor, discouraging social trail development into Riparian Buffer Zone. The south side of the River has abundant restoration potential that can be utilized as part of adjacent mining reclamation plans. Coordination between City Staff and mining entities will be needed to ensure that this restoration potential is fully realized. Longmont Open Space purchases may be needed to secure the ¼-mile buffer zone recommended between the River and the trail on the south

side of the St. Vrain. Local discovery trails may be appropriate near the Rural Through Trail, but access to the River is not recommended. This Reach has great opportunities for educational interpretation for both restoration and reclamation topics.

The trailhead serving this Reach is provided at Sandstone Ranch as part of the District Park improvements. A bridge connection to Sandstone Ranch will be provided to access this important City park. Additional trail connections to future residential development south of the Corridor can be planned in conjunction with those land use approvals.

The Rural Reach includes a concept for the Commuter Trail. The Commuter Trail is a bypass route to Sandstone Ranch Community & District Parks. This trail originates at Mill Meadow just west of the intersection of County Line Road and the St. Vrain Greenway. The Commuter Trail diagonals to the North East from the Mill Meadow picnic area to an intersection with Great Western Drive. This route becomes part of the Great Western Drive sidewalk system and crosses County Line Road at the intersection of these two streets. Walkways will need to

be constructed on both sides of Great Western Drive to avoid traffic/pedestrian conflicts. Signalization may be required for pedestrians to cross safely at this at-grade crossing. The nature of the trail changes from a Standard Greenway trail to a roadway offset trail along Great Western Drive. Municipal improvements call for the eventual developer to include a 5' walkway along Great Western Drive. During the approval of development plans adjacent to this designated Commuter Route, an eight-foot walkway detached from the curb should be negotiated. The Commuter Trail provides a shortcut to Sandstone Ranch, and would remove considerable bike and pedestrian traffic from the Rural Through Trail and improve safety concerns with bicyclists on Hwy. 119. This Commuter Trail will also provide a connection to the proposed Spring Gulch Primary Greenway that will link the St. Vrain Greenway to Union Reservoir. A grade-separated underpass will be provided under Highway 119, where Spring Gulch passes below this state highway. This commuter trail would allow for seasonal closures to the Rural Through Trail and the Preserve Through Trail if that was deemed necessary due to wildlife sensitivity.



Preserve Reach overview

The Preserve Reach spans from Sandstone Ranch spur trail to the east project limits. While this study recognized that this area is within the Weld County Mixed-Use Development (MUD) Zone and will develop in the future, it is also abundantly rich in natural resources. The Preserve concept suggests the intent is to buffer to the extent needed to protect its existing natural character in a changing landscape. The Preserve Reach is characterized as a sensitive and valuable environmental resource. The trail corridor in the Preserve Reach is recommended to stay 1/4-mile away from the St. Vrain River. Future reclamation to active and proposed mining operations provide an opportunity to reconstruct a useful habitat zone and an aesthetic Greenway environment a greater distance from the River.

In these areas, passive recreation such as bird watching,

photography, or the quiet observation of the area's natural character should be promoted. Walking, jogging, and bicycling on the through trail needs to be separated from the sensitive vegetation and wildlife habitat. Shrub and tree planting should be used as a buffer between the trail and existing vegetated edge. Active recreation or activities that promote the congregation of people should be discouraged. Secondary park trails are inappropriate through these areas. Discovery paths, carefully located to avoid sensitive habitat, can be developed for educational walks and limited exploration of the unique natural habitat. Social trail development should be strongly discouraged.

One trailhead is provided in this Reach, but does not have direct access to the through trail. The trailhead is to serve a River overlook at the top of the closed landfill site. It also serves the "commuter trail" route that parallels Hwy. 119 through Vista Business Park.



Common Greenway Elements

- Bridges
- Benches
- Trash Receptacles
- Picnic Shelters and Tables
- Underpass
- Temporary Irrigation
- Grass Planting Mix
- Restoration Plant Materials
- Trail Types
- Recommended Materials
- Signage Hierarchy
- Road Access Ramps

This Master Plan update reflects the use of the same bridges and site furnishings east of Main Street as has been utilized on the built segments of the St. Vrain Greenway.

Pedestrian Bridges:

The following photograph is an existing pedestrian bridge near Rogers Grove. The length of each bridge span will be determined during the Design Development phase and their location is generally indicated on the individual Reach Design.



Pedestrian Bridge - the free span, Cor-ten steel bridge with wood decking is available from a variety of manufacturers including Continental and Steadfast.

Bench:

This photograph (right) is an existing bench near Isaac Walton Clubhouse. The general location of each bench is indicated on the individual Reach Design Element Plans.



Bench - this 6' vinyl coated expanded metal bench is manufactured by Webcoat. Blue (Royal) will be the unifying color of benches with back supports. Benches will be generally located on a quarter-mile spacing west of County Line Road, and half-mile spacing east of County Line Road.

Trash Receptacles:

This existing trash receptacle is near the Sunset Street Underpass. The general location of each trash receptacle is indicated on the individual Reach Design Element Plans. Trash receptacles will be placed at trailheads, next to benches and picnic tables, at bridges, and other areas as needed. This 32-gallon, vinyl-coated, expanded metal trash receptacle with dome top is manufactured by Webcoat.

Picnic Shelters and Tables:

The location of each shelter indicated on the individual Reach Concept Plans and will vary in form and function. Individual parks developed along the Greenway may utilize differing shelter designs depending on function; however, shelters installed along the through trail would be a simple square steel structure with standing seam metal roof. Royal blue and grey colors should be the standard Greenway color. Polygon Square Steel Structures is one manufacturer.



Shelter with typical picnic tables



Picnic Table

Common Greenway Elements

Underpass:

The location for each underpass is located on the Design Elements Plan for the four reaches defined in this section. The utility requirements for each underpass includes a lighting requirement. These would be fixtures with limited lens face exposed, lexan lens and other vandal-resistant features. The fixtures will be located above the path or at the corner of abutment wall with bridge deck (ceiling). A high water gate to control use during flooding is located on each side of the underpass.



Underpass



High water gate

Temporary Irrigation Requirements:

All disturbed areas adjacent to constructed trail alignments built will need to be sprinkler irrigated until vegetation establishment has been achieved. The seed mixture needs to include hardy native grasses that will thrive without irrigation after two or three growing seasons.



Grass Planting Mixture:

Native seed and plant species that can be self-sufficient after establishment watering will need to be specified. Some variation due to site-specific soils and existing materials will occur. The following is a generalized list of recommended plant materials:

Restoration Plant Materials for Revegetation efforts:

This list includes more than just riparian species. The Restoration Potential Plans (to follow), for each of the four reaches, indicates where riparian restoration efforts would be most successful.

Recommended plant materials for the St. Vrain Greenway:

Emergent plantings (inundated):

- water sedge - Carex aquatilis
- softstem bulrush - Scirpus lacustris
- alkali bulrush - Scirpus maritimus

Emergent plantings (seasonally flooded):

- Nebraska sedge - Carex nebraskensis
- Baltic rush - Juncus balticus
- three square bulrush - Scirpus americana
- Torrey's rush - Juncus torreyi
- hairy sedge - Carex lanuginosa
- prairie cordgrass - Spartina pectinata

Wetland seeding mix (meadow - high water table or seasonally flooded):

- manna grass - Glyceria grandis
- alkali sacaton - Sporobolus airoides
- foxtail barley - Hordeum jubatum
- western wheatgrass - Agropyron (or Pascopyron) smithii

Mesic seeding mix (moist or occasionally flooded):

- western wheatgrass - Agropyron (or Pascopyron) smithii
- alkali sacaton - Sporobolus airoides
- switch grass - Panicum virgatum
- Indian grass - Sorgastrum nutans
- Canada wild rye - Elymus canadensis

Riparian trees:

- plains cottonwood - Populus deltoides
- peach-leaf willow - Salix amygdaloides
- lance leaf cottonwood - Populus acuminata



Cottonwood tree in fall

Common Greenway Elements

Riparian shrubs:

- wild plum - Prunus americana
- chokecherry - Prunus (or Padus) virginiana
- wild rose - Rosa woodsii
- sandbar or coyote willow

Upland trees:

Non-native (such as green ash), cottonwoods, willow, hackberry, burr oak, and hawthorne to be used where screening is important and irrigation can be provided.

Upland shrubs:

- rabbitbrush - Chrysothamnus nauseosus
- three-leaf sumac - Rhus trilobata
- winterfat - Ceratoides lanata
- mountain mahogany
- potentilla

Upland prairie seed mix:

- western wheatgrass
- slender wheatgrass - Elymus trachycaulus
- sideoats grama - Bouteloua curtipendula
- blue grama - Bouteloua gracilis
- little bluestem - Schizachyrium scoparium

Wildflower additions to prairie seed mix (optional):

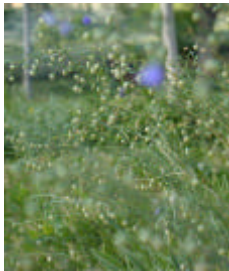
- prairie coneflower - Ratibida columnifera
- blanket flower - Gaillardia aristata
- wild blue flax - Linum (or Adenolinum) lewisii



Prairie Coneflower



Sandbar Willow



Wild Blue Flax

Notes:

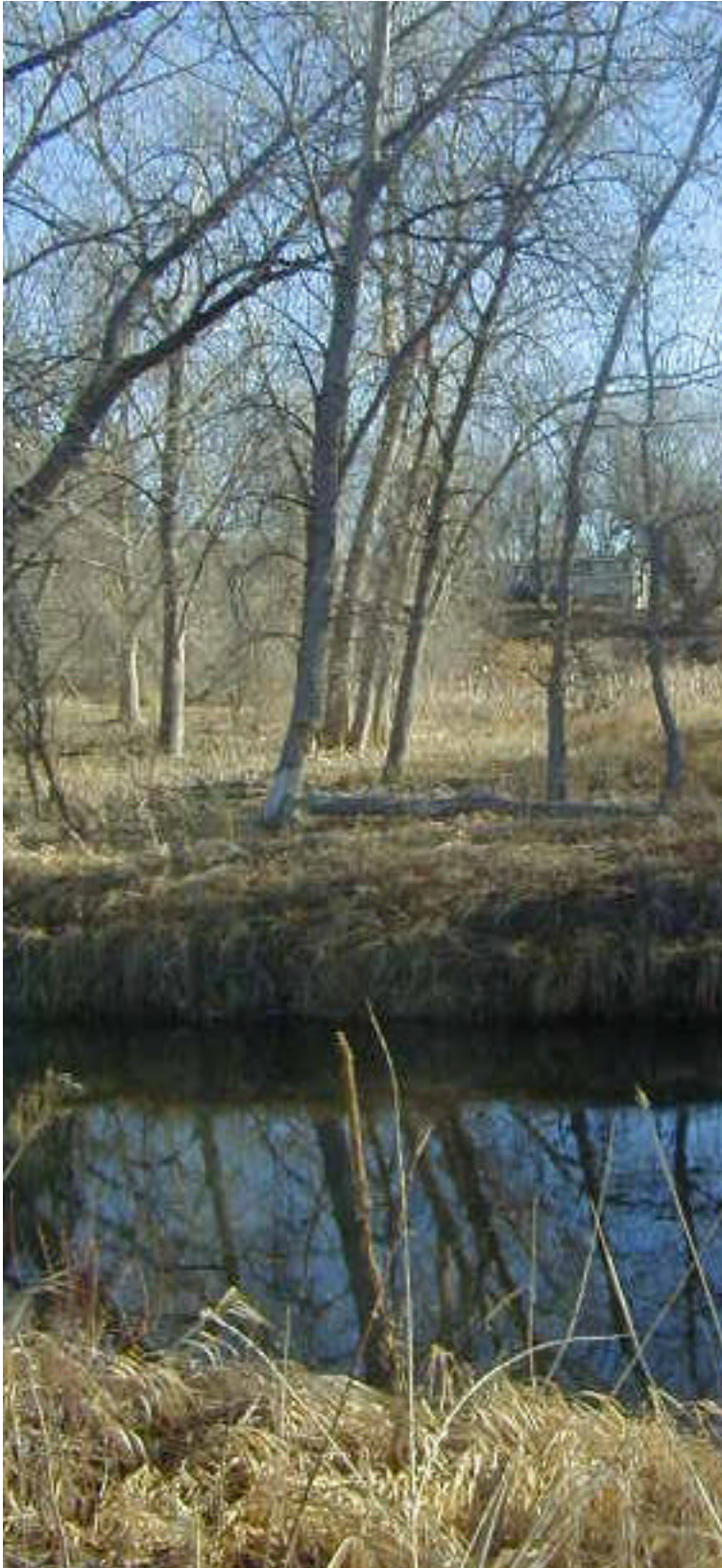
Emergent plantings are more likely to succeed in backwater areas or edges of ponds than on the banks of the stream where they will be subject to scour from heavy spring flows. Cattails will aggressively invade all suitable habitat whether planted or not.

The most successful wetland plantings are likely to be the sandbar willow, which can be planted in bundles of 5 to 10 cuttings, on six- to eight-foot centers, creating a naturalized clumpy effect. Wetland grasses could then be seeded in the gaps between the clumps. Cottonwoods can be planted as poles or containerized stock.

The shrubs and trees listed, although adapted to this climate, would require supplemental water until established (except for willow and cottonwood poles planted deep enough to reach the water table).

Weed Management:

Many areas along the East Corridor have been disturbed from the historic uses in the area. These areas are vulnerable to invasive weed species. Each vegetative restoration project developed along this Corridor needs to include a detailed list of desired and undesired plant species. Both noxious weeds and species that are not representative of the desired plant community need to be controlled. A Best Management Practice (BMP) should be developed in conjunction with each restoration project. Plants known to be problematic along this Corridor presently include: Russian Olive, Siberian Elm, Tamerax, Spotted Knap Weed, Barberry, Leafy Spurge, Canadian Thistle, and Russian Thistle. A complete list of noxious weeds is available from State and County extension agencies.



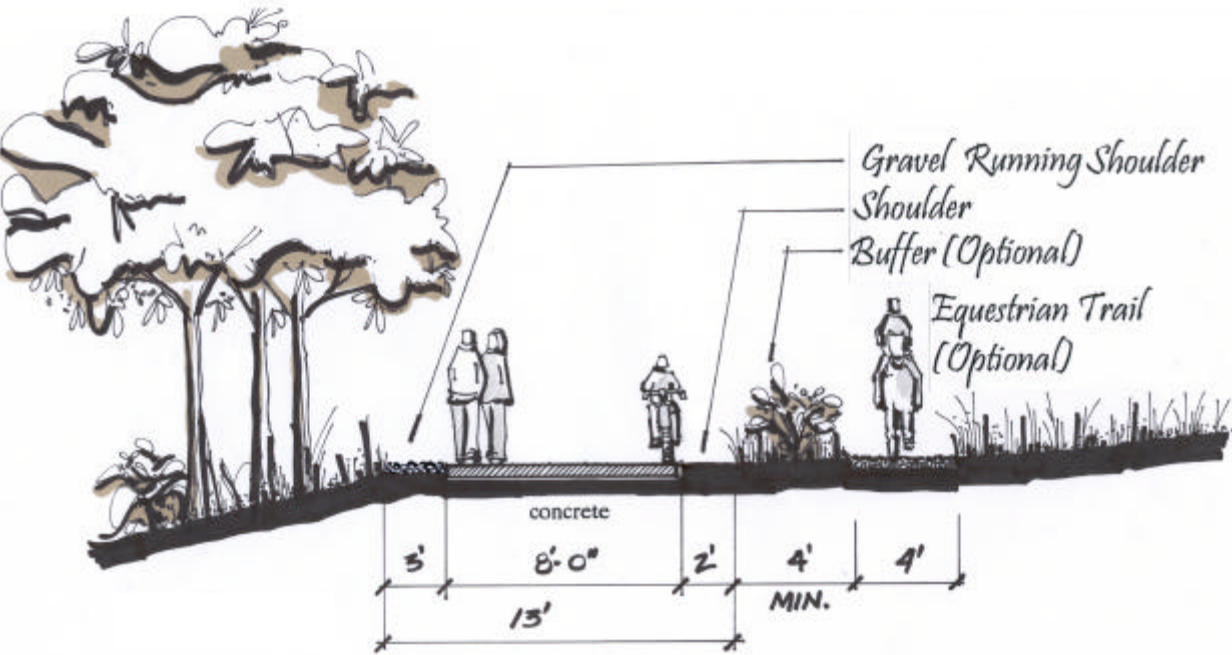
View to Collins property from south of the River.

Common Greenway Elements

Trail Types:

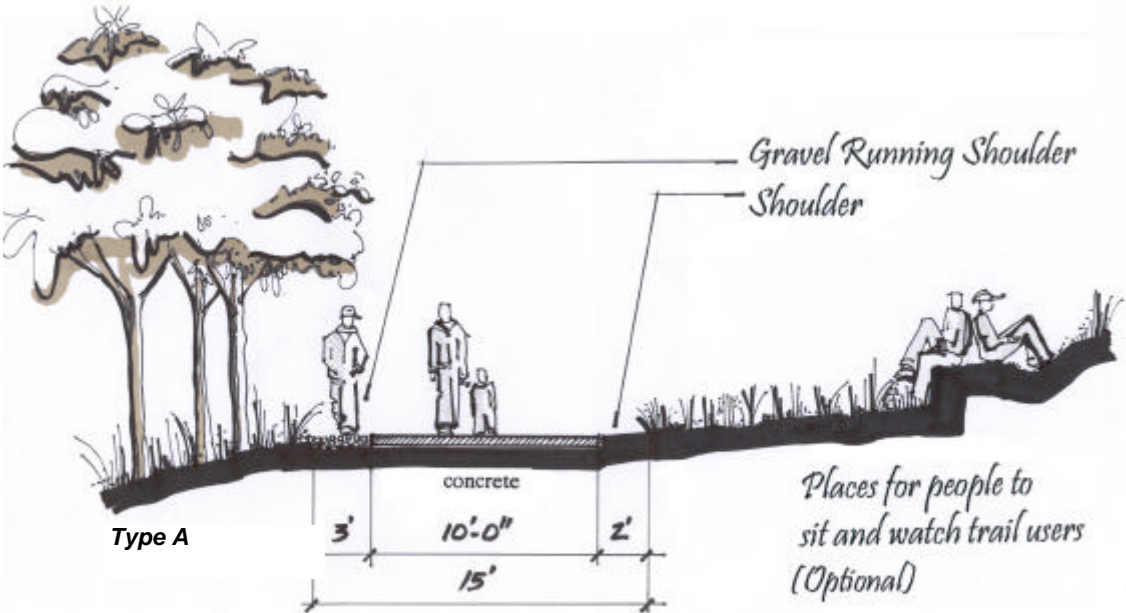
The Trails Plans for each of the four Reaches summarizes where each trail type should be used. The following sections depict the range of trail types recommended for this Master Plan update. Concrete paths are 6" thick to accommodate maintenance and emergency vehicle use.

Greenway Through trails are Types A, B, and C, while other secondary Corridor trails are defined as Type 1, 2, and 3.



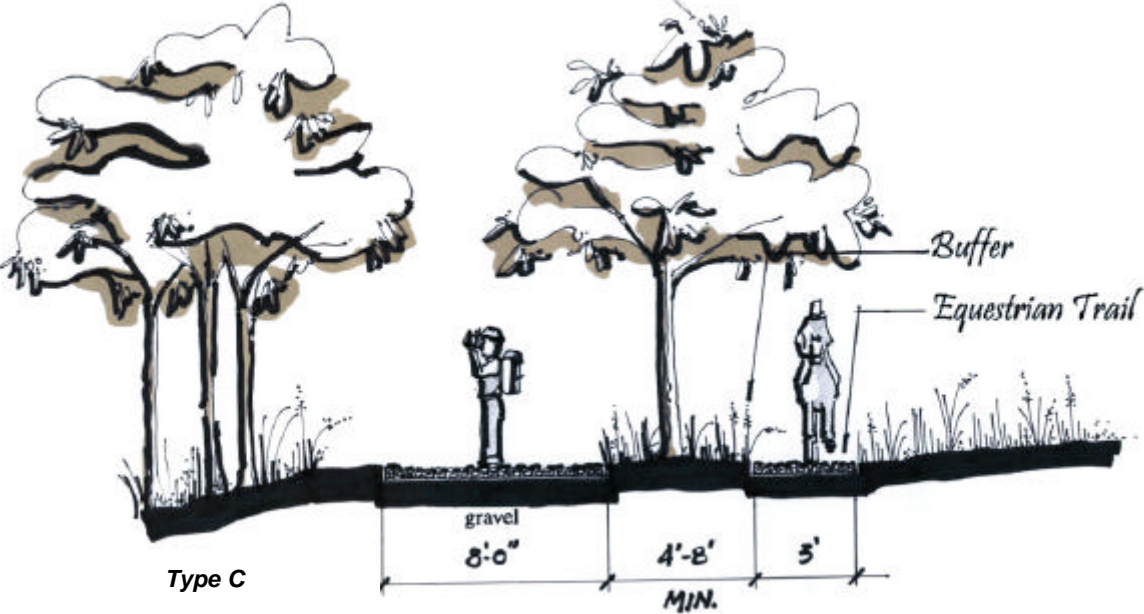
Type B – Rural Through Trail

The Rural Through Trail is part of the continuous Greenway trail that connects County Line Road with the Sandstone Ranch Park spur trail south of the St. Vrain River. This trail is eight-foot-wide concrete, 6" thick, with a three-foot crusher fines running trail and a four-foot dirt bridle trail. A minimum buffer zone between the equestrian uses and other pedestrian users needs to be established to minimize conflict.



Type A – Urban and Suburban Through Trail

The Urban and Suburban Through Trail consists of a 10-foot-wide, 6" thick concrete trail. A three-foot jogging trail, composed of crusher fines, is located adjacent to the concrete trail. This trail is used as the primary through trail from South Pratt Parkway to County Line Road. The most active section of this trail corridor will be around Main Street and through the proposed Dickens Park Area. Places for users to sit, such as retaining walls and banks should be designed to promote people- watching and views to the River along these areas.

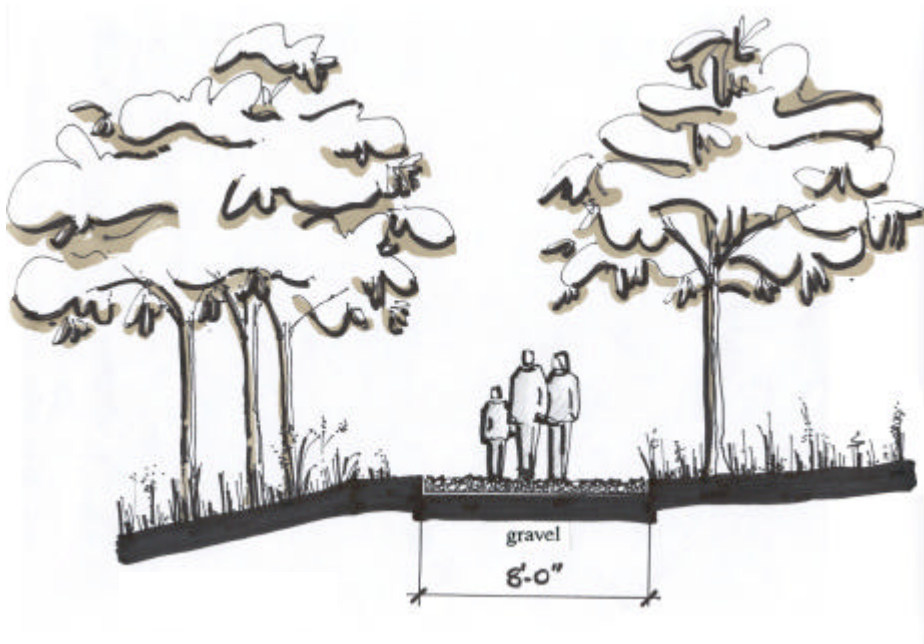


Type C – Preserve Through Trail

The Preserve Through Trail is part of the continuous Greenway trail and connects the Sandstone Ranch spur trail to the east project limits. This trail consists of an eight-foot-wide crusher fine trail, with a detached three-foot dirt bridle trail. A buffer needs to separate the two trails and a minimum of four- to eight-foot is recommended.

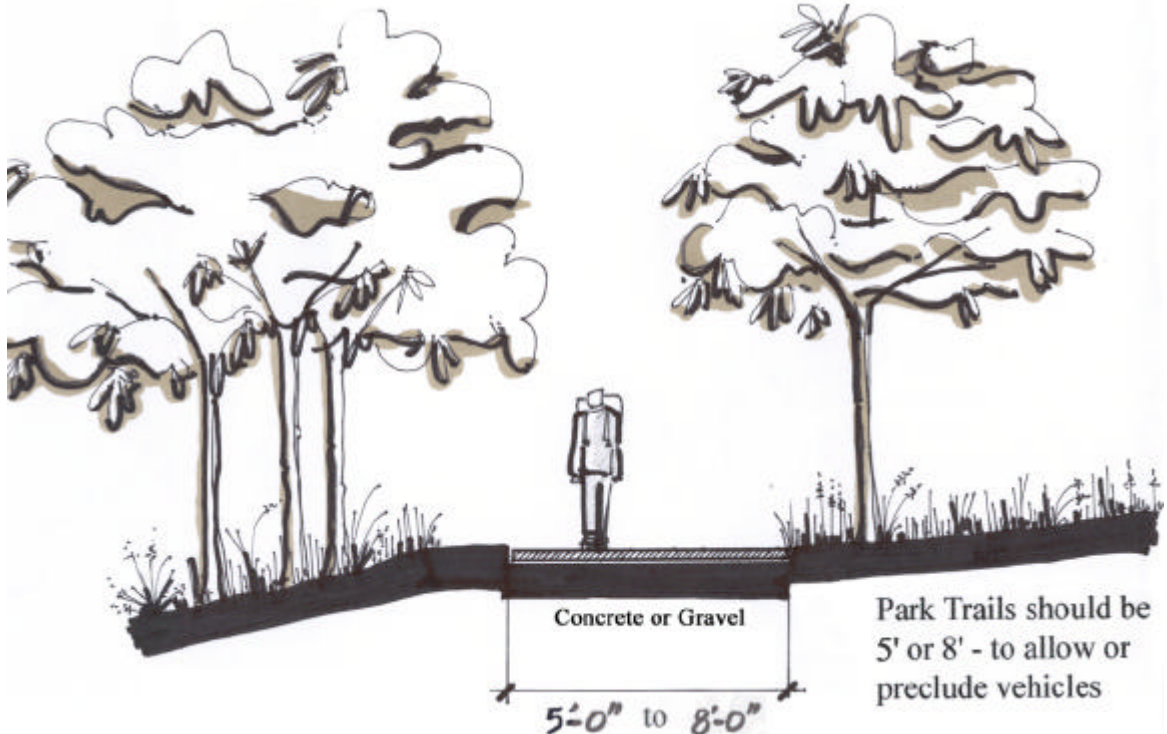
Common Greenway Elements

Trail Types:



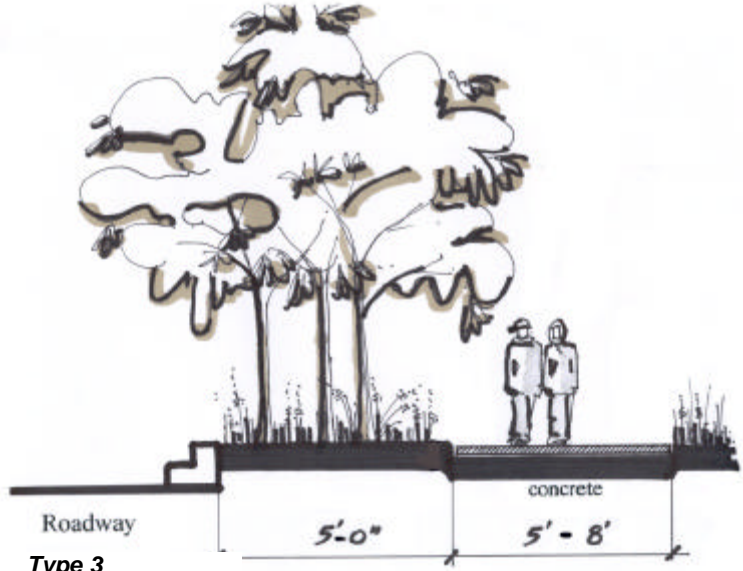
Type 1 – Urban Secondary Trail

The Urban Secondary Trail is on the opposite side of the St. Vrain River from the Greenway Through Trail. The intent is to provide local circulation and encourage adjacent private owners to front activities onto the Greenway. This trail is composed of eight-foot of crusher fines. Through negotiations with staff and adjacent landowners, if warranted, the trail could be upgraded to concrete, when consistent with Corridor objectives.



Type 2 – Standard Greenway

The Standard Greenway Trail has been used to make secondary connections throughout the east Corridor. Park trails and spur trails use this trail type and therefore flexibility in size and materials is required. This trail cross section can be five-foot to eight-foot in width and either concrete or crusher fines as conditions warrant. High use areas should use concrete to more effectively absorb impacts. All Primary Greenways, such as Left Hand Creek and Spring Gulch, are 8' wide concrete trails.



Type 3 – Bypass Connector Trail

The Bypass Connector Trail is the trail used adjacent to roadways. This trail is the primary trail that makes up the Commuter Route from Mill Meadow to the eastern project limits, north of the St. Vrain River, and connects Sandstone Ranch Community and District Parks. Much of the roadway frontage is private lands, thus the development of this route needs to be coordinated with land use approvals. A detached concrete trail that is eight-foot wide is desired along Great Western Drive and Skyway Drive.

Common Greenway Elements

Recommended Materials:

Continuity of Greenway materials with built sections west of S. Pratt Parkway is needed in this East Corridor update.

Sandstone: A feature material to be used at special locations for retaining walls (drystack), sign monuments, and for accent to provide a high-quality image. Sandstone is locally available from Lyons, relates to the existing sundial at South Pratt Parkway, and is a durable material that under normal conditions will require minimum maintenance. High initial costs may limit the extent to which sandstone can be used.

Painted Steel: Round or square steel tubing for post and beam construction and standing seam or corrugated steel roofs is the primary material for furniture and structures. Steel is affordable, durable, and can be painted to develop a uniform image.

Concrete: Cast-in-place concrete is flexible, durable, and cost-effective for flatwork and bridge abutments. The finish can be treated to provide a variety of textures and colors.

Structures

Restrooms: split or ground faced concrete masonry with standing seam metal roof to match picnic shelters. Unisex or separate men's/women's as needed for use projections. Vandal-resistant fixtures and architecture.

Barriers

Fences: wood posts with wire (steel) mesh panels and tension cables. Standard smooth wire fencing can be used in the Rural and Preserve sections of the Corridor.

Street Bridges: Steel posts and mesh panels as bridge railing on street bridges.



Bollards: removable or permanent steel, 3 1/2" Inside Diameter Schedule 40 powder coated with reflector tape

Vehicle Barrier: Andesite or sandstone boulders spaced to limit vehicular traffic.

Flood Gates: Pipe steel swing gate with posts to lock in open or shut positions. Reflector tape and closure signage.

Public Art

The City of Longmont's Art in Public Places (AIPP) program provides for art as part of certain capital improvement projects.

The construction of the St. Vrain River Greenway presents a unique opportunity for the development of art as an integral part of a public improvement. A goal of the AIPP program is to develop art as an integral part of the overall project or a specific element of a project. The random placement of art "objects" in a project or "plop art" is undesirable and should be avoided.

The following process should be used to help assure AIPP is integrated into the St. Vrain River Greenway.

- Request an AIPP sub-committee to make recommendations for features or locations in the Greenway that are appropriate for public art.
- AIPP selection panel to include a Park Development staff representative as non-voting or voting member.
- Recommendations should be site specific and integrate Greenway materials where possible. Interpretive subjects relative to natural environment are encouraged.
- Notify the AIPP committee before starting the design process of each phase of improvements. The AIPP committee, with the assistance of the appropriate City staff and primary design consultant, should select an artist as part of the design team.
- Include the art, when possible, in the construction of the Greenway.



Details of Nature by Robert Tully - located west of Sunset St. on the existing Greenway trail.

Common Greenway Elements: Signage

Signage should provide identification through the use of materials and consistent application of material forms and logotype along the Greenway. The East Corridor signage should be consistent with existing Greenway.

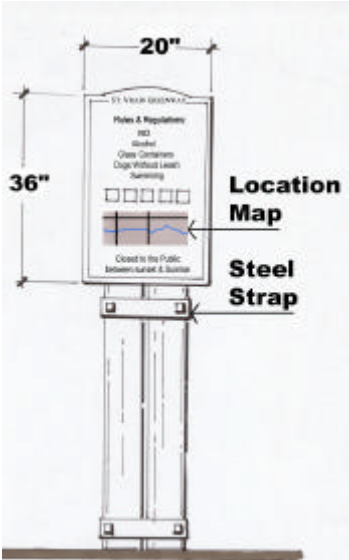
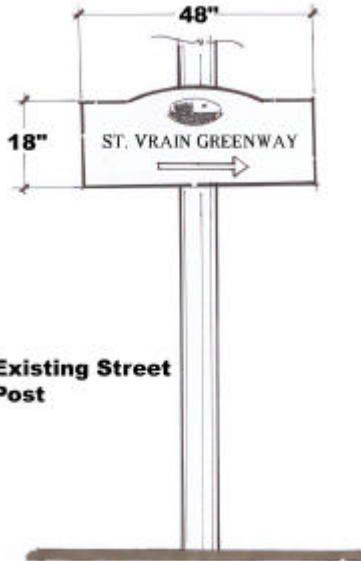
The St. Vrain Greenway logo should be incorporated along with the site identification message, mile marker or street name. The logo should be carved into stone or chosen material should be consistent in application.

Signage Types:

- 1) Highway Sign
- 2) Rules and Regulations
- 3) Regulatory Signs
- 4) Trail Marker Sign
- 5) Free Standing Park Sign
- 6) Interpretive Sign
- 7) Bridge Identification Sign
- 8) Friends of the Greenway Signs

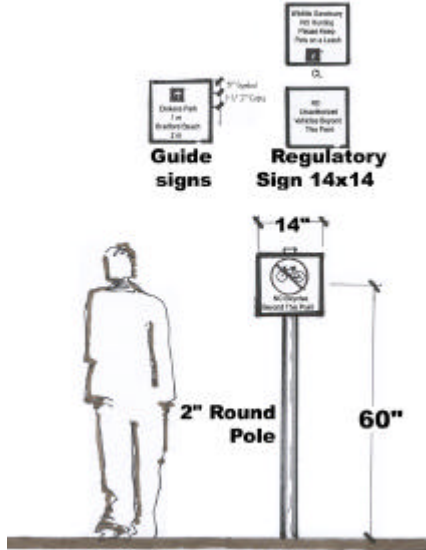
1) Highway Sign -

Located at cross streets to the Greenway to announce and direct vehicles to the Greenway



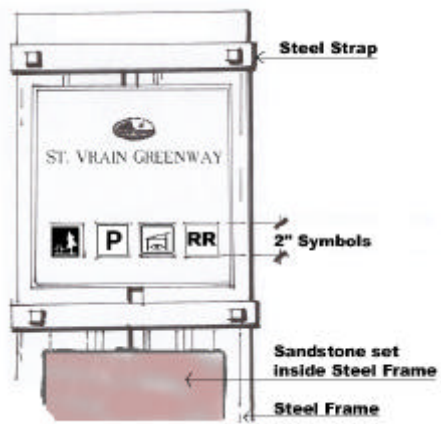
2) Rules and Regulations -

Located at trailheads and access points (ramps) to provide users with general rules of behavior (hours, etc.). Map shows where this facility is within larger system



3) Regulatory Signs -

As needed to control Greenway activities ("Stay on Trail", etc.)

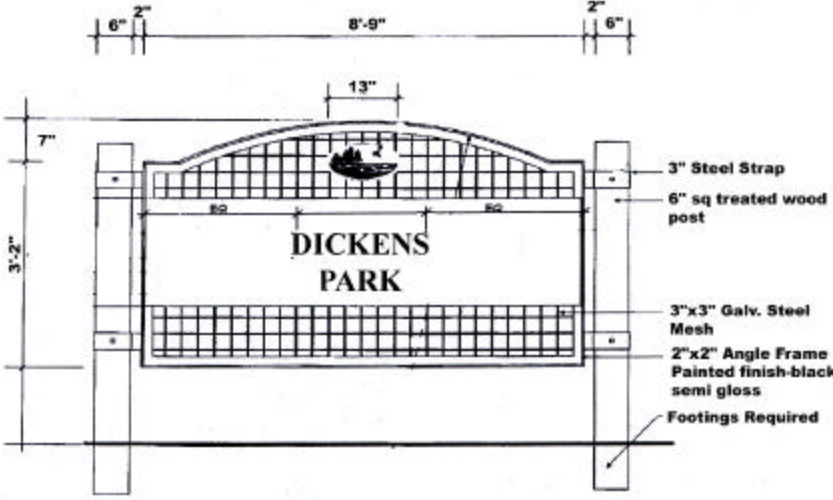


4) Trail Marker Sign -

Identifies trailhead and facilities available

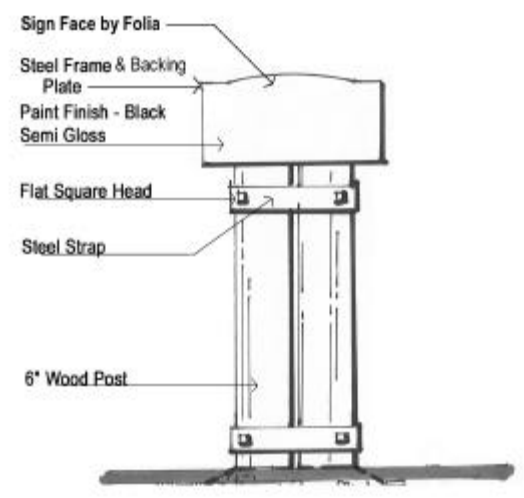
5) Free Standing Park Sign -

To identify access points to park



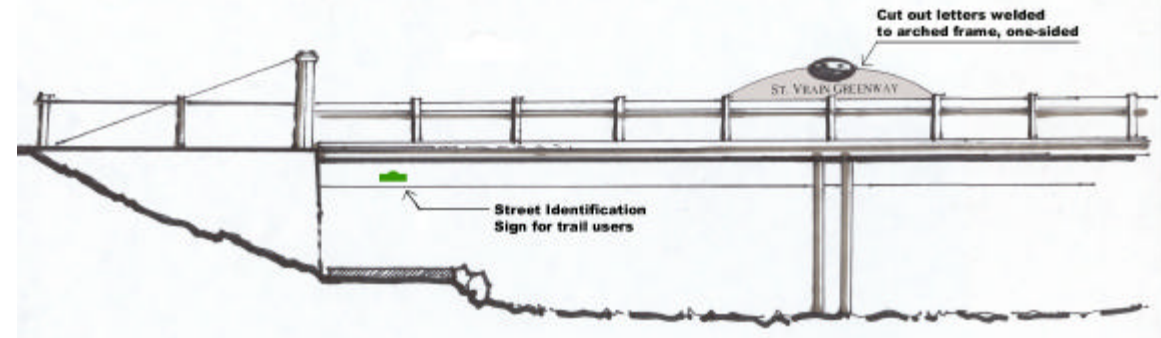
6) Interpretive Signs -

To communicate the natural and historic themes along the Greenway



7) Bridge Identification Sign -

Located at key cross streets to advertise the presence of the St. Vrain Greenway



Vinyl sign face attached to steel backing plate mounted to sandstone boulder



8) Friends of the Greenway Sign -

To recognize citizen volunteers in the Friends of the Greenway program

Common Greenway Elements: Signage Characteristics

Greenway Trail Guide and Regulatory Signs

- Highway Guide Signs: to provide direction to the Greenway from major roads, must conform to the manual of Traffic Control Devices.
- Traffic Control Signs: stop signs, warnings for curves and intersections, clearance, handicap parking signs, etc. Must conform to the manual of Traffic Control Devices.
- Regulations and Resource Management Signs: rules and regulations, uses and hours, resource protection closure areas.
- Guide Signs: destinations, restrooms
- Identification Signs: trailheads, restrooms

Design Objective: To provide guide information to specific destinations and facilities along the Greenway and identification signs at destinations, i.e.: restrooms.

This sign type will also provide rules and regulations, and provide information to warn and regulate pedestrian and bicycle traffic.

Design Guideline: Guide signs will provide functional information while reinforcing the image of the Greenway through their relationship to the overall family of structures in color, use of materials, and fabrication techniques.

Sign height and distance from trails to conform to MUTCD guidelines for bike routes.

Conform to St. Vrain Greenway design standards for color and typeface.

Conform to criteria established by ADA.

Provide Spanish translation.

Interpretive Signs

Design Objective: To interpret natural, cultural and historic information and stories to visitors.

Design Guideline: To follow identity guidelines and avoid traffic hazards, orient to avoid sun and glare. Interpretive stories can also be communicated through printed material keyed on a map to mile markers. Folia or similar durable signage material to be used.

Volunteer Recognition

Design Objective: To recognize citizen volunteers in the Friends of the Greenway program.

Design Guideline: Follow identity guidelines using St. Vrain Greenway logo on sign face. Vinyl signs on aluminum backing plate fixed to steel plate and landscape boulder (sandstone). Locations to be determined by Parks and Forestry staff.

Temporary Construction Signs

Design Objective: To announce improvements to the Greenway during design and construction.

Design Guideline: To include logo, phone number, and completion date. To be part of the overall graphic guideline.

Mounting locations, room designation signs:

Signs permanently designating a room/restroom must be mounted on the wall adjacent to the latch side of the door, NOT ON THE DOOR, 60" from the centerline of the sign to the floor. Braille and graphic symbols to be included in the sign face.

Exterior and Overhead Signs:

Requirements for interior and exterior signs are generally the same, except most exterior signs are not required to have tactile and Braille lettering. Signs that are "projected or suspended overhead" including hanging or flag-mounted signs must meet requirements for clearance, character proportion and height, sign finish, and contrast. They may use upper and

lower case characters, cap height must be 3" minimum, and there must be at least 80" clearance below the bottom of the sign.

Parking Areas:

Accessible parking spaces and loading zones must be marked by a sign (accessibility symbol) located so that it cannot be obscured by a parked vehicle.

ADA criteria for typestyle, contrast, and finish

This criteria would apply to Greenway guide and regulatory signs.

The Americans with Disabilities Act of 1990 (ADA) relates to the removal of architectural and communications barriers from existing and new structures. The ADA regulations apply to signage within the Greenway and therefore guidelines specific to the ADA need to be incorporated into the signage system.



Existing ramp along the built portion of the Greenway

letters and numbers on signs have a width-to-height ratio between 3:5 and 1:1, and a stroke width-to-height ratio between 1:5 and 1:10. Typefaces that meet the ADA criteria for legibility and are recommended for St. Vrain Greenway signage are Garamond, Cheltenham, Times, and Univers.