R3 PLAYBOOK (FINAL DRAFT)

RESTORE · REVIVE · REIMAGINE

TRUCKEE RIVER CORRIDOR (WEST AND EAST RIVER STREETS)

JULY 2025

RIVER REVITALIZATION
STEERING COMMITTEE
RESTORE·REVIVE·REIMAGINE

TOWN OF TRUCKEE CALIFORNIA

ACKNOWLEDGMENTS

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Anna Klovstad, Vice Mayor

Courtney Henderson, Council Member

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Lindsay Romack, Council Member

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Washoe Tribe Representative *(seat remained vacant due to capacity for participation)*

Action Teams

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Jeffrey Menasco, Chair, R2SC

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Cory Caldwell, R2SC

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River Health and Access Action Team (RHAAT)

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Prepared by

Design Workshop

Bay Area Economics

Balance Hydrologics

Sierra Business Council

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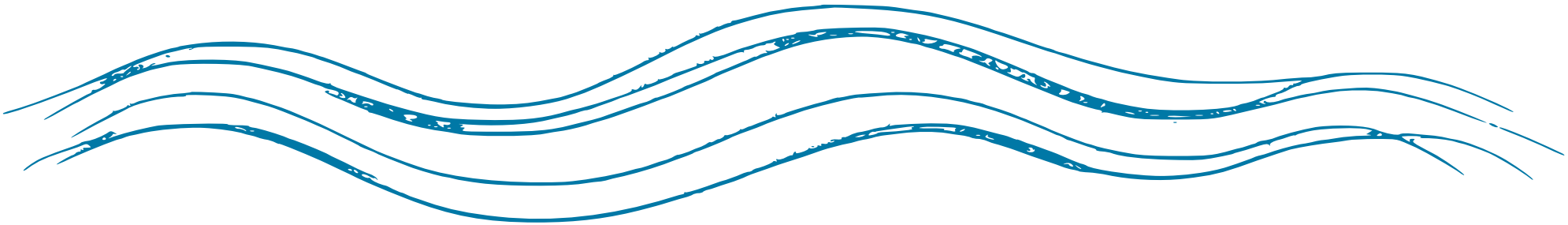


EXECUTIVE SUMMARY

The Playbook is a bold and actionable roadmap designed to guide the future of the Truckee River corridor. It lays out a shared vision, clear goals, and strategic actions to help property owners, businesses, stakeholders, and the Town work together to enhance river health and boost the area's economic vitality. The project area spans from the Donner Creek confluence on West River Street to the eastern end of East River Street, covering lands north of the Truckee River up to the rail right of way.

Building on the foundation of previous plans and community input, the Playbook shifts focus to implementation. While the document is visionary in nature, it also focuses on feasibility. It sets forward an achievable dream.

It emphasizes strong partnerships and supports property owners in shaping a future that aligns with the broader goals of the corridor. Together, this work positions the river corridor as a vibrant model of community connectivity, ecological stewardship, and environmental resilience.

Inside the Playbook, readers will find:

- A summary of the process
- Site constraints and opportunities
- Barriers to change
- Guiding principles and strategies
- The Action List
- Opportunities and challenges for receiver sites
- A collective commitment to move forward

Driven By Collaboration:

The Playbook is the result of deep, meaningful collaboration with the community. Every step of the way, the public was invited to participate, and the voices of property and business owners were actively included. The key methods outlined below highlight how the R2SC engaged with residents and stakeholders to shape a shared vision for the river corridor—refining goals, identifying challenges, and creating a clear path toward lasting community and environmental benefits..

- The River Revitalization Steering Committee (R2SC) (monthly public meetings from June 2023 to June 2025)
- Two Action Teams (monthly public meetings)
- Three Subcommittees (publicly noticed)
- Property Owner and Business Owner Interviews
- Open Houses, Coffee Talks, Taco Talks, and Community Survey
- Catalyst Project Request for Interest and Mini Catalyst Projects

The Playbook's Framework

The guiding principles, strategies, and site specific opportunities identified in the Playbook provide a guide to achieve the goals of Restore, Revive, and Reimagine. Key elements of the framework are shown below.

Leading with River Health

Connectivity for Walking, Biking, and Rolling

Mixed Use Districts

West River Mixed Use District

A new neighborhood showcasing adaptive reuse and public art – it has everything you need in walking and biking distance.

Downtown River Mixed Use District

A vibrant mix of commercial, office, lodging, and residential uses that celebrate the Truckee River.

East River Mixed Use District

Residential and mixed use infill that don't generate high traffic volumes with enhanced river access and open space.

28 ACTIONS

See pages ##-## for a description of the action items, order of magnitude costs, and responsibilities.

Catalyst Projects and Partnerships

- Downtown West River Street Catalyst Project
- West River Street Catalyst Project
- East River Street Catalyst Project
- Multi-Board Workshop

Town Development Code and Culture

- Communicate Willingness to Collaborate
- West River, Downtown, and East River Mixed Use Zoning
- Discovery Phase for Truckee River Setback Modification
- How-to-Guidebook
- Easy to Navigate Development Code
- Identify Residential Receiver Sites
- Discovery Phase for Legal Non-Conforming Program

Reinvestment Tools

- Identify Manufacturing/Industrial Receiver Sites
- Evaluation of Enhanced Infrastructure Financing District
- Evaluation of Facade Enhancement Forgivable Loan Program

Bicycle and Pedestrian Connectivity

- Active Transportation Plan
- Sidewalks: West River Street
- Shared Use Path in UP Corridor: West River Street
- Shared Use Path along Donner Creek
- Shared Use Path in UP Corridor: East River Street

River Health and Access

- Riparian Habitat Restoration
- Floodplain Restoration
- Survey 100-Year Floodplain
- Address Unmanaged River Access
- Data Collection and Monitoring
- Noxious Weed Removal
- Feasibility Study of Cottonwood Nursery
- Managed River Access and Improved Trailhead at East River Street Bridge
- Trout Creek Culvert Reconfiguration

Guidance for Decision Making

During development of the Playbook, the R2SC tackled many challenging issues, none of which have easy solutions. What came forward from the work was consensus to lead with river health, to focus on feasible actions and projects, and to work with property and business owners to find shared solutions.

The prioritization of river health led to the River Health and Access Action Team's (RHAAT) development of the following decision making criteria to guide managed river access:

1. Manage access while protecting riparian resources.
2. Reduce access or dissuade use where there is significant or notable erosion and degradation of riparian vegetation and habitat. For example, access should be limited where there are sensitive riparian areas, and promoting riparian vegetation where appropriate may be a potential condition of approval for future development projects.
3. Preferred access locations are those areas people are already using.
4. Consider designing and providing managed access to the river at pedestrian/bike bridge locations while mitigating and directing use to desired areas.
5. Consider trail connections and alignments when riparian and floodplain can be preserved and there are no wildlife corridor impacts.

Applying Catalyst Project Takeaways

It is important to recognize the Playbook's intent to be a living document and for the R2SC's role to continue to move forward and provide a greater level of detail around topics such as mixed use zoning, setbacks from the river, incentives, and non-conforming uses.

The Catalyst Projects are intended to proceed and inform a more in-depth evaluation of these and other topics. The outcomes of that work should be brought back to the R2SC for review, discussion, and either a recommendation to advance to Town Council for consideration or a recommendation to not move forward. Although the R2SC may not meet on a monthly basis, a yearly report to Town Council with progress on goals, deliverables, and lessons learned should occur. As work continues, regulatory addenda to the Playbook will be developed.

In this manner, the Catalyst Projects inform continued advancement of the R3 Playbook and the R3 Playbook informs Town Council's Economic Strategic Priority.

As decision making occurs, those reviewing projects and programs should note that while the majority of the R2SC agreed that flexibility and promoting actions to see change in the uses and aesthetics of West River Street, the perspective of providing certainty for what adjacent uses may be is important for redevelopment. For example, investors want to clearly understand regulatory requirements, potential timelines, requirements for public engagement. They also want to have confidence that the existing and future uses around them will be aligned and compatible with the development project they bring forward.

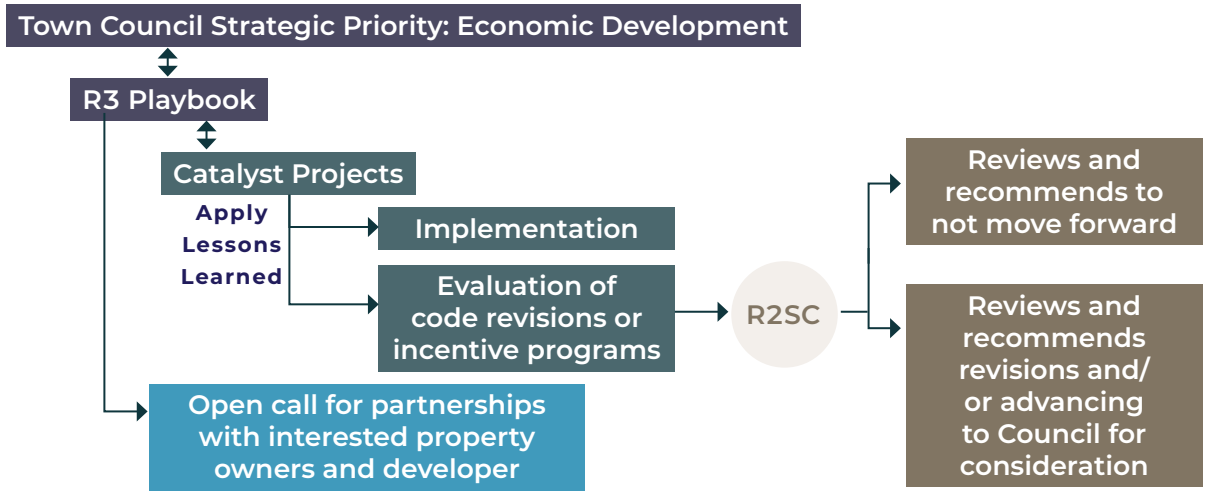
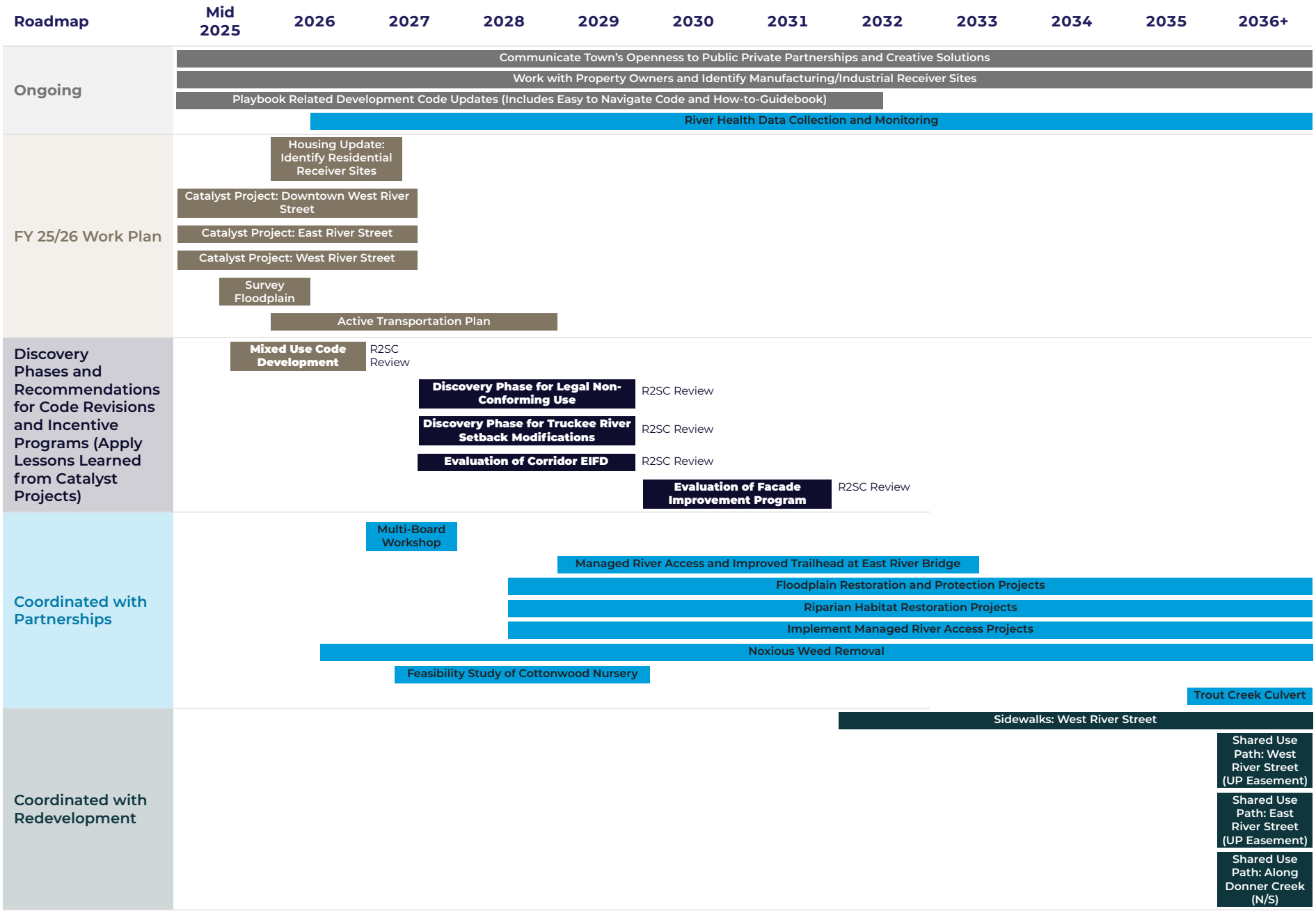


FIGURE A. R2SC Continued Role and Relationship of the Catalyst Projects, R3 Playbook, and the Economic Development Strategic Priority

While implementation of action items is in progress, the Town is open to conversations with willing property owners and developers to discuss public private partnerships, creative solutions, and receiver site opportunities for those interested in relocation.

FIGURE B. Playbook Action List Timeline (Note: Subject to change based on funding opportunities and Town Council priorities and direction)



01

CONTEXT

Vision and Goals

Shaping the Future Together

Building on Past Plans

VISION AND GOALS

Our Vision is led by a desire to have a vibrant and healthy Truckee River. We envision a surrounding corridor that seamlessly integrates the town's eclectic and industrial character with the river's natural beauty. Reflective of the community's collective aspirations and values, the thriving, inclusive, and resilient riverfront honors the past, embraces, the present and envisions a diverse and dynamic future.

"...cute housing"

"Can hear the river!"

"...walk the entire length..."

"Great river access points"

"Small restaurants, coffee houses, and shops"

"Amazing views...birding and fishing..."

"...new riverfront park"

"Vibrant blend of nature and urban charm"

FIG 1.1 Inspiring elements of the vision developed by the R2SC

Land Acknowledgment

We begin today by acknowledging the Washoe people, indigenous custodians of the occupied land known as “Truckee” that we meet on today. “Truckee” and the surrounding area of Da Ow Aga is the ancestral and spiritual home to the Washoe, who have stewarded these lands for thousands of years and since the beginning of time. Our town, “Truckee”, and the surrounding area have been ancestral, trade, and meeting grounds for the Washoe, Martis, Maidu, Miwok, Paiute, Shoshone, and other indigenous peoples for many centuries before us. We recognize the descendants of these tribes and others who continue to share, steward, live, and work on this land with us. The Washoe have always been a part of the land and environment and believe that land, language, and people are intrinsically intertwined. The Washoe have safeguarded these lands since th beginning of time - the earth, its terrain, its waters, all living and nonliving things are sacred - and they request that we assist in preserving this ecosystem for future generations. We pay respect to the Washoe elders past, and present. We extend that respect to all indigenous Native American peoples here today.

Teddy James, Truckee River, 1922

Images courtesy of “Washoe Tribe History: Past and Present” Written by Washoe Tribe. 09/08/2021

Goals

Through community conversations and R2SC meetings, a shared vision centered around three key goals consistently emerged. This vision reaffirms the ideas proposed in the 2005 Downtown River Revitalization Plan, the 2040 General Plan, and the Downtown Truckee Plan.

The vision for the corridor lies at the intersection of the three goals.

Differentiator from the 2005 Plan:

Emphasis on strong partnerships and working with property owners to understand and help them realize the vision for their property and alignment with the corridor vision and goals.

Restore: River Health & Access

To have a thriving ecosystem including protected water quality, restored riparian zones and habitats for wildlife and fish, abundance of native plant species, and appropriate recreation access.

1. Improved water quality – clean, clear water
2. Enhanced native riparian vegetation
3. Responsible recreation and managed river access
4. Parks and open spaces
5. Improved stormwater management and monitoring
6. Floodplain restoration and protection
7. Wildlife habitat connectivity

Revive: Vibrant & Connected

To have a connected, eclectic mix of thriving local businesses and housing with a mixed use of commercial, residential, light industrial, open space, public places, sidewalks, and bike paths.

1. A vibrant mix of uses
2. A new neighborhood with a wide variety of housing
3. Prosperous and diverse local businesses with nice outdoor spaces
4. Multi-modal connections to downtown and to the Legacy Trail
5. Traffic calming
6. Trails, paths, and sidewalks
7. For willing outdoor storage and manufacturing businesses that can effectively or more effectively function elsewhere in town, support relocation of outdoor storage or manufacturing uses off the river to new locations in Truckee

Reimagine: The Look

To have an authentic, attractive place that honors Truckee's history: a mix of modern and historic, natural and built, a love of place and respect for "Truckee Funk".

1. Beautification, including facade improvements and landscaping
2. Honor the small-town vibe
3. Friendly and welcoming / casual and laid-back
4. Respect for history
5. Mix of mountain, rail, and natural character
6. Hear and see the river
7. Environmental education and art

Now's the Time for Action

The Truckee River is the heart of Truckee. It represents connection to the past, present, and future: a place where history meets nature and opportunity. For over 150 years, the lands north of the river in downtown Truckee have primarily included a mix of manufacturing, storage, services, commercial, and residential uses.

For over 30 years, the Town of Truckee's (Town) planning documents have identified a goal of celebrating the Truckee River corridor through downtown.

1. The Town's first General Plan, adopted in 1996, recognized the Truckee River as "one of the town's primary assets" and envisioned development that is pedestrian-oriented and provides public access to recreation and open space.
2. The Town's 2005 Downtown River Revitalization Strategy provided strategic direction for public and private investments to achieve a vision of revitalization and environmental restoration.
3. Similarly, the 2025 General Plan and Downtown Specific Plan reaffirmed the Town's commitment to prioritize the Truckee River.
4. The 2040 General Plan and Downtown Plan, adopted in 2023, upheld this vision for the corridor and included goals, strategies, and actions to enhance and activate the Truckee River.

Illustrating the Town's commitment to change, in 2023 Town Council appointed a diverse group of 16 local community members to create opportunities for revitalization of the river corridor. Made up of river corridor residents, landowners, business owners, public agency representatives, and other Truckee River stakeholders, the Steering Committee is dedicated to celebrating and honoring the river by creating a vision, plan, and actions to activate lands around the river, restore environmental degradation, and provide managed river access for the benefit of the entire community. This River Revitalization Steering Committee, also known as the R2SC, worked together to listen to residents, property owners, and business owners; refine the corridor's vision and goals; identify barriers; and develop a pathway to community and environmental impact.

The time is right for the Playbook. There is a great deal of momentum in the downtown core, commercial row, and river corridor areas. The Town, in partnership with private partners, is investing over $40 million in improvements between commercial row and the river corridor.

This includes:

1. The West River Street Streetscape project currently underway
2. The extension of the Legacy Trail on the south side of the river to SR 89
3. A new pedestrian/bicycle bridge spanning the river
4. DEWBEYÚMUWE? Park with riverfront views and riparian restoration
5. The Reimagine Bridge Street project that will make it easier for people to walk, bike, or roll from commercial row to East and West River Streets

Public investment in streetscapes, mobility, and parks can spark meaningful private development, creating vibrant and thriving communities. The work of the R2SC and the Action Plan's vision provides a clear roadmap, ensuring

the Town, landowners, and businesses seize every opportunity to enhance river health and strengthen economic vitality.

Driven By Collaboration: The R2SC

Formed in the summer of 2023, the R2SC met monthly to refine the corridor's vision and identify strategies to achieve community goals. In addition to the monthly, public R2SC meetings, two action teams and four subcommittees were formed. The action teams held monthly public meetings focused on specific topics of river health and access and community and economic vitality. Subcommittee meetings were also open to public attendance and participation.

Tasks completed by each subcommittee included the following:

1. Develop a RFP and hire a consultant to work with the R2SC and Town staff to develop the Action Plan
2. Identify and confirm an inventory of business owners and property owners within the project area
3. Provide input on community engagement and communication strategies and materials
4. Review and provide the first round of comments on the Draft Action Plan

The River Health and Access Action Team (RHAAT) and the Community and Economic Vitality Action Team (CEVAT) each included three to four R2SC members and three additional community members. The purpose and outcomes of each Action Team were as follows:

River Health and Access Action Team

Purpose: Review and provide first round of comments on river health and recreation access:

1. Baseline study
2. Opportunities and priorities
3. Recommendations

OUTCOMES:

4. Memo and mapping to summarize recommendations and opportunities for river health and access.
5. Participated in catalyst project interviews.

Community and Economic Vitality Action Team

Purpose: Give input on the financial analysis and interviews, discuss barriers to revitalization, and provide recommendations for incentives and strategies to address barriers.

OUTCOMES:

1. Recommendation for catalyst project RFI
2. Interview of catalyst project applicants
3. Recommendation for catalyst project selections
4. Review and confirmation of barriers to revitalization

To obtain accurate inventory and contact information of businesses located within the project area and to provide business and property owners information on project, East River PR's bi-lingual staff visited businesses four times in efforts to connect directly with staff, managers, or owners. Through this process, 90 establishments were visited (three of which were out of business and 45 of which were open). Ninety-three percent of the businesses received a flyer and 63 percent expressed interest in learning more about the R2SC and possible incentives to be offered to businesses.

The inventory of business and property owners was utilized by consultant team members Bay Area Economics (BAE) and Sierra Business Council (SBC) to conduct confidential interviews with property and business owners. Through input and direction from CEVAT, BAE's interviews focused primarily on property owners while SBC connected with key business owners. CEVAT identified 32 property and business owners for BAE to interview. Of the 32, four did not have contact information. BAE interviewed 20 of the remaining 28 potential contacts and reached out to the remaining individuals multiple times without a response. SBC conducted 11 interviews with other business owners throughout the corridor.

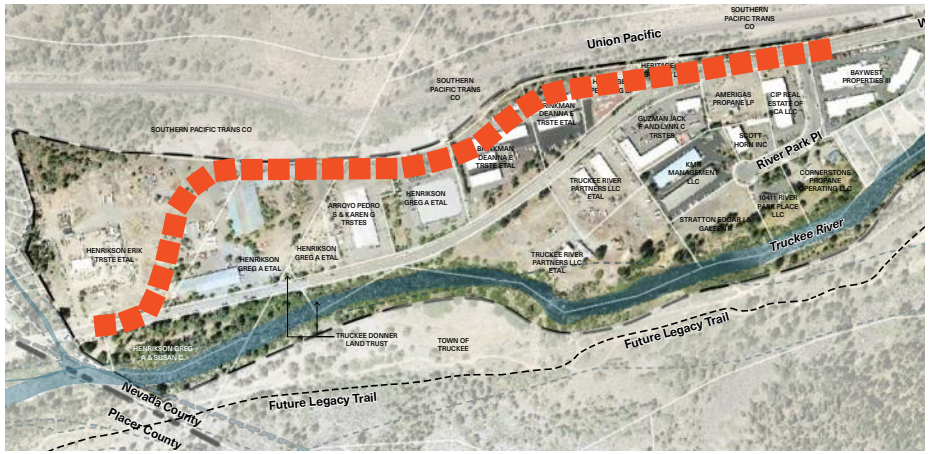
Key Studies and Discussions

Through over a year of facilitated meetings, the R2SC grappled with a range of topics. Two of the key topics addressed include the type of future uses envisioned in the river corridor and as part of the vision, should West River Street be realigned in order to give more space along the river for bike and pedestrian facilities and redevelopment opportunities.

Future Land Uses

The committee participated in a series of interactive exercises to spark discussion and build consensus around future land uses. One activity, known as the "chip game," involved dividing the R2SC into three groups who used game pieces to represent different land uses on maps, illustrating their vision for the corridor. In addition, two desired-use homework surveys were conducted, and the committee reviewed a range of development imagery to provide feedback on what they felt was appropriate—or not appropriate—for the corridor. Throughout these conversations, the importance of working collaboratively with property owners and maintaining flexibility emerged as recurring themes. The mixed-use character area descriptions in Chapter 3 reflect the outcomes of the R2SC's input and visioning process.

West River Street Realignment Concept 1



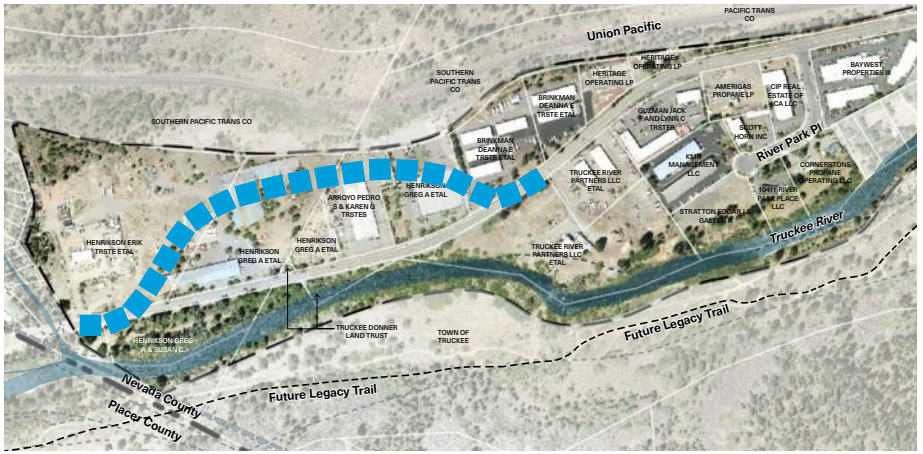
Description:

- From Donner Creek bridge to McIver Crossing, road shifts to southern UPRR property boundary
- Allows for shared use path in current road alignment, riparian restoration, and some private parcels could shift toward the river

Notes:

- 3,600 linear feet of new 60 foot right of way (ROW)
- ROW acquisition from 9 parcels
- One parcel size reduced from 26,000 SF to 6,000 SF
- Approximately 215,000 SF of ROW purchase for new West River Street, not including new road access connections for parcels between existing West River Street and the river
- $31 to $36M (order of magnitude cost)

West River Street Realignment Concept 2



Description:

- From Donner Creek bridge for approximately 2,000 feet, road shifts to southern UPRR property boundary
- Allows for shared use path in current road alignment, riparian restoration, and some private parcels could shift toward the river

Notes:

- 2,000 linear feet of new 60 foot ROW
- ROW acquisition from 5 parcels
- Some parcel divisions create small, less developable sections
- Approximately 120,000 SF of ROW purchase for new West River Street, not including new road access connections for parcels between existing West River Street and the river
- $20 to $24M (order of magnitude cost)

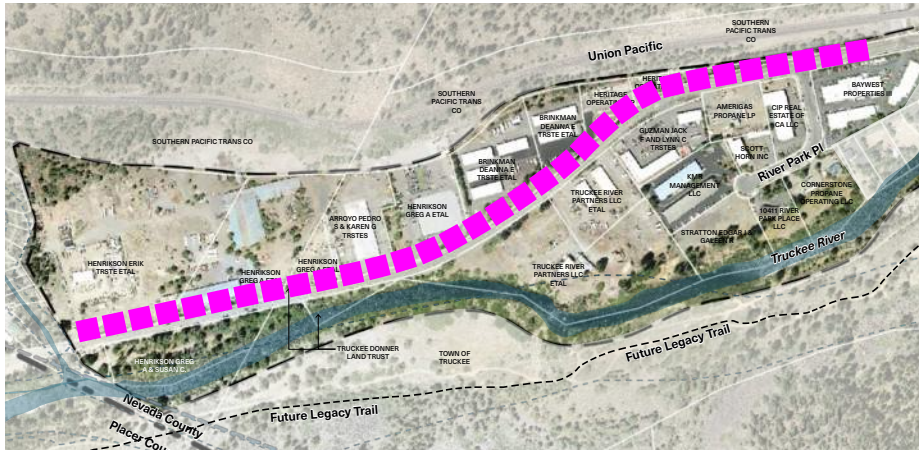
West River Street Realignment Concept

One idea that emerged from the R2SC was the potential to realign West River Street, shifting it closer to the rail corridor and away from the Truckee River. The goal of this concept was to improve public access to the river, provide additional riparian restoration opportunities, enhance the pedestrian and bicycle experience, and prevent walkways and trails from being constrained between the river and the roadway. It also aimed to open up new development opportunities along the riverfront.

The CEVAT and R2SC reviewed four high-level realignment concepts, shown here and on the previous page. Agreements for use of UPRR property allow UPRR to revoke access at any time, therefore aligning a the road within the UPRR property requires maintaining the current right of way (ROW) and was rejected from consideration.

While a full realignment was ultimately deemed infeasible due to cost, implementation time, and the need to maintain road access to several parcels, the concept remains influential. The outcome of the R2SC discussion was that one group recommended Concept 3 and another group recommended a blend of Concept 3 and 4. It was discussed that the blended concept would result in minor adjustments to the road alignment where feasible and supported by adjoining land owners to improve the pedestrian and bicycle environment and promote riparian restoration.

West River Street Realignment Concept 3



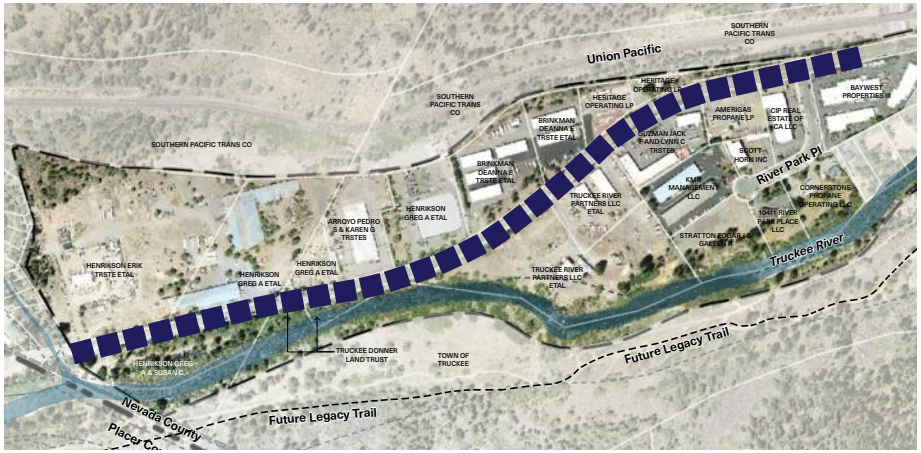
Description:

- Road shifts 30 feet to the north for 2,500 linear feet
- Allows for widened bike lanes and sidewalks in previous road alignment as well as riparian restoration
- Where road is aligned in current ROW for 700 linear feet, bike lanes widened, 6’ sidewalks, and undergrounding of powerlines

Notes:

- 2,500 linear feet of new 30 foot ROW
- ROW acquisition from 8 parcels
- Approximately 75,000 SF of land acquisition
- $15 to $18M (order of magnitude cost)

West River Street Realignment Concept 4



Description:

- Enhancements of West River Street within the existing 60 foot ROW
- Widened bike lanes to create a buffered bike lane, 6’ sidewalks, and undergrounding of powerlines

Notes:

- 3,200 linear feet of widened road for buffered bike lanes and 6’ sidewalks
- No land acquisition, but requires undergrounding of powerlines
- $5 to $6M (order of magnitude cost)

Shaping the Future Together

In addition to attending the public R2SC, Action Team, and subcommittee meetings, community members had the opportunity to share their vision and goals for the corridor through a series of workshops and on-line engagement activities. Meeting notifications and advertising included press releases, business canvassing, flyers, radio interviews, and a social media campaign. In particular, the video included in the social media campaign showed broad reach. Of the 70,000 impressions, the video was watched at least partially nearly 60,000 times, meaning the content was engaging and meaningful to the people who saw the ad.

During the first phase of the engagement, six in-person events were held, presentations were conducted at five community meetings, and an on-line platform was developed. People were invited to imagine the river corridor in 10-15 years and share their ideas. Over 200 people participated in the in-person and virtual presentation events. Over 600 ideas were captured through the on-line platform.

The ideas shared by participants were summarized into a set of 15 themes. During a tabling event at Truckee Day, over 100 community members identified which ideas they loved and which ideas they didn't like. Project area residents, business, and property owners were invited to an open house pizza party and provided their feedback on the themes. A question-and-answer session was also facilitated at the event.

Engagement by the Numbers

Round 1 Events: Over 100 Attendees

- Taco Talks at Lyft Truckee & Donner Creek Mobile Home Park (Spanish speaking)
- Trail Talk at East River Street Trailhead
- Coffee Talks at Wild Cherries and Cornerstone Bakery

Round 1 Presentations: Over 140 People Reached

- Truckee Downtown Merchants Association
- Good Morning Truckee
- Golden Seniors
- Climate Transformation Event
- Contractors Association of Truckee Tahoe, Government Affairs

Round 2 Events: Over 125 People Reached

- Table at Truckee Days
- Pizza Open House for project area residents and business and property owners

Key Takeaways

Community members shared over 600 ideas throughout the engagement process. Those suggestions were categorized into 15 primary themes. Twenty-one percent of participants shared goals for making the corridor more walkable and bikeable.

Ideas that captured seven percent or more of the responses are shown in images on this page.

The 15 themes shared by the community included the following:

1. Walkable & Bikeable (21% of total ideas)
2. Parks & Gathering Spaces (10% of total ideas)
3. Access to the River (9% of total ideas)
4. Local Restaurants, Shops, and Mixed-Use Businesses (7% of total ideas)
5. River Health, Open Space, & Views (7% of total ideas)
6. Whitewater Park (6% of total ideas)
7. Housing (4% of total ideas)
8. Remove or Restore Buildings & Clean Up Junk (4% of total ideas)
9. Clean Up Trash & Dog Waste (3% of total ideas)
10. Restrooms (3% of total ideas)
11. Interpretive Signage & Wayfinding (3% of total ideas)
12. Provide Parking (2% of total ideas)
13. Welcoming & Accessible All Year (4% of total ideas)
14. No More Industrial Development, But Take Care of Existing Businesses (1% of total ideas)
15. Honor Historic Feel, But Update (1% of total ideas

Walkable & Bikeable: 21% of ideas

21% of ideas were about making the corridor walkable and bikeable

Low-impact Recreation & Parks: 10% of ideas

Access to the River: 9% of ideas

Local Restaurants, Shops, and Mixed Use: 9% of ideas

River Health & Views of the River: 7% of ideas

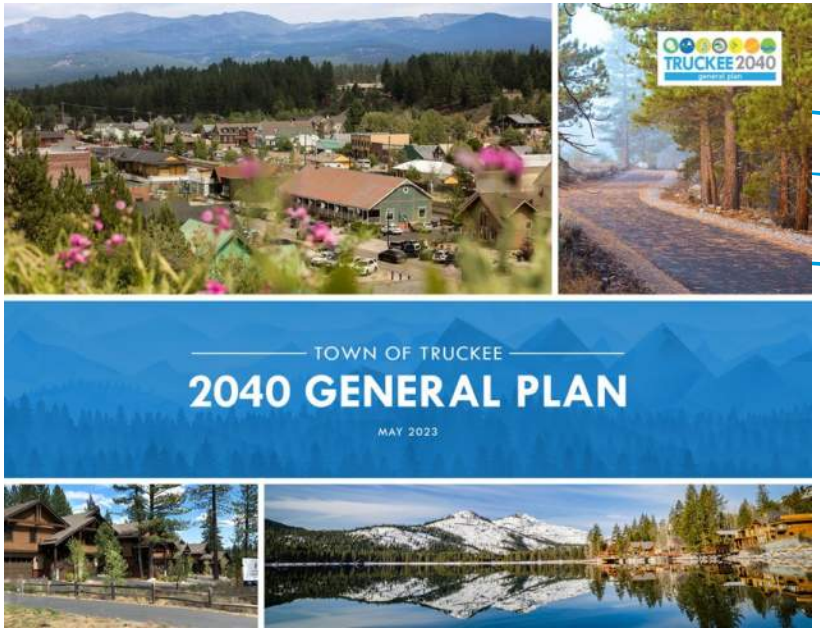


FIG 1.2 The 2040 General Plan reaffirms the Town's commitment to celebrate the Truckee River.

BUILDING ON PAST PLANS

The Truckee River has long been recognized as the heart of Truckee. In 1996 the Town's first General Plan described the river as "one of the town's primary assets". Since that time, plans continue to reinforce the river's importance and identify celebrating and revitalizing the river corridor as priorities.

In order for the Playbook to build upon previous planning efforts and to identify where recommendations should either align or be revised, relevant planning documents were reviewed and key points summarized. Three of the essential plans reviewed include: the 2005 Downtown River Revitalization Strategy, the 2040 General Plan, and the Downtown Truckee Plan. This section presents a summary of the purpose and role of each of these plans and highlights the main goals and recommendations from the documents, as it relates to the corridor.

2005 Downtown River Revitalization Strategy

A product of a variety of community efforts, including public and stakeholder meetings, workshops, and on-site analysis, the 2005 Plan lays out a vision and strategy for development along the edges of the Truckee Rive as it courses through downtown. Projects and recommendations included a figure eight circulation loop, river access

points, habitat enhancement and restoration, streetscape improvements, public plazas, and redevelopment opportunities. Projects, such as the DEWBEYÚMUWE? Park and streetscape improvements have been implemented or are underway.

Truckee 2040 General Plan

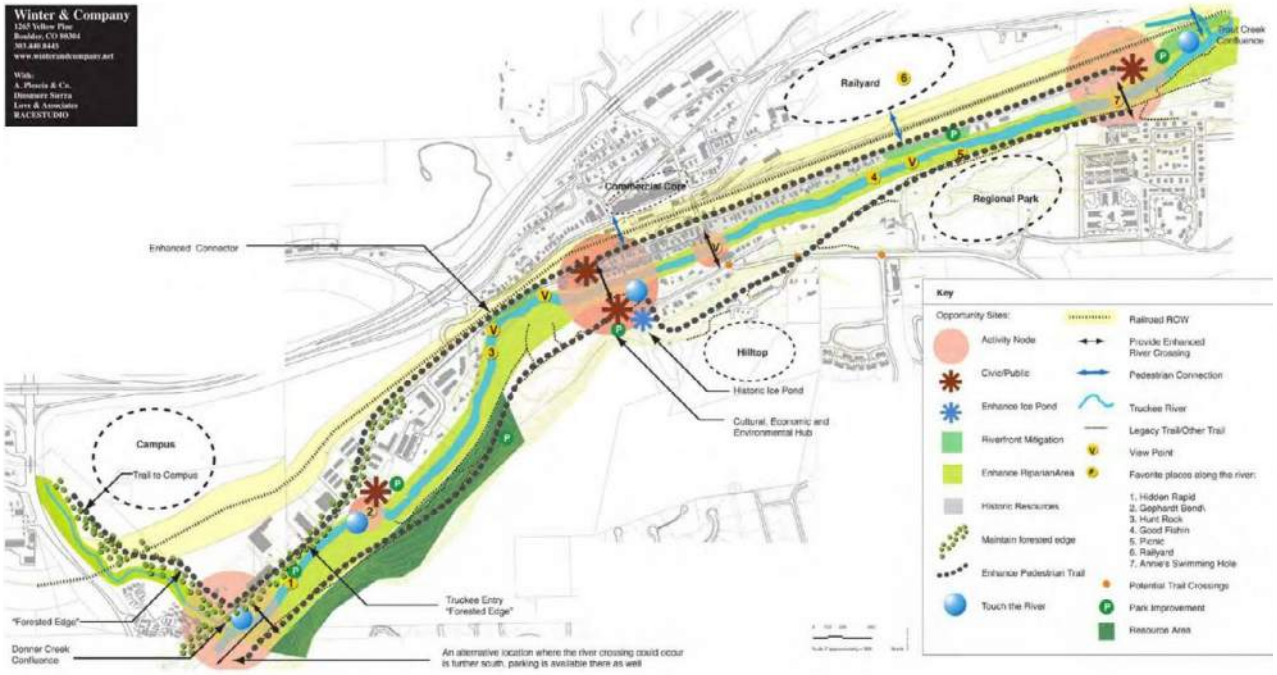
The General Plan establishes a framework for maintaining and enhancing Truckee's identity over the next 20 years. Its Land Use Element describes the goal for the West River District: "Transform… into a live/work/recreate district that provides public access to the Truckee River, supports the local economy, and provides a variety of housing types. The plan supports the goals and principles of the Truckee River Revitalization Strategy. The Playbook builds on the General Plan's policies to work with property and business owners to identify incentives and strategies to celebrate the river and revitalize West River Street.

Downtown Truckee Plan

The Downtown Truckee Plan implements the General Plan within the boundaries of Downtown Truckee. Its land use designations, goals, and policies establish the framework for the portion of the corridor along East River Street and in the downtown area of West River Street. Infill growth is envisioned in a way that preserves and enhances the area's historic mountain character.

Subareas for the project area include Downtown Commercial Core, River Mixed-Use, and the River Corridor. Envisioned uses include the riverfront park, infill commercial, office, residential, and mixed use.

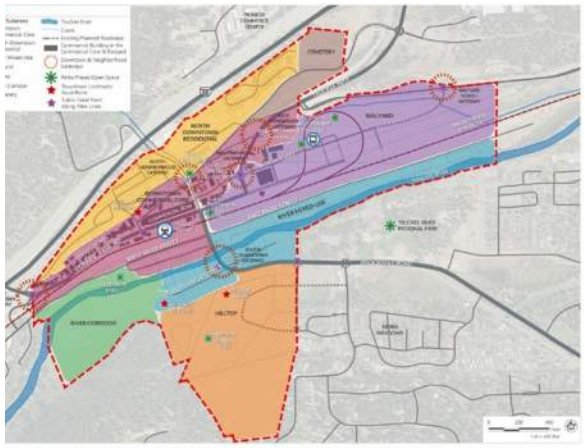
2005 Downtown River Revitalization Strategy



Downtown Truckee Plan

Downtown Truckee Plan Concepts

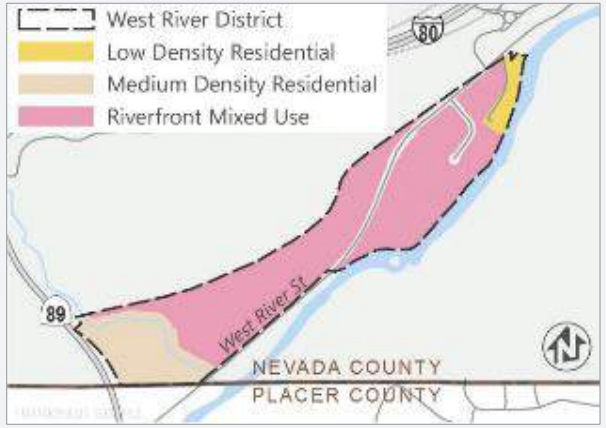
1-1 and 1-2 identify the broad plan concepts that support the vision for Downtown Truckee, including character subareas, parks and open space , and the connectivity concepts to support a vibrant, pedestrian-oriented Downtown environment. A description of each of these concepts follows



1-1: Framework for Downtown Character

DOWNTOWN TRUCKEE PLAN

Town of Truckee 2040 General Plan



Source: Adapted by Ascent in 2022.

Figure LU-5: West River District

Diagrams and Plans from Related Planning Documents

TABLE 1. Goals, Policies, and Strategies from Key Plans.

	Goals, Policies, and Strategies from Previous Plans & the R3 Playbook	2005 Downtown River Revitalization Strategy	Truckee 2040 General Plan	Downtown Truckee Plan	R3 Playbook
Restore	Protect, maintain, and enhance river and ecosystem health	X	X	X	X
	Improve environmental education opportunities (interpretation of archaeological and historic uses)	X			X
	Improve public access in a sensitive way that protects river health	X	X	X	X
	Increase restoration/beautification of the river corridor	X	X	X	X
	Increase community interaction at the river	X	X		X
Revive	Create social gathering spaces	X	X	X	X
	Balance gathering areas with quiet refuge and connection to nature	X	X	X	X
	Provide a mix of river-oriented uses	X	X	X	X
	Support a strong, diverse, four-season economy	X	X	X	X
	Create vibrant mixed-use corridors: variety of housing, light industrial, retail, office and cultural spaces	X	X	X	X
	Transform West River District into a live/work/recreate district	X	X	X	X
	Accommodate affordable and workforce housing	X	X	X	X
	Become part of Truckee's social, cultural, and commercial core	X	X	X	X
	Create a vibrant, connected, multi-modal experience/Improve pedestrian and bicycle routes	X	X	X	X
	Manage parking		X	X	X
Reimagine	Preserve and enhance historic mountain character	X	X	X	X
	Complement historic resources/character	X	X	X	X
	Increase public art		X	X	X
	Improve views of the river	X	X	X	X
	Improve attractiveness of streetscape and adjacent uses	X	X	X	X

TABLE 2. Action Items and Proposed Improvements from Key Plans.

Relevant Action Items/Proposed Improvements from Previous Plans	2005 Downtown River Revitalization Strategy	Truckee 2040 General Plan	Downtown Truckee Plan	R3 Playbook
Three "activity" areas	X	General discussion of activation	Identified at the Historic Ice Pond and Railyard Community Buildings	Encourages flexibility and places to gather
Downtown Gateways		X	At DEWBEYÚMUWE? Park	
Pedestrian circulation loop extending from Donner Creek to Trout Creek	X	Goal of ped connectivity	Goal of ped connectivity	X
Bike lanes along West River Street and East River Street (Note: West River Street has existing bike lane segments)	X	X	X	X (along West River Street)
Sidewalks along portions of West River Street (to fill in the gaps between Highway 89 and Bridge Street) and East River Street	X	X	X	X
Pedestrian bridges				
• **At DEWBEYÚMUWE? Park**	X	X	X	X
• **Western end of West River Street (near the confluence with Donner Creek)**	X	X	X	X
• **Near River Park Place**	X			If projected user counts supports need
• **Pedestrian bridges over the railroad ROW**	X	X	X	X
Modifying West River Street alignment either by shifting it to the north or shifting it in select locations to better accommodate bike and pedestrian facilities and enhance public safety by increasing the separation of bikes and pedestrians from vehicles and improving the public's experience with the river by reducing noise and visual pollution				X
New/Improved public parking areas				
• **Along the railroad ROW north of the Old County Corp Yard site**	X	Discusses parking strategies for downtown	Mill Street Lot (planned) Truckee Diner Lot (planned)	Supports shared parking strategies
• **Along the railroad ROW on East River Street**	X			
• **Improved parking at the East River Street trailhead**				X
Habitat/Resource Protection	X	X	X	X
River bank stabilization	X	X	X	X
High-quality streetscape and landscape in ROW improvements	X	X	X	X
Green, forested edge along westernmost part of West River Street	X	Discusses general goal for enhanced streetscape	Discusses general goal for enhanced streetscape	Discusses general goal for enhanced streetscape

TABLE 2. *(Continued)* Action Items and Proposed Improvements from Key Plans.

Relevant Action Items/Proposed Improvements from Previous Plans	2005 Downtown River Revitalization Strategy	Truckee 2040 General Plan	Downtown Truckee Plan	R3 Playbook
Civic public plazas	X	Identified for corner of Donner Pass Rd & Bridge St	Identified for corner of Donner Pass Rd & Bridge St	Encourages flexibility and places to gather
• **Near River Park Place**	X			X
• **Near the eastern pedestrian bridge**	X			Enhanced trailhead
Viewpoints of the river	X	Discusses general enhancement of river views	Discusses general enhancement of river views	Discusses general enhancement of river views
Proposed Parks and Open Spaces				
• **At DEWBEYÚMUWE? Park**	X	X	X	X
• **At the confluence of Donner Creek**	X			X
• **At the existing eastern pedestrian bridge**	X			X
• **At a midpoint along East River Street**	X			X
• **Near River Park Place**				X
• **Managed access throughout the river corridor that balances river access with restoration and protection**	X	X	X	X
Screening of industrial uses	X	X	X	X
Relocation of some industrial uses	X	X	X	X
Land uses				
• **West River Mixed Use: West River District (west of DEWBEYÚMUWE? Park)** • **Mix of "river-oriented" uses: commercial, residential (limit warehouses & storage and conceal equipment storage)**	X	X	N/A	A new neighborhood with a variety of residential uses, adaptive reuse, services, infill, and concealed equipment storage
• **Downtown River Mixed Use: Downtown Commercial Core Area: primarily mixed-use and commercial** • **Retail, office, and experiential dining and entertainment uses**	X	X	X	Includes residential uses
• **East River Mixed Use: East River Street** • **Minor infill growth, primarily with high density residential, single-family residential, duplex, triplex, or fourplex development, accessory dwelling units, and some commercial or mixed-use development**	Describes some mixed use & live/work opportunities further east than the Downtown Plan	X	X	Mixed-use, infill, a variety of residential uses, and uses that don't generate high volumes of traffic.

02

EXISTING CONDITIONS & BARRIERS

Mapped Conditions

Barriers to Change

MAPPED CONDITIONS

This chapter describes the physical, regulatory, and ownership landscape of the river corridor, highlighting factors that influence revitalization efforts. Much of the land north of the river is privately owned, requiring collaboration with property owners to advance change, while public land south of the river offers opportunities for recreation and open space. In some instances current zoning does not align perfectly with new land use goals outlined in the 2040 General Plan, especially along West River Street, where future updates are needed to support a mixed-use, river-oriented vision. Additional overlays, such as the River Protection District and airport land use zones, add complexity to development, while floodplain regulations and varying setback requirements protect ecological functions and public safety.

Ownership

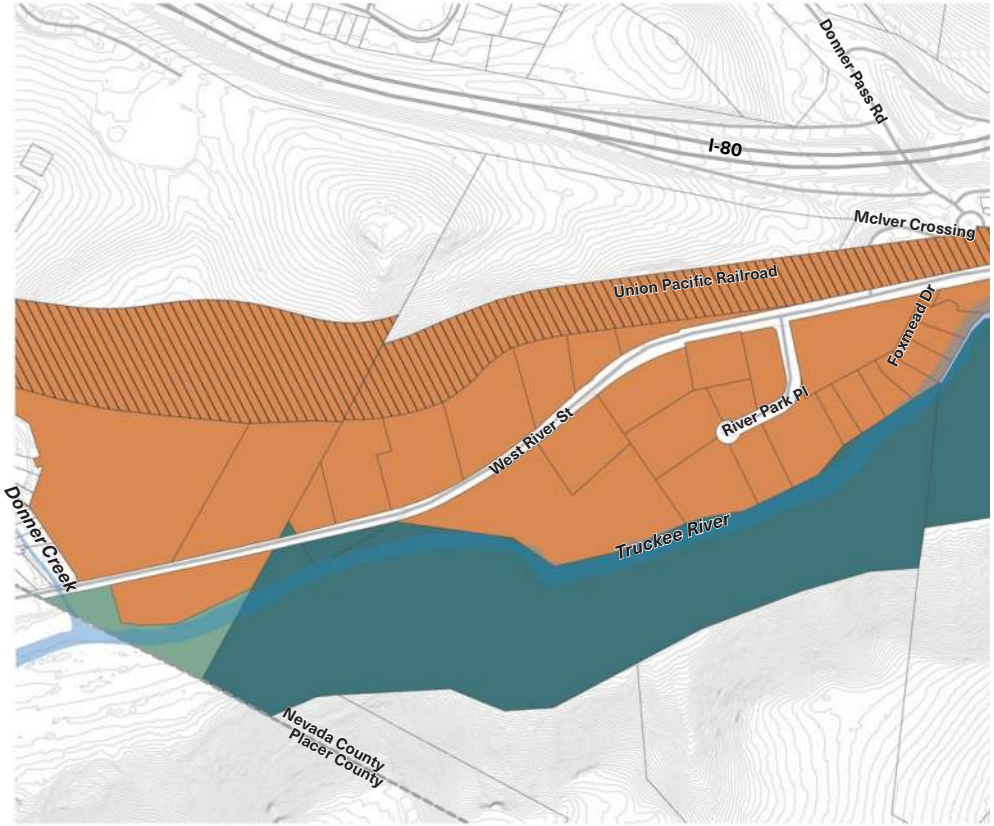
The Playbook emphasizes respect for private property rights and encourages collaboration and partnership. Most of the land north of the Truckee River in the project area is privately owned. Exceptions include DEWBEYÚMUWE? Park and land owned by the Truckee Sanitary District (TSD) near the eastern end of East River Street. Additionally, the Town of Truckee has negotiated 100-year leases with Union Pacific Railroad (UP or UPRR) to use some areas for downtown parking. These leases can take years to finalize, and UP retains the right to revoke access at any time.

South of the river, most land is publicly owned or managed by public agencies and land trusts. This area features open space, a regional park, and the Legacy Trail — a paved, shared-use path for cyclists and pedestrians.

Because much of the land north of the river is privately owned, future changes and investments depend largely on the property owners. If owners are earning revenue from current uses, they may have little motivation to redevelop.

However, private ownership also creates opportunities for significant investment and innovative partnerships. Public agencies can support revitalization by offering incentives, simplifying regulatory approvals for qualifying projects, and partnering on infrastructure improvements to lower development costs.

Ownership



Legend

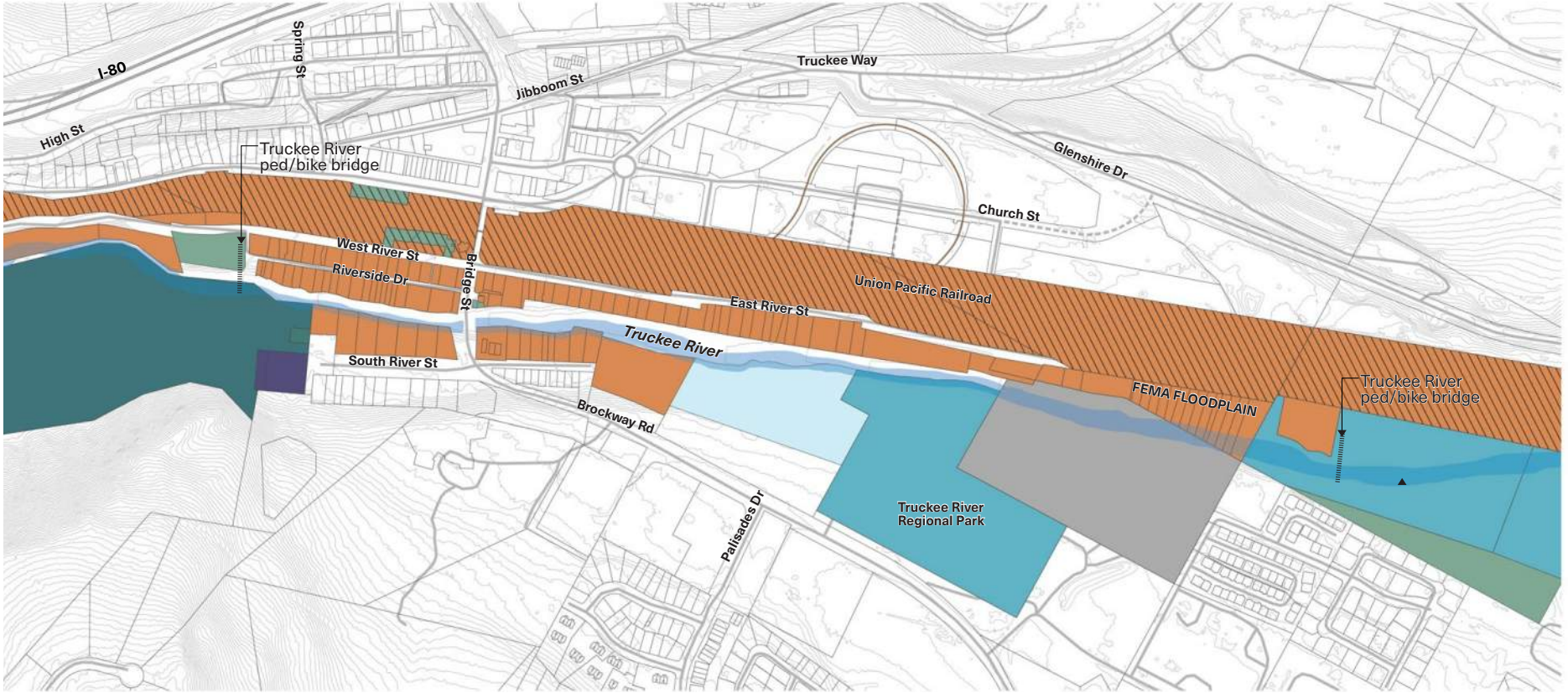
Public & Quasi-Public

- Town of Truckee (Crosshatch under lease from UP)
- Truckee-Donner Recreation & Park District (operates park on lands owned by other agencies)
- Truckee Donner Land Trust
- Truckee Sanitary District
- Truckee Donner Public Utility District
- Truckee-Donner Historical Society

Private

- Private
- Private – Union Pacific Railroad

Ownership (continued)



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Private

- Private
- Private – Union Pacific Railroad

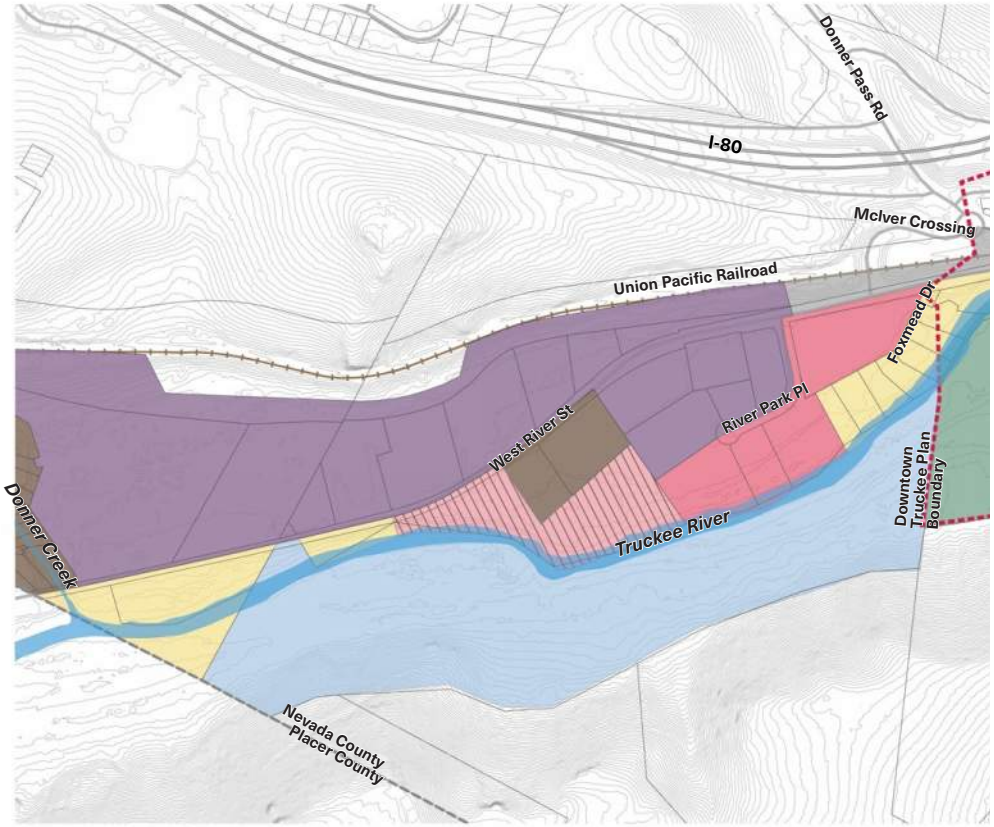
2025 Zoning Districts

Zoning districts are the “rules of the road” for land use in Truckee. They define the activities — like housing, businesses, parks, or industry — allowed on each parcel, helping to manage growth while protecting the town’s character and balancing environmental, economic, and community needs. When someone wants to build, remodel, or start a business, the zoning district outlines what is allowed and the process to follow.

Parcels in the corridor fall into one or more zoning districts, shown on the Town’s Zoning Map and regulated by the Development Code. At the time of the Playbook’s development, the zoning districts do not reflect the changes in land-use contained in the Town’s recently adopted 2040 General Plan (see pages 22–23). The zoning districts include:

- Downtown Manufacturing/Industrial: Allows light industrial, artisan manufacturing, research and development, small-scale warehousing, and limited commercial uses.
- General Commercial: Supports a wide range of retail, service, office, and lodging uses.
- Downtown Commercial: Focuses on walkable, pedestrian-oriented retail, dining, services, and small offices within Truckee’s historic downtown.
- Downtown Mixed Use: Encourages residential, retail, office, and service uses in a vibrant, mixed environment.
- Public Facility: Designated for government offices, schools, utilities, parks, and public services such as parking.
- Downtown Single Family Residential – 4 (DRS-4): Supports low-density, single-family homes up to four units per acre.
- Downtown Medium Density Residential – 14 (DRM-14): Allows single-family, duplex, and small multifamily housing at up to 14 units per acre.
- Downtown High Density Residential – 24 (DRH-24): Supports higher-density housing, like duplexes and condos, up to 24 units per acre.
- Downtown Railroad: Accommodates rail operations along with compatible industrial, service, and limited commercial.

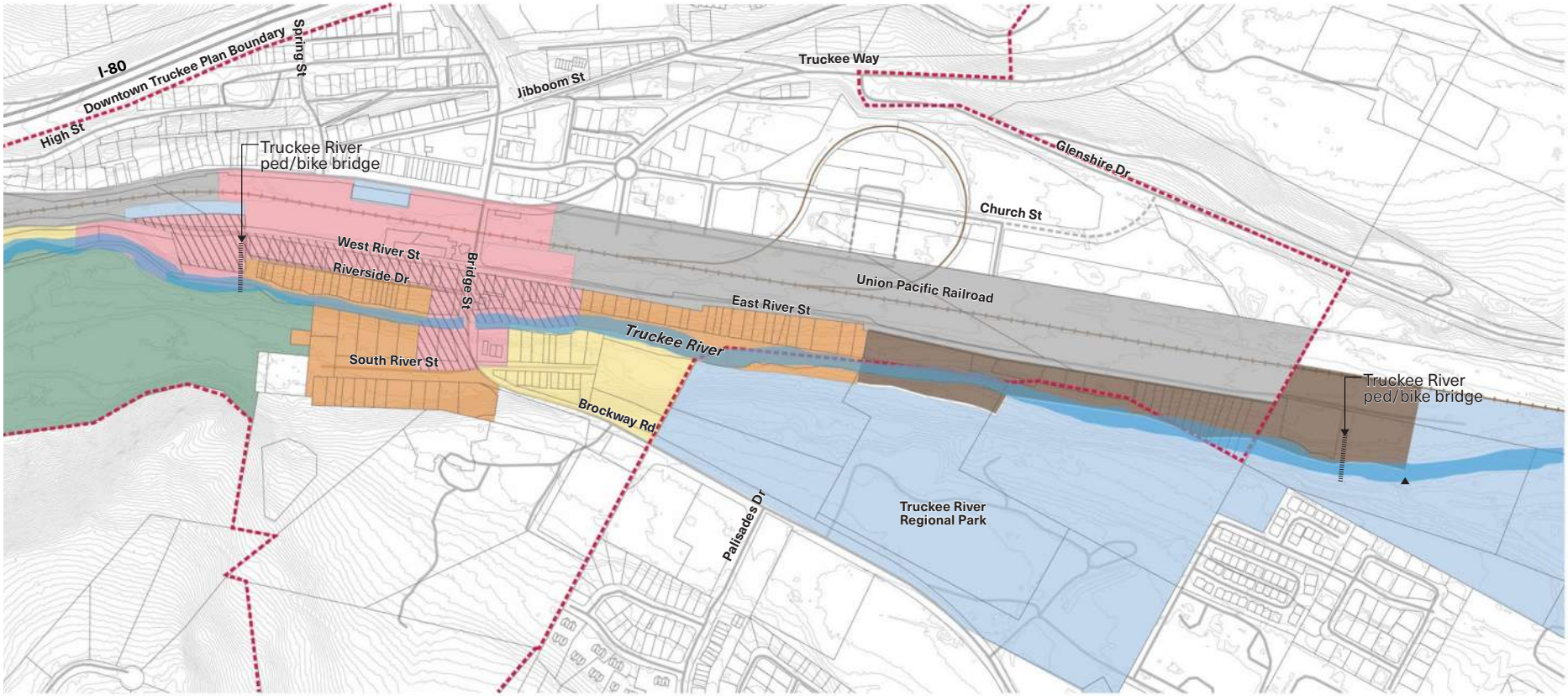
2025 Zoning Districts



Legend

- Downtown Single Family Residential - 4
- Downtown Medium Density Residential - 14
- Downtown High Density Residential - 24
- Downtown Mixed Use
- Downtown Commercial
- General Commercial
- Public Facility
- Downtown Manufacturing
- Downtown Railroad
- Open Space

2025 Zoning Districts (continued)



Legend

- Downtown Single Family Residential - 4
- Downtown Medium Density Residential - 14
- Downtown High Density Residential - 24
- Downtown Mixed Use
- Downtown Commercial
- General Commercial
- Public Facility
- Downtown Manufacturing
- Downtown Railroad
- Open Space

Zoning districts govern development on each parcel through:

- Permitted Uses: Activities allowed by right, or requiring special approval (Conditional Use Permit).
- Development Standards: Rules for building height, setbacks, parking, signage, and design.
- Overlay Districts: Special regulations in sensitive areas, like the River Protection District and Historic Preservation District.
- Residential Densities: A hyphenated number indicates units per acre; for example, "-24" allows up to 24 units per acre or 1 unit per 2,000 square feet.

In some cases, zoning boundaries do not align with parcel lines, which can complicate redevelopment efforts.

2040 General Plan Land Use

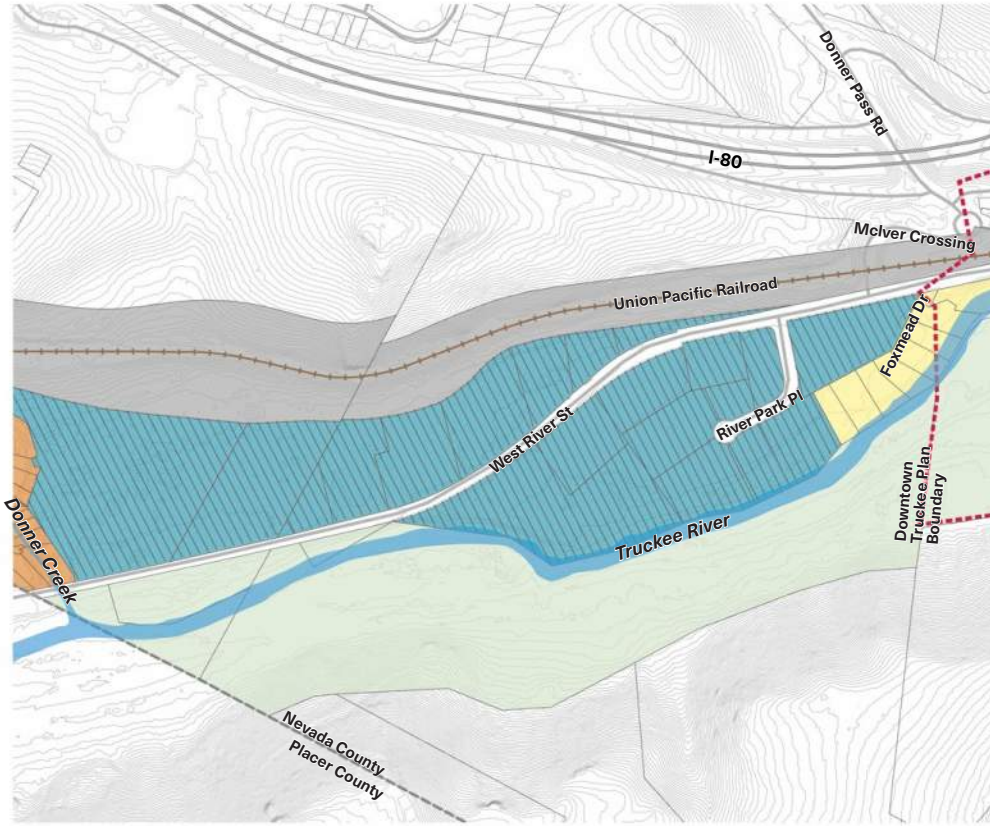
In Truckee, land use is guided by the 2040 General Plan, which outlines the Town's long-term vision for growth, development, and conservation through the year 2040. This comprehensive plan establishes land use designations that inform decisions on housing, commercial development, transportation, and environmental stewardship. Complementing this, the Downtown Truckee Plan provides a focused strategy for the downtown area, aiming to preserve its historic character while promoting a vibrant, walkable environment.

While the names may be the same or similar, land use designations differ from zoning districts. Land use establishes a broad vision and framework while zoning sets the specific rules and is more detailed.

Most of the corridor's zoning matches its land use designations, but along West River Street, they don't line up. The 2040 General Plan introduces a new land use category called Riverfront Mixed Use, which allows a mix of industrial, retail, service commercial, and multifamily housing. This is different from the current zoning, which separates industrial, high-density residential, and downtown mixed-use districts.

The recommendations generated by the R2SC and summarized in the Playbook are instrumental in informing the Town of Truckee's upcoming comprehensive zoning update. This update aims to realign zoning regulations with the 2040 General Plan.

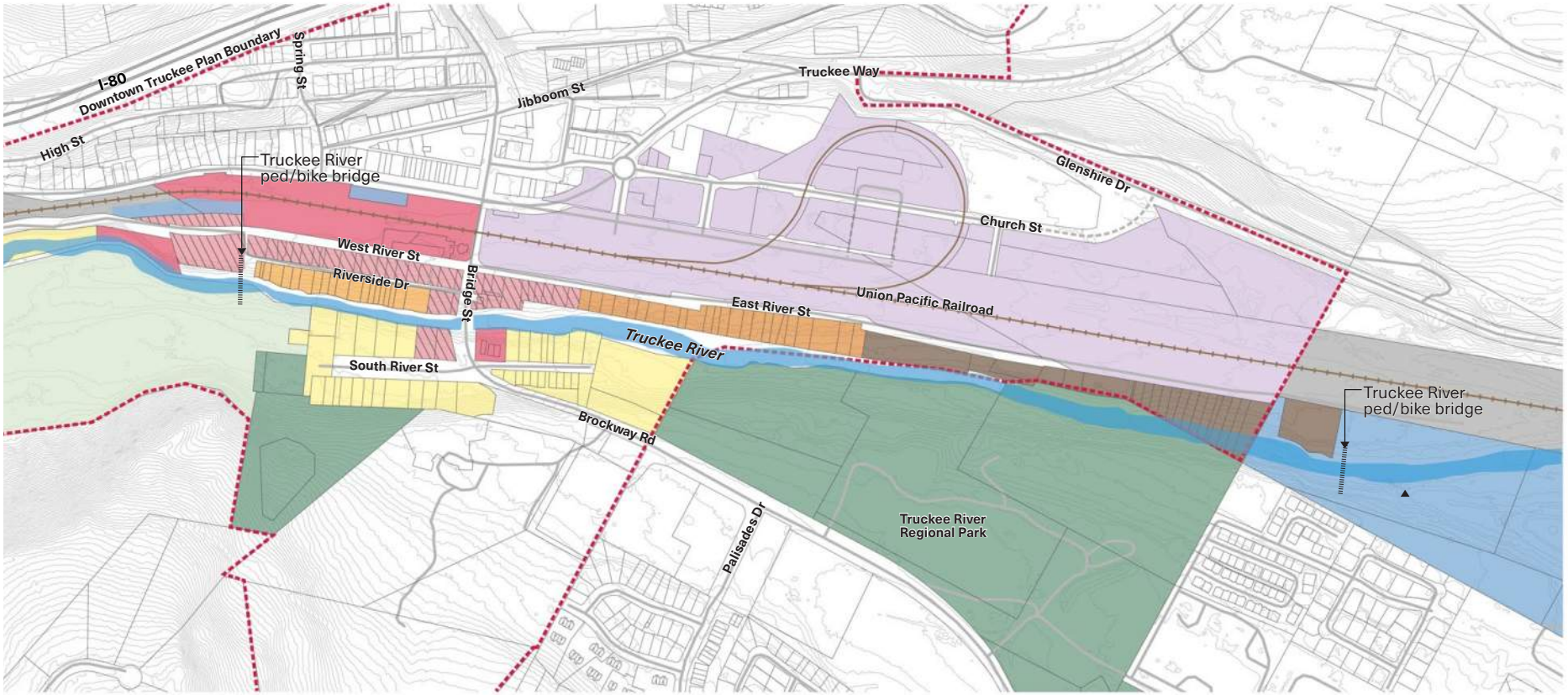
2040 General Plan Land Use



Legend

- Low Density Residential
- Downtown Medium Density Residential
- Downtown High Density Residential - 24
- Downtown Commercial
- Downtown Mixed Use
- Riverfont Mixed Use
- Public
- Open Space/Resource Conservation
- Open Space Recreation
- Rail Transportation Corridor
- Railyard Master Plan Area

2040 General Plan Land Use (continued)



Legend

- Low Density Residential
- Downtown Medium Density Residential
- Downtown High Density Residential - 24
- Downtown Commercial
- Downtown Mixed Use
- Riverfont Mixed Use
- Public
- Open Space/Resource Conservation
- Open Space Recreation
- Rail Transportation Corridor
- Railyard Master Plan Area

Airport Land Use Compatibility

The Truckee Tahoe Airport Land Use Compatibility Plan (TTALUCP) is designed to make sure that development around the airport is safe for people and compatible with airport operations. It helps protect public health and safety, minimize noise impacts, and support the airport's long-term future.

The TTALUCP, adopted in 2016, sets policies that the Town of Truckee and other local agencies use when making land use and zoning decisions in areas near the airport.

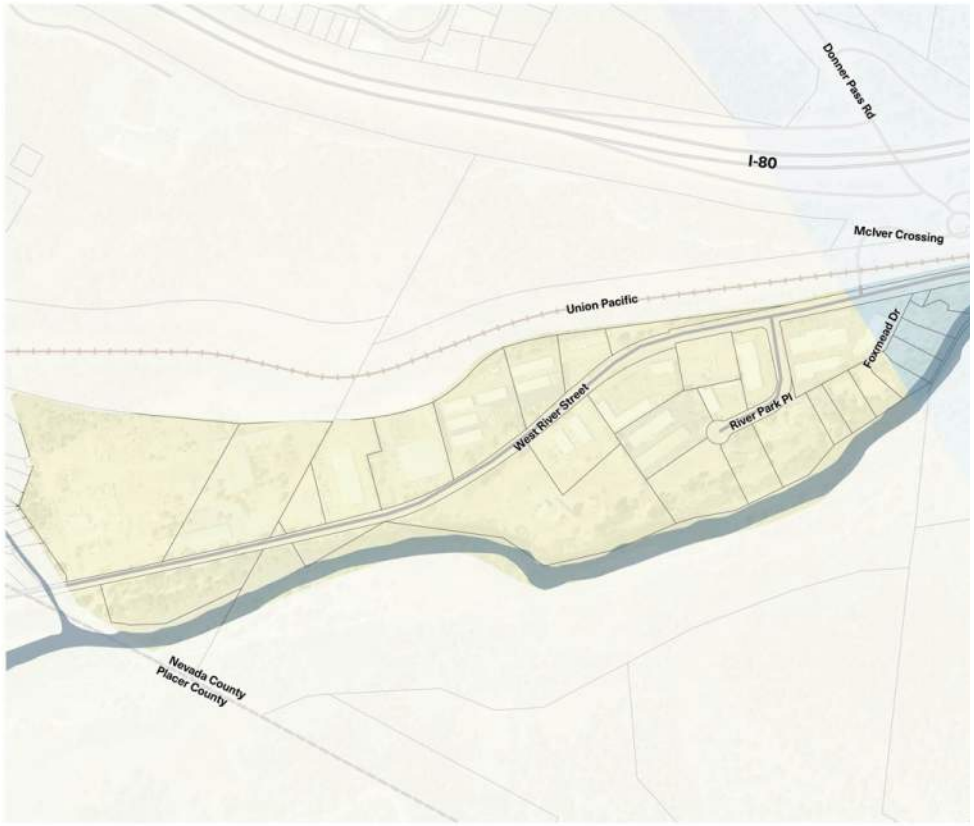
Key Zones for the River Corridor

The TTALUCP divides land near the airport into zones based on how aircraft operate. Each zone has its own set of rules to reduce risks from aircraft takeoffs, landings, and flight patterns. Requirements for Zones B1 and C have the most potential for development limitation and are summarized in the table. Although the densities (dwelling units per acre) identified in the TTALUCP differ significantly from the high density residential zoning district along East River Street, the higher density development is anticipated to be feasible based on parcel size. Residential development would require review of building design to meet height, noise, and safety requirements.

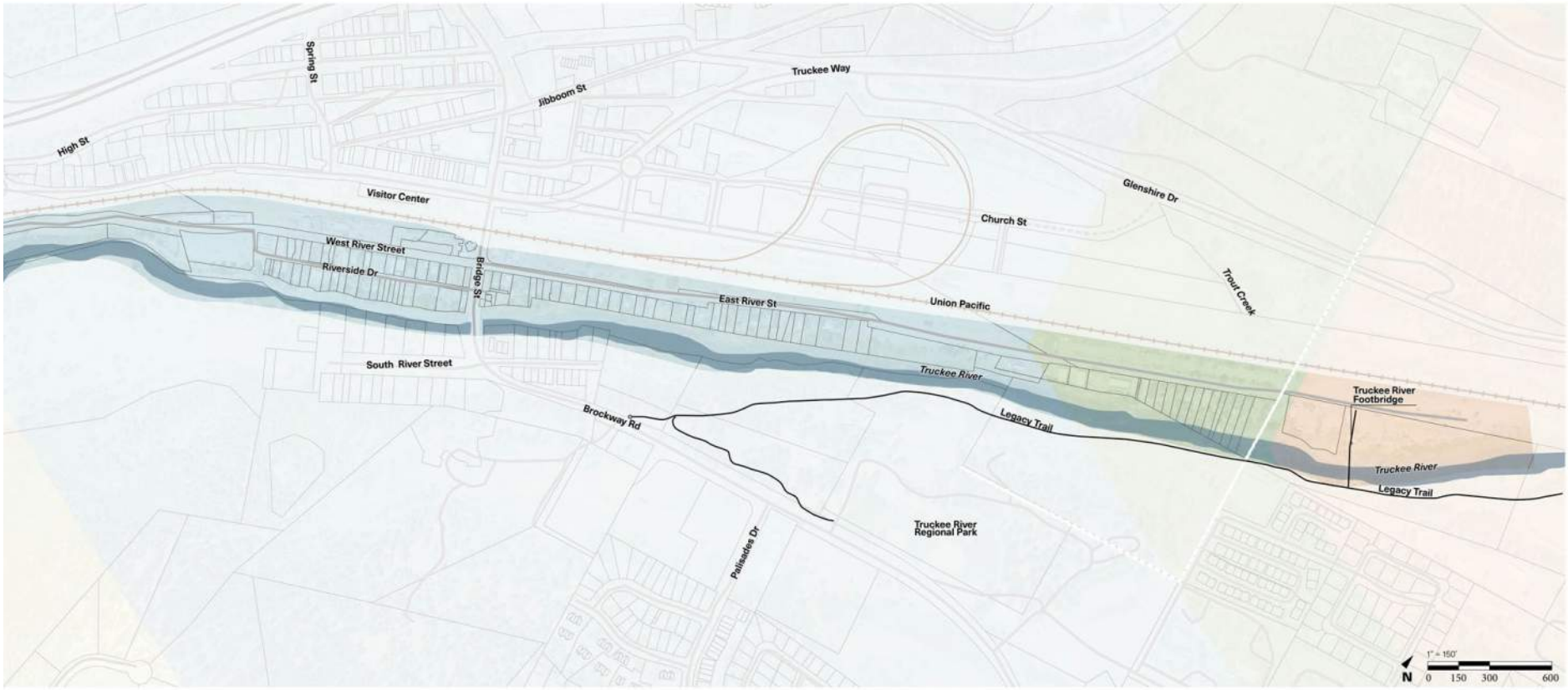
The Town's Development Code includes an airport overlay district with mapping related to safety and noise. The safety areas do not overlap with the primary study area. The map with airport noise zones shows noise contour level of 55 dBA CNEL for locations within the Primary Traffic Pattern Zone (D) and noise contour levels of 60 dBA for parcels within the Inner and Outer Approach/Departure Zones (B1 and C).

- Inner Approach/Departure Zone (Zone B1): Areas immediately beyond the ends of the runways.
- Outer Approach/Departure Zone (Zone C): Extends beyond the inner approach areas where aircraft are still climbing or descending.
- Primary Traffic Pattern Zone (Zone D): Areas that aircraft commonly fly over during standard traffic patterns.
- Other Airport Environs (Zone E): Areas beyond the primary flight paths that may still be affected by airport operations, including noise and overflight.

Airport Land Use Compatibility



Airport Land Use Compatibility (continued)



Zone	Residential (du/ac)	Required Open Land	Prohibited Uses	Other Conditions
Inner Approach/ Departure Zone (Zone B1)	• 0.05 units per acre or parcels > 20 acres • Mixed use development considered as non-residential	30%	• Buildings with more than 2 habitable floors above ground • Highly noise-sensitive uses	• Airspace review required for objects >35 feet tall • Object heights restricted to <50 feet
Outer Approach/ Departure Zone (Zone C)	• 0.2 units per acre or an average parcel size > 5 acres • Mixed use development considered as non-residential	20%	• Buildings with more than 3 habitable floors above ground • Highly noise-sensitive uses	• Airspace review required for objects >50 feet tall

Note: The TTALUCP includes a special condition and exception for infill. Where development that is not in conformance with the criteria already exists, infill projects having similar land uses may be allowed to occur. For example, along East River Street, where housing exists at a higher density than that described in the TTALUCP, infill housing and other similar uses may be allowed. This exception does not apply to Zone B1.

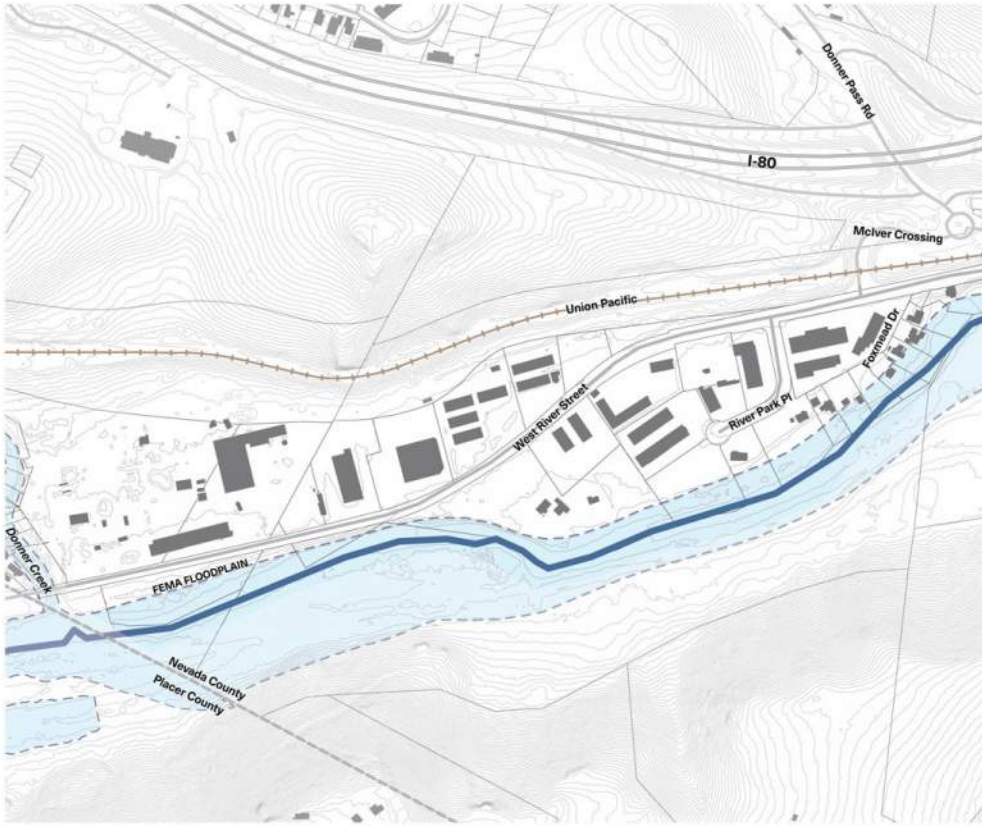
100-Year Floodplain (FEMA)

The 100-year floodplain represents the area adjacent to a river that has a 1 percent chance of flooding in any given year, according to FEMA flood mapping. In Truckee, development near the Truckee River, Donner Creek, and Trout Creek is regulated to protect human safety, limit property damage, and conserve the environmental function of riparian systems. There are differences between the regulatory 100-year floodplain established by FEMA and the natural (or geologic) floodplain.

- *Regulatory 100-Year Floodplain:* Defined by FEMA based on statistical flood modeling; focuses on rare, major flood events (those with a 1 percent chance of occurring annually). It sets legal boundaries for development regulation but may not reflect everyday river processes.
    - Note: Truckee's Development Code provides that the flood information used for permit applications should be certified by a registered professional authorized to assess waterways and shall include a hydrology report. It may differ from the FEMA mapping.
- *Geologic Floodplain:* Defined by natural landscape features shaped over thousands of years (in Truckee's case, by glacial outwash, flood events, and sedimentation). This floodplain often experiences more frequent, smaller floods — such as those occurring every 1 to 5 years — and is critical for maintaining riparian vegetation, sediment transport, and river ecosystem health.

In the river corridor, much of the original geologic floodplain has been disrupted by historical fill, road construction, urban development, and regulated flows from dams. As a result, the 100-year floodplain today is narrower and does not fully represent the extent of land that would have naturally supported seasonal floods and riparian habitats.

100-Year Floodplain (FEMA)

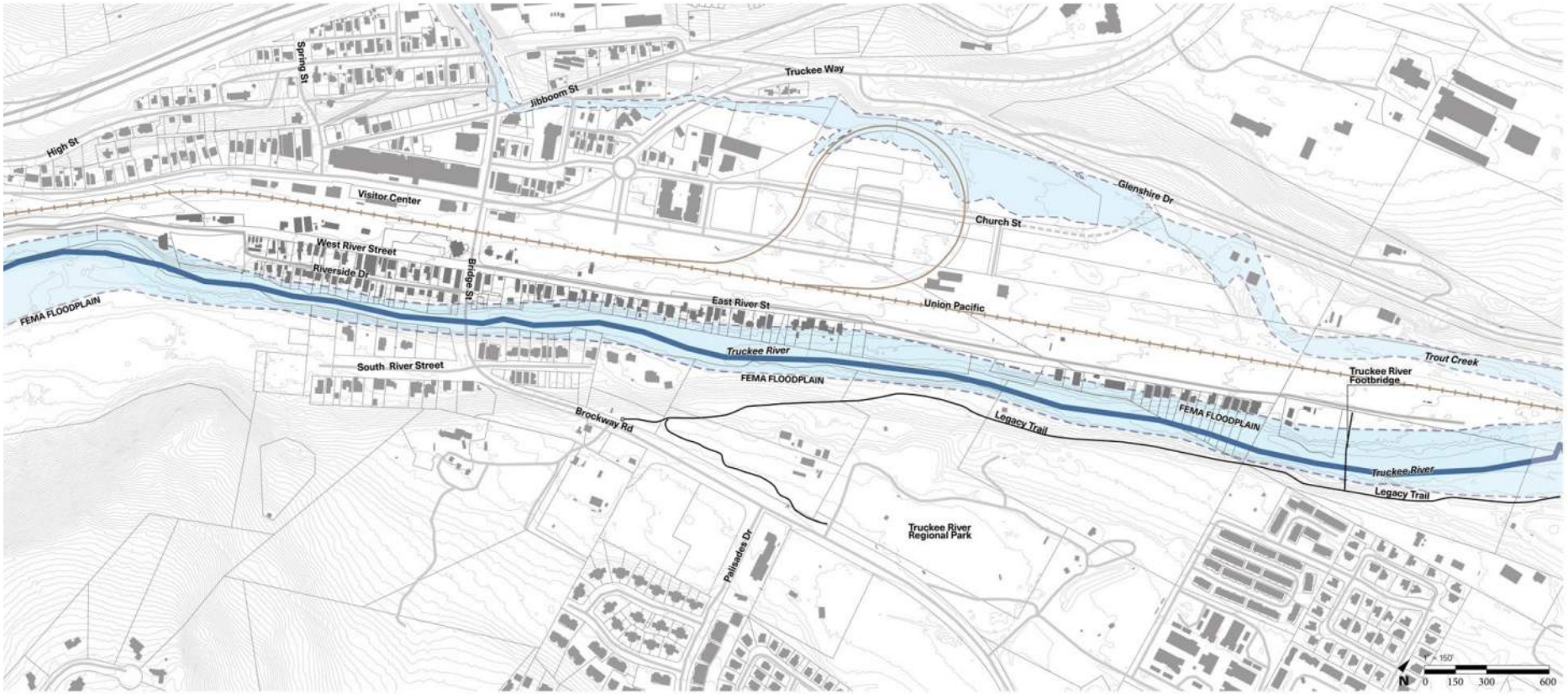


Legend

Truckee River

100-Year Floodplain (FEMA)

100-Year Floodplain (FEMA) (continued)



Legend

- Truckee River
- 100-Year Floodplain (FEMA)

River Protection Overlay District & Downtown Plan Boundary

Under the Town's Development Code, new structures must respect specific setback requirements from the 100-year floodplain, depending on location whether they are inside or outside of the Downtown Truckee Plan boundary and whether they are in the River Protection (RP) Overlay District.

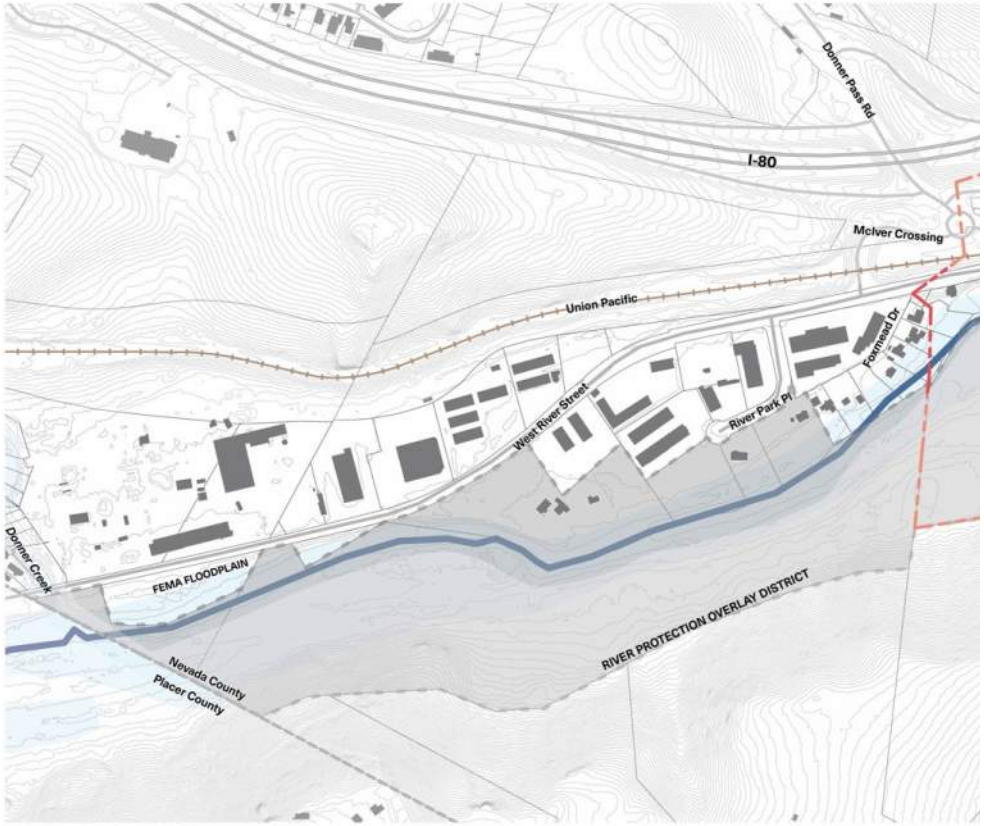
The RP Overlay District is a special zoning tool that applies additional environmental protections to certain parcels adjacent to the Truckee River. Its purpose is to ensure that new development along the river:

- Respects natural topography and riparian landscapes
- Preserves public views and access to the river corridor
- Integrates careful landscaping and screening
- Minimizes environmental impacts through siting and design standards

Parcels within this overlay face stricter requirements, especially concerning building setbacks, landscape restoration, and prohibitions on outdoor storage.

The RP Overlay District boundary extends farther west than the Downtown Truckee Plan (2023) boundary.

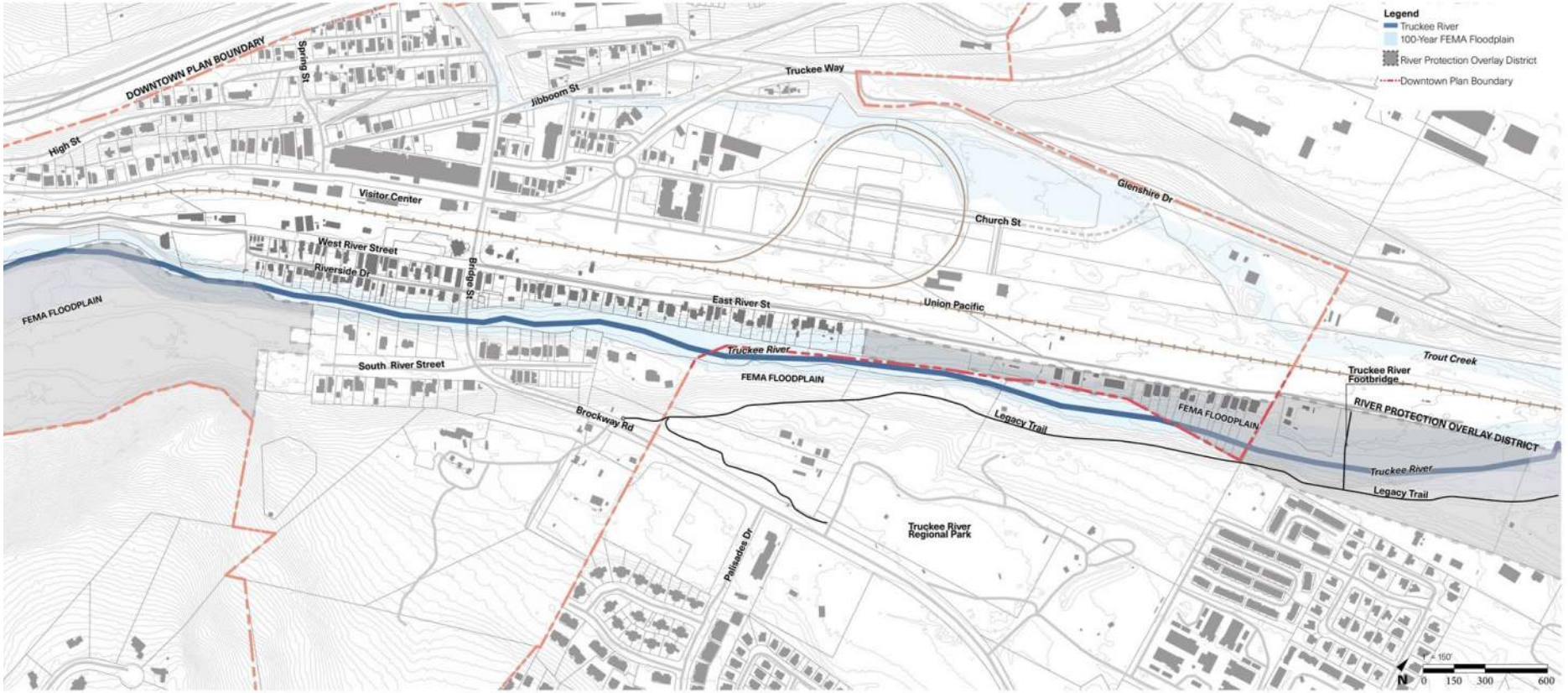
River Protection Overlay District & Downtown Plan Boundary



Legend

- Truckee River
- 100-Year Floodplain (FEMA)
- River Protection Overlay District
- Downtown Truckee Plan Boundary

River Protection Overlay District & Downtown Plan Boundary (continued)



Legend

- Truckee River
- 100-Year Floodplain (FEMA)
- River Protection Overlay District
- Downtown Truckee Plan Boundary

River/Stream Corridor Development Setbacks

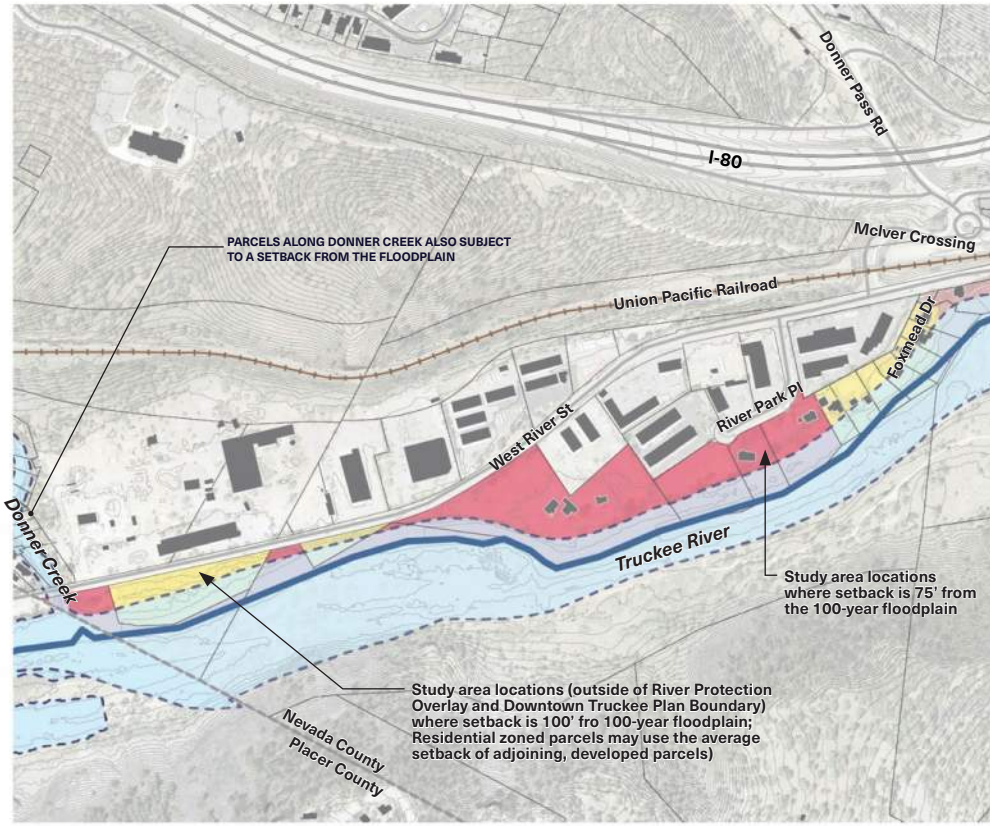
Setbacks from riparian areas are commonly used to protect sensitive natural resources and for public safety. The Truckee River passes through other jurisdictions, each of which have specific setbacks from the river and floodplain.

In Truckee, setback requirements vary across the river corridor depending on whether parcels are inside or outside the Downtown Truckee Plan boundary, and whether they fall within the River Protection Overlay.

Allowed uses within the setbacks generally include pervious pathways, public trails, picnic tables, and river access points. Prohibited uses include structures, grading, exotic landscaping, and any outdoor storage. New development within the corridor must also incorporate native landscaping, site designs that blend into the natural environment, and riparian vegetation restoration where needed.

Area	Setback Requirement	Notes
Outside Downtown Truckee Plan Area (no RP Overlay)	100 feet from 100-year floodplain	Residential parcels may reduce setbacks by averaging existing homes on the block (if 25%+ are developed).
West River Street, RP Overlay Parcels	75 feet from 100-year floodplain	Applies to parcels between the Truckee River and West River Street.
East River Street, RP Overlay Parcels	Horizontal distance equal to 1 foot above base flood elevation	Measured from the natural grade; no adjustment allowed by adding fill.
Downtown Truckee Plan Area (without RP Overlay)	Horizontal distance equal to 1 foot above base flood elevation	Applies broadly across Downtown Study Area parcels near the river.

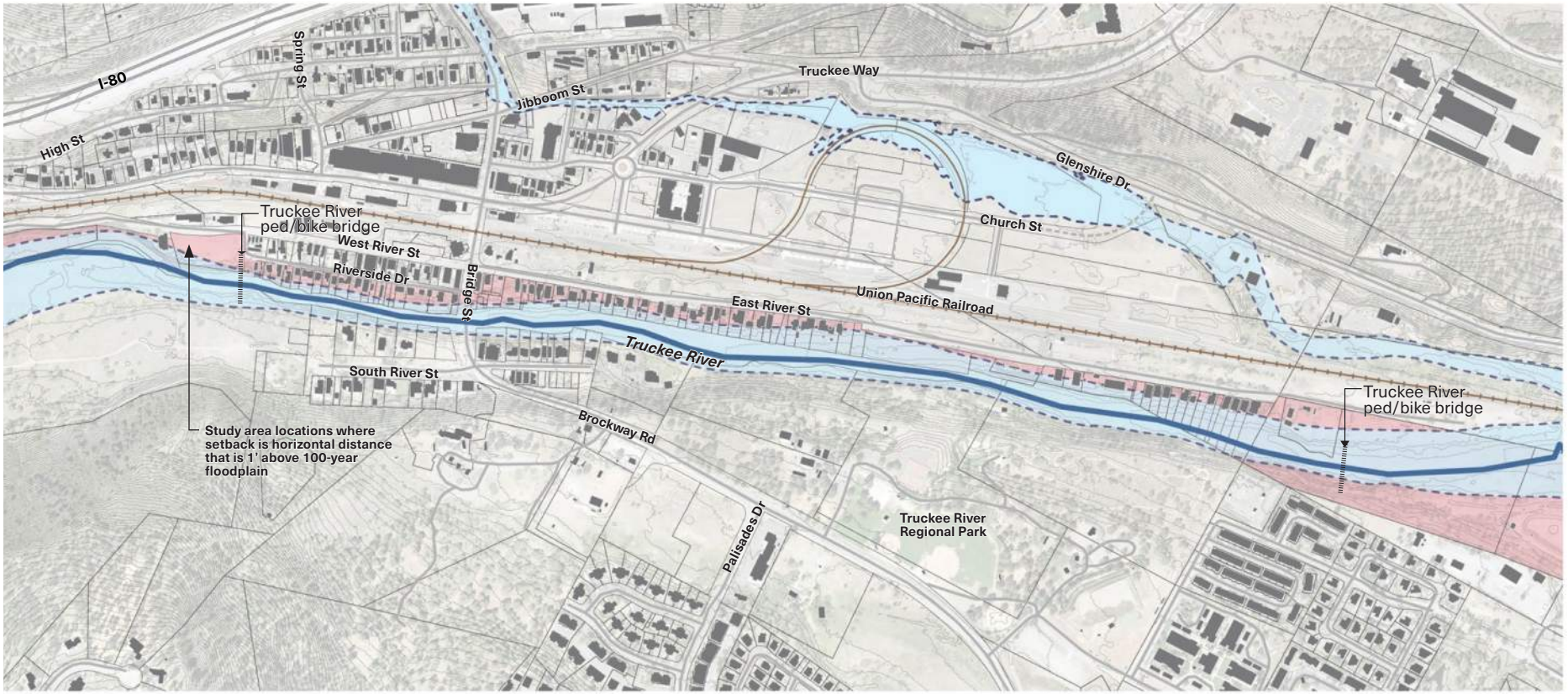
River/Stream Corridor Development Setbacks



Legend

- Truckee River
- 100-Year Floodplain (FEMA)
- Area Where Setback is Horizontal Distance that is 1' Above the Base Flood Elevation
- Area of 75' Setback from 100-Year Floodplain
- Area of 100' Setback from 100-Year Floodplain with Potential Reduction for Residential Zoned Parcels Where Existing Development is Present

River/Stream Corridor Development Setbacks (continued)



Legend

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- Area of 75' Setback from 100-Year Floodplain
- Area of 100' Setback from 100-Year Floodplain with Potential Reduction for Residential Zoned Parcels Where Existing Development is Present

BARRIERS TO CHANGE

BAE and Sierra Business Council interviewed property and business owners to better understand the financial factors and perspectives shaping current conditions within the river corridor. The findings highlighted key barriers to reinvestment and change, which were presented and discussed by the R2SC and CEVAT. Recognizing these barriers led CEVAT to recommend collaborating with property owners on catalyst projects. Additionally, identifying these challenges helps inform potential programs and incentives that may encourage property owners to invest in revitalization.

Lack of Interest in Redevelopment

- Valid reasons behind lack of property owner interest in redevelopment:
  - **Risk Aversion:** When a property generates a steady income, it is risky to make changes that would reduce/eliminate that income, while also requiring new investment with no guarantees of future success/returns.
  - **Ownership Constraints:** Properties have often been passed from original owners to multiple heirs who may face difficulty obtaining consensus on the appropriate course of action to make changes to the property due to differences in financial needs, risk tolerance, and vision for the property. In the absence of agreement, the status quo is the default.
  - **Financial Hurdles:** Buildings can have remaining useful life, even if the structures are in poor condition. This creates economic value to owners that exceeds the residual land value that a developer could afford to pay for a property if it were to be redeveloped. The property owner's existing cash flow increases the buyout value of the property compared to raw land, making redevelopment less efficient from a cost standpoint.

Development Code and Zoning Challenges

- Desire for more assistance from the Town in determining what property improvements are allowable under the existing code.
- Desire for greater clarity and predictability in the approval process.
- Development standards can constrain development (e.g., 75' floodplain setback reduces buildable area, concern that new height limit calculation may reduce allowable height, and parking minimums can take up valuable land.)
- Parcel boundaries don't align with zoning designations in some areas.
- Parcel boundaries cross buildings.
- Legal non-conforming regulations limit reinvestment and contribute to blight.
- Current zoning doesn't align with desired mix of uses achievable/feasible densities (e.g., residential zoning where future mixed use zoning is desired).
- Renovations can trigger building code compliance issues that are cost prohibitive to address.

Site Constraints

- On and off-site infrastructure improvement requirements hinder financial feasibility (e.g., streetscape requirements, undergrounding of utilities).
- Lack of available parking or shared parking.
- Potential environmental contamination increases uncertainty, adds cost to redevelopment, and can limit the ability to remediate sites to a level that allows housing.
- Perceived lack of clearly identified receiver sites.
  - Available receiver sites need to know what uses would like to relocate.
  - Some businesses would only consider moving if they could own the property.
  - Receiver sites would need to offer a comparable site at a similar cost. Prior example of relocation did not financially work for the business because cost to develop receiver site increased lease rate.
- Many businesses like their centralized, downtown location and don't want to move.

03

VISION PLAN

The Framework for Action

Mixed Use Character Descriptions

THE FRAMEWORK FOR ACTION

This chapter outlines the principles, strategies, site-specific opportunities, and descriptions that support the mixed-use zoning areas envisioned by the R2SC. The principles and strategies define the corridor's physical character in ways that improve river health, support economic sustainability, and respond to the needs of private property owners—all while helping to integrate housing and a mix of uses.

Maps show where specific opportunities and projects are recommended along the corridor.

The chapter also describes three distinct mixed-use zones along the river—West River, Downtown River, and East River. For each zone, it explains the intended form, function, and character by identifying appropriate uses, activities, and physical features. These descriptions are designed to guide land use decisions and design standards so that future development reflects the R2SC vision and desired identity.

Restore

Guiding Principle:

Preserve and expand the quality and quantity of natural systems in Truckee by promoting aquatic and terrestrial biodiversity and by implementing environmental, ecological, and conservation-minded strategies.

2040 General Plan Conservation and Open Space Element Guiding Principle

Key Strategies

1. Floodplain restoration and protection, including fill removal, reconnecting hydrology to stranded floodplain areas, and enhancing sediment deposition in existing floodplain areas.
2. Ongoing implementation of the Town's stormwater management and expansion of the Town's water quality monitoring program to evaluate its effectiveness.
3. Vegetation enhancement and improved wildlife habitat connectivity, including treating noxious weeds, thinning overstocked forest areas, improving natural habitats, and promoting cottonwood generation.
4. Managed river access with the provision of strategic access points that incorporate principles of nature-informed design to protect riparian areas, raise awareness, and increase stewardship of the river corridor.

Revive

Guiding Principle:

Transform the corridor into a live/work/recreate district that provides public access to the Truckee River, supports the local economy, and provides a variety of housing types.

2040 General Plan Land Use Goal 9, West River District

Key Strategies

1. Create mixed use districts that allow development to adapt to changing conditions while celebrating and connecting people to the river. (See pages ## for Character Descriptions of Mixed Use Districts)
2. Complement downtown uses (e.g., maker spaces, small-scale artistic uses).
3. Encourage adaptive reuse of existing buildings and infilling existing developments with active streetfronts and residential uses.
4. Allow a variety of types and scales of housing.
5. Include neighborhood services.
6. Allow for essential service uses, such as snow removal, if equipment is fully concealed from public spaces and neighboring residential areas.
7. Encourage a mix of river-oriented uses that highlight the Truckee River and make “best”use of the river edge.
8. Create a walkable and bikeable corridor that is connected to the Legacy Trail to the south and to downtown Truckee and the Railyard to the north.

9. Encourage shared parking and consider reducing parking minimums where appropriate.
10. Encourage development of internal streets and street parking between parcels to support shared parking and reduce the amount of curb cuts along West River Street.
11. For business and property owners looking to relocate away from the river corridor, collaborate to identify suitable locations that support both business needs and river health and access goals.

Reimagine

Guiding Principle:

Encourage new riverfront development that highlights the Truckee River and protects the scenic and environmental quality of the river through development and design standards.

2040 General Plan Land Use Goal 6, Downtown, Policy 6.4

Key Strategies

1. Build upon the Town's Design Guidelines related to Truckee Funk as placemaking and as part of adaptive reuse of buildings.
2. Identify and apply for funding opportunities related to being part of the Truckee Cultural District in order to encourage public art and facade enhancements that express the corridor's historic uses while improving the area's attractiveness.
3. Extend streetscape improvements west along West River Street and east along East River Street; including undergrounding power lines; integrating low impact design strategies (BMPs), trees, and drought tolerant landscaping; and activating the street frontage with new uses.
4. Consider context as it relates to the height of new buildings and surrounding uses. Moderate the transition in building heights to create to create a varied skyline and to segue between different types of uses.
5. Where buildings front the street, organize, step, and layer buildings to reduce the scale of three and four story buildings, while screening existing unattractive uses and activating the street.
6. Preserve existing views of the river, riparian vegetation, and mountains and create new view opportunities.
7. Where some areas of outdoor storage and service uses remain, site buildings to act as a visual screen, locating storage and loading functions away from public rights-of-way or active frontages
8. Evaluate a program that protects public health and safety while allowing for some level of reinvestment into non-conforming properties with the requirement that reinvestments must also achieve at least one of the specific goals identified in the Playbook (e.g., housing, environmental improvements, connectivity/mobility, and beautification).
9. Honor indigenous history.
10. Integrate public art in public spaces and incentivize private development to incorporate public art.

Restore: Floodplain Restoration and Protection Opportunities

The Truckee River has been heavily altered over time by development and land use changes that pushed into its natural floodplain. These changes have disrupted the river's natural shape and the health of its surrounding ecosystems.

The map on this and the next page shows areas where the floodplain could be restored or better protected.

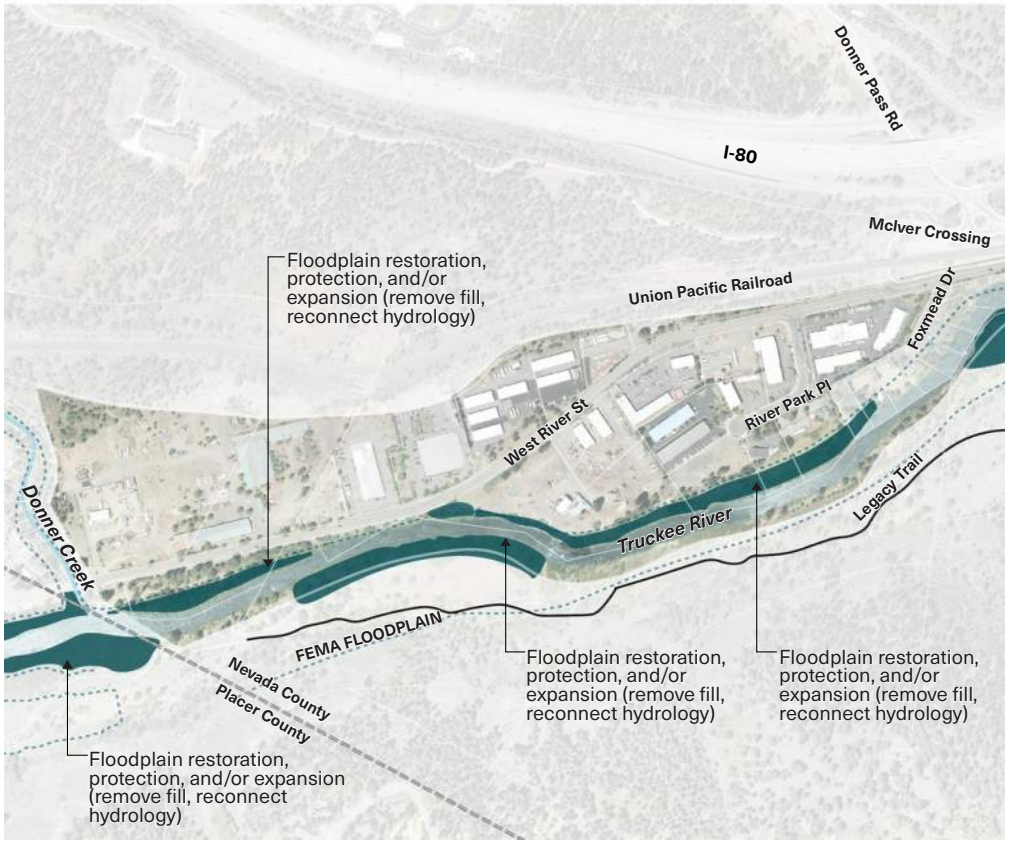
One key strategy is to remove artificial fill—soil and debris placed in the past to raise the ground—especially along West River Street and East River Street. In some spots, this fill is up to 15 feet deep. It has narrowed the river, limited natural flooding, and caused erosion along the banks. Removing this fill can uncover healthy floodplain soils and help restore a more natural and connected riverside environment.

In places where removing the fill is not possible, conditions may be improved by stabilizing the banks. Instead of using hard surfaces like concrete, bio-engineered solutions—such as using planted logs, rock structures, or living cribwalls (wood and soil structures with vegetation) can be used to help prevent erosion while also creating better habitat for fish and wildlife.

Other opportunities include reconnecting the river to its old side channels and improving how water flows into the floodplain during wet seasons. Simple measures like placing downed trees can help guide water into these historic paths, supporting natural flood processes without harming the river's flow during dry months.

In areas where the river is still functioning but could be improved, small adjustments like lowering high ground or removing old concrete can allow water to spread out more often. This helps young cottonwood and willow trees take root and supports long-term health of the riparian ecosystem.

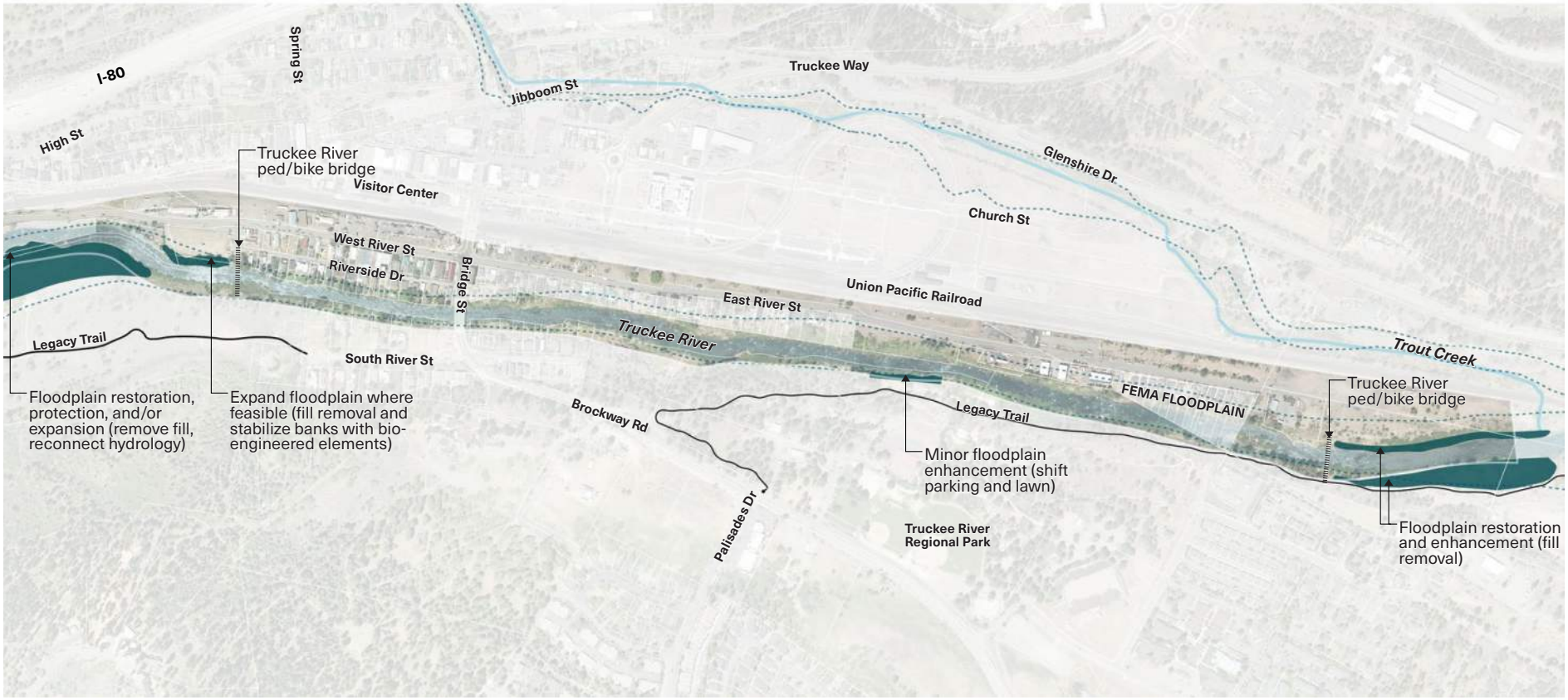
Floodplain Restoration and Protection Opportunities



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Opportunity Area for Floodplain Restoration and Protection

Floodplain Restoration and Protection Opportunities (continued)



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Opportunity Area for Floodplain Restoration and Protection

Restore: Stormwater Management and Monitoring Opportunities

Truckee's current stormwater program includes checking for runoff during dry weather and measuring water clarity (turbidity) upstream and downstream of town limits—but it does not include testing stormwater runoff within the town limits. In the early 2010s, the Town partnered with Placer County on the Truckee River Water Quality Monitoring Program (TRWQMP), but most of that work has since stopped. Around the same time, the Truckee River Watershed Council led a multi-year study to monitor sediment and river health as part of a regional water quality effort.

Bringing back some of these earlier efforts would help track changes over time and improve understanding of how runoff affects the river. Key steps recommended by the R2SC could include:

- Sampling stormwater during rain and snowmelt events
- Mapping areas where sediment is building up in the riverbed
- Surveying aquatic insects (a sign of river health)
- Measuring how much fine sediment is moving through parts of town
- Analyzing turbidity data already being collected

The main goal is to better understand and reduce the amount of sediment and pollution entering the Truckee River through stormwater runoff—especially during storms.

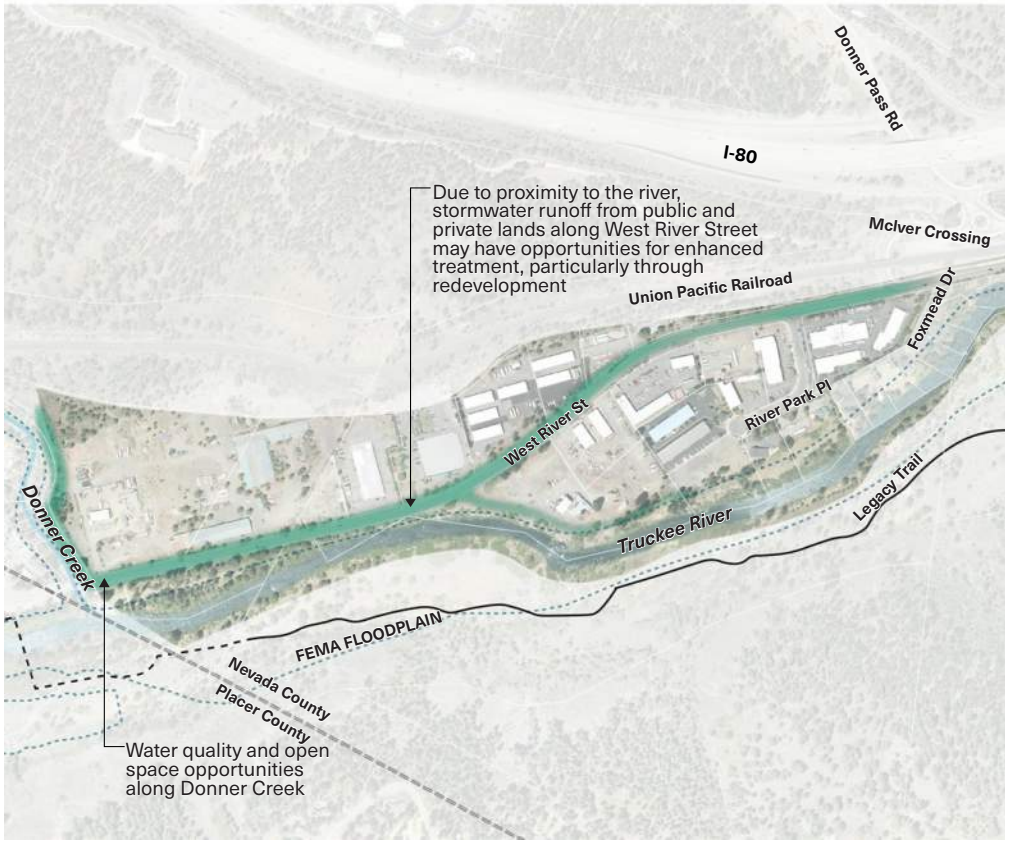
New tools like bioswales and vegetated infiltration systems can help treat runoff before it reaches the river. These low-impact, nature-based solutions are recommended both before and after water enters underground pipes.

Additional recommendations developed by the R2SC include:

- Address runoff from both public and private land
- Help property owners manage stormwater on-site, including sharing resources and funding opportunities
- Focus efforts where the most benefit can be achieved

Redevelopment along the corridor can also help reduce runoff and improve long-term water quality.

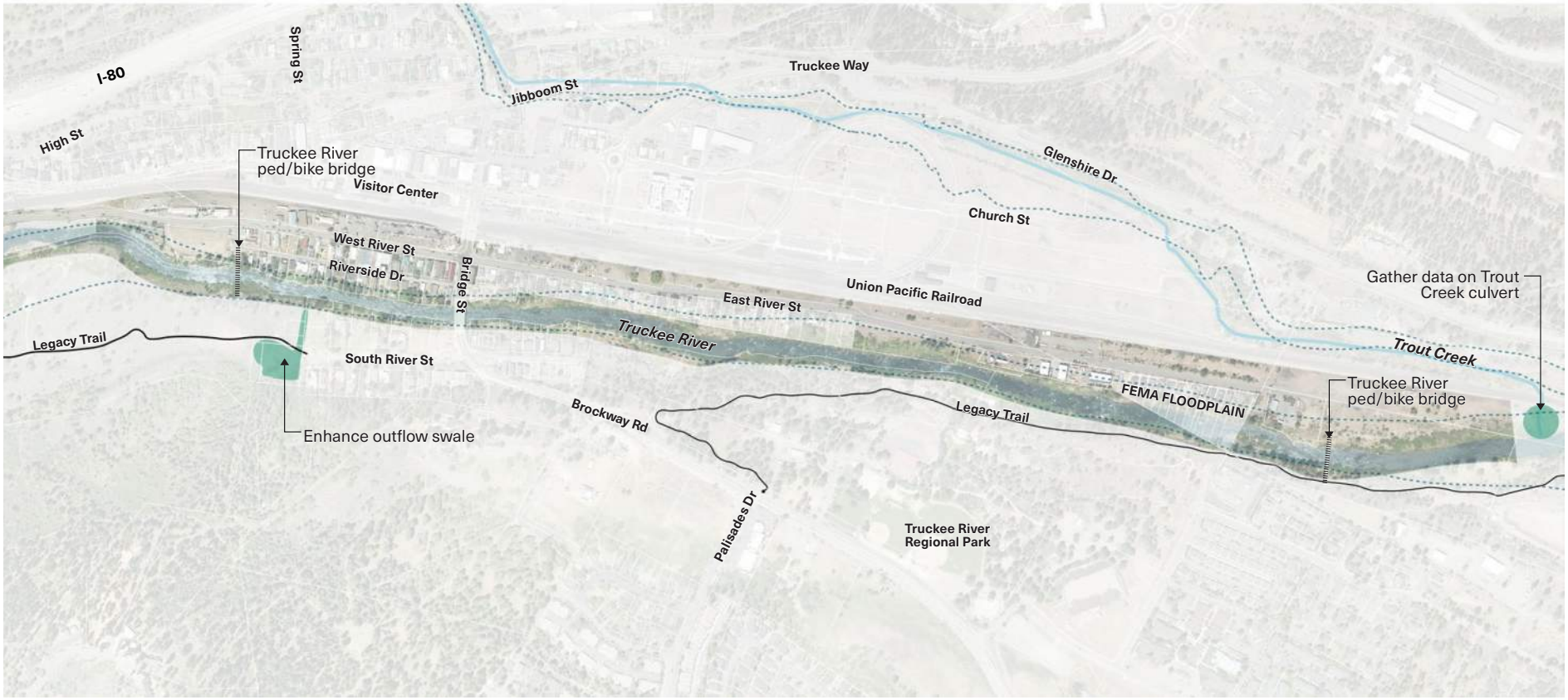
Stormwater Management and Monitoring Opportunities



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Opportunity Area for Stormwater Enhancements

Stormwater Management and Monitoring Opportunities (continued)



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Opportunity Area for Stormwater Enhancements

Restore: Vegetation Enhancement Opportunities

The river corridor supports mostly healthy native vegetation, particularly in upland zones like Jeffrey Pine and Lodgepole Pine forests, which show good regeneration and minimal threat from pests or fire. However, recreation impacts and invasive weeds—especially along the Legacy Trail—are a concern.

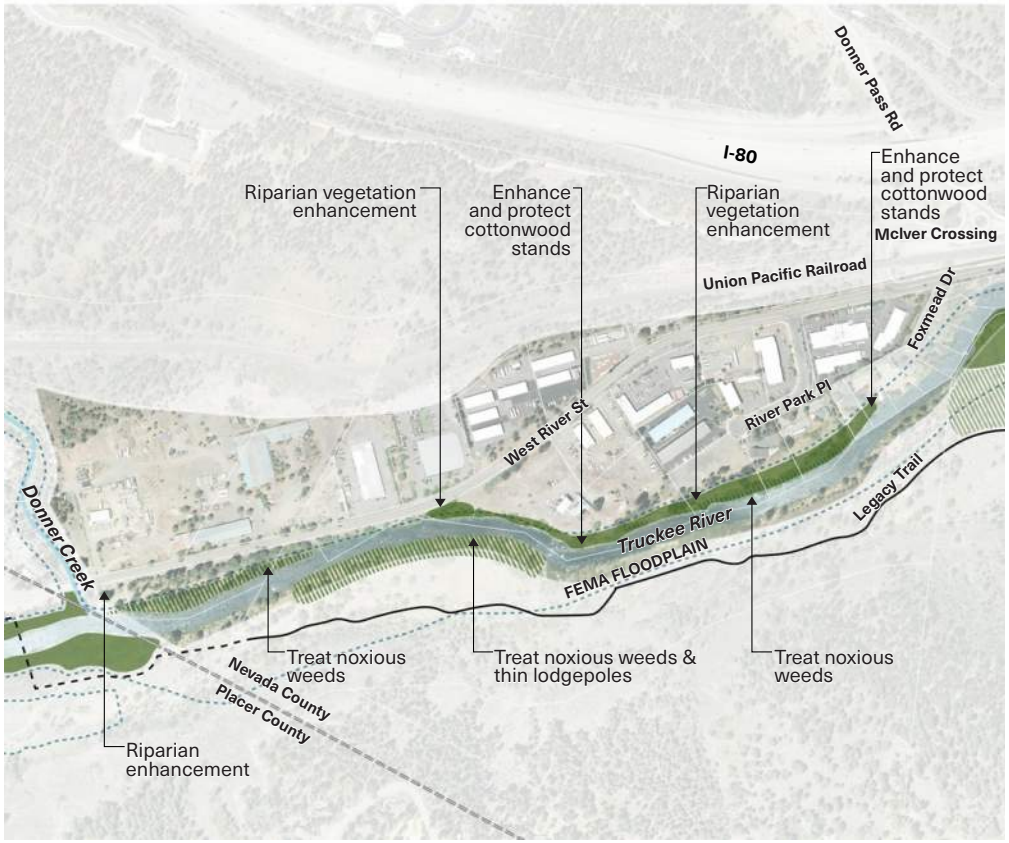
Riparian vegetation is more varied in health. Mountain Alder Thickets are in good condition, while Cottonwood Forests and Aspen Groves are aging and lack regeneration. Cottonwoods in particular are poorly connected to the river, limiting natural seeding and increasing their vulnerability. Beavers have also damaged younger trees. Willow Thickets have limited habitat and some dead or decadent growth in drier areas. Invasive weeds are widespread across riparian zones, including poison hemlock, bull thistle, spotted knapweed, and Russian thistle.

Meadow areas are limited and degraded. Kentucky Bluegrass-Redtop meadows likely replaced more hydrologically connected Nebraska Sedge Meadows due to reduced groundwater availability. The remaining Nebraska Sedge Meadows are in poor condition due to disconnected water sources and past land impacts.

Recommendations include the following:

- Invasive Species Control: Target known infestations along trails and riverbanks. Monitor for future outbreaks.
- Forest and Shrubland Management: Thin overstocked Lodgepole Pine areas (especially near Donner Creek) to reduce wildfire risk. Remove dead or stressed conifers and maintain a watch for disease outbreaks.
- Cottonwood and Aspen Regeneration: Stimulate cottonwood regrowth by removing some older trees and protecting young trees from beaver damage. Explore use of the Sanitary Agency ponds as nurseries.
- Willow and Alder Thicket Maintenance: Remove dead willow stems and manage beaver impacts in active areas. Protect and enhance vegetation along Donner and Trout Creeks.
- Meadow Restoration: Reconnect surface and groundwater to support wetland vegetation like Nebraska Sedge.
- Natural Area Preservation: Protect small but valuable wildlife corridors south of the river and maintain ecological connectivity.

Vegetation Enhancement Opportunities



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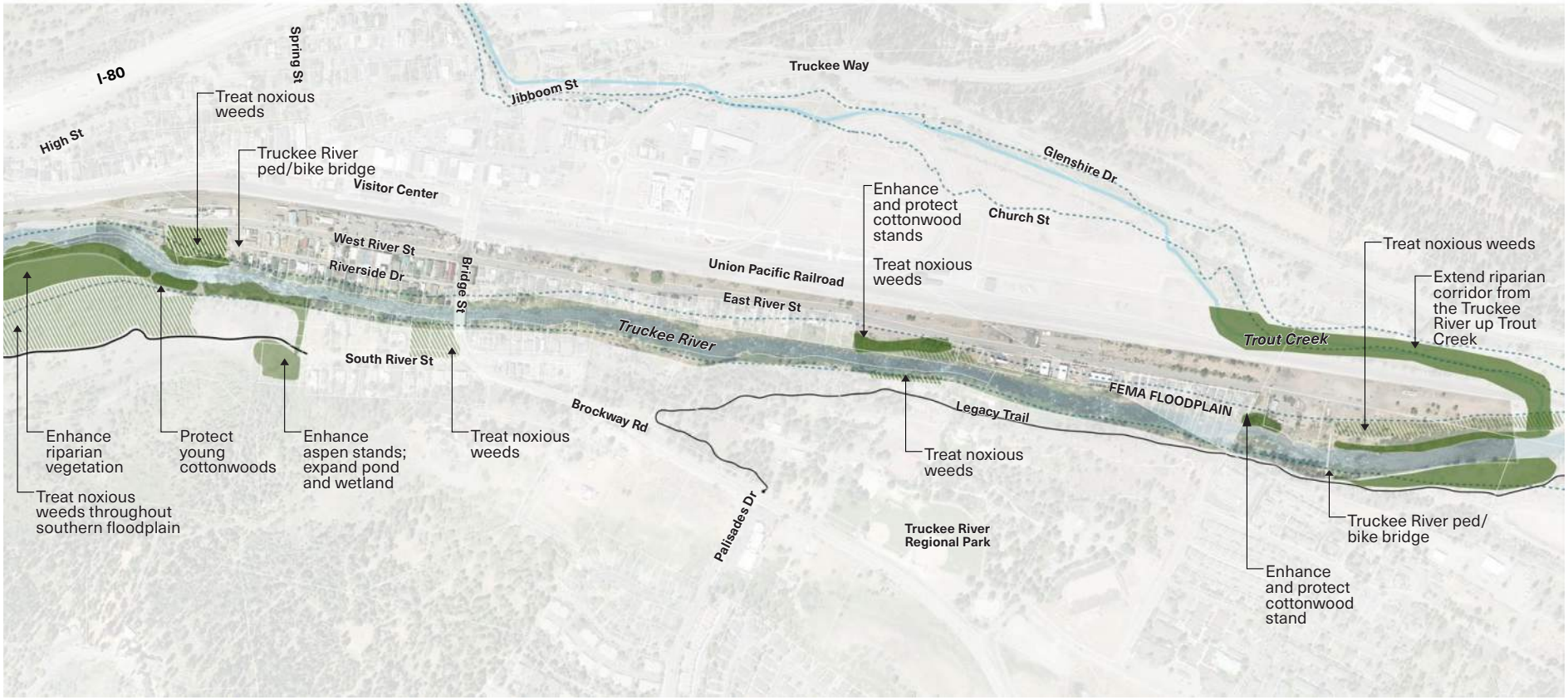
Truckee River

100-Year Floodplain Boundary (per FEMA)

Opportunity Area for Vegetation Enhancements

Vegetation Enhancement Opportunities (continued)



Legend

Truckee River

100-Year Floodplain Boundary (per FEMA)

Opportunity Area for Vegetation Enhancements

Restore: Wildlife Habitat Connectivity Opportunities

The riparian habitat within the Truckee River corridor, while fragmented, supports a wide variety of aquatic and terrestrial species, including trout, amphibians, birds, and mammals. Although the area is classified by the California Department of Fish and Wildlife (CDFW) as having "Limited Connectivity Opportunity" due to surrounding development, it still plays an important local role in linking nearby habitat areas, especially to U.S. Forest Service lands and open space to the south and east.

The corridor contributes to regional habitat connectivity by connecting smaller "Natural Areas" to larger "Irreplaceable and Essential Corridors." Downstream, the Truckee River is designated as a Wild Trout Waterway, emphasizing the importance of preserving water quality and habitat conditions. The stretch of river between the Foxmead boulder and the pedestrian bridge is high quality trout habitat.

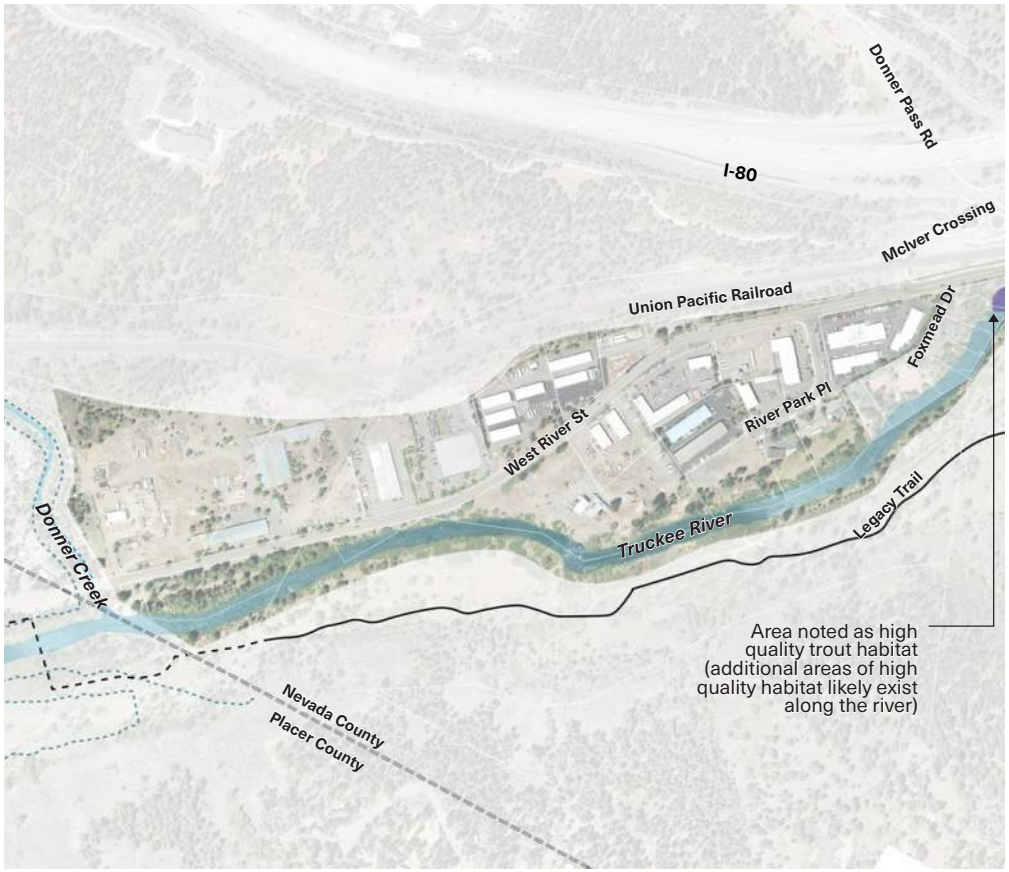
Numerous species are known or expected in the area, including black bears, beavers, mountain lions, amphibians like the western toad, migratory birds, river otters, native fish such as Paiute sculpin and mountain whitefish, and several special-status species such as the Sierra Nevada red fox, bald eagle, and Lahontan cutthroat trout.

Recommendations include the following:

- Enhance and restore riparian and aquatic habitat, especially in segments of the river that support high-quality trout habitat, such as between the Foxmead boulder and the pedestrian bridge.
- Reconfigure the Trout Creek railroad culvert to improve fish passage between Trout Creek and the Truckee River.
- Protect and restore Trout Creek to support a sustainable trout population, aligning with state goals to maintain wild trout habitat and prevent adverse impacts from development.

These actions would improve habitat connectivity and resilience while supporting both biodiversity and recreational fisheries.

Wildlife Habitat Connectivity Opportunities



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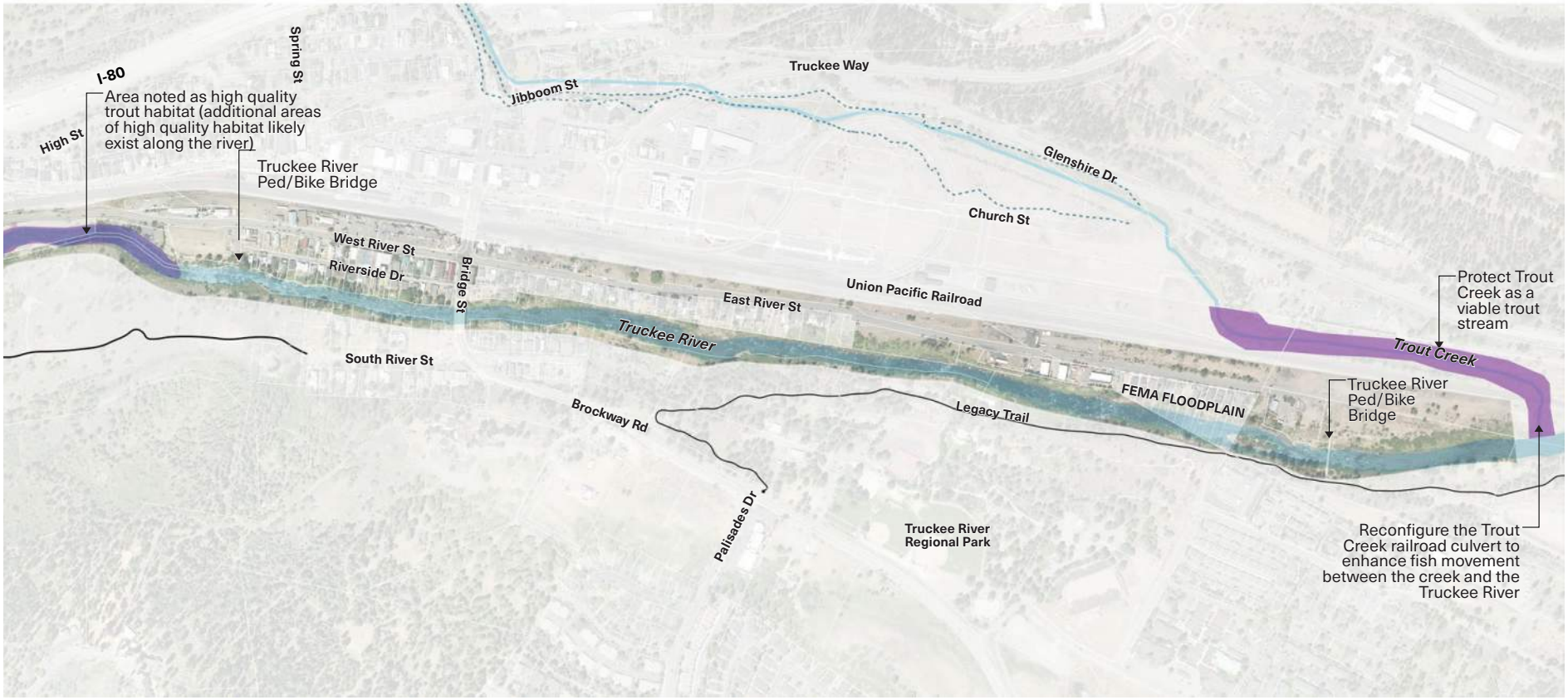
Truckee River

100-Year Floodplain Boundary (per FEMA)

Opportunity Area for Wildlife Habitat Enhancements

Wildlife Habitat Connectivity Opportunities (continued)



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Truckee River

100-Year Floodplain Boundary (per FEMA)

Opportunity Area for Wildlife Habitat Enhancements

Restore: Potential Areas for Managed River Access

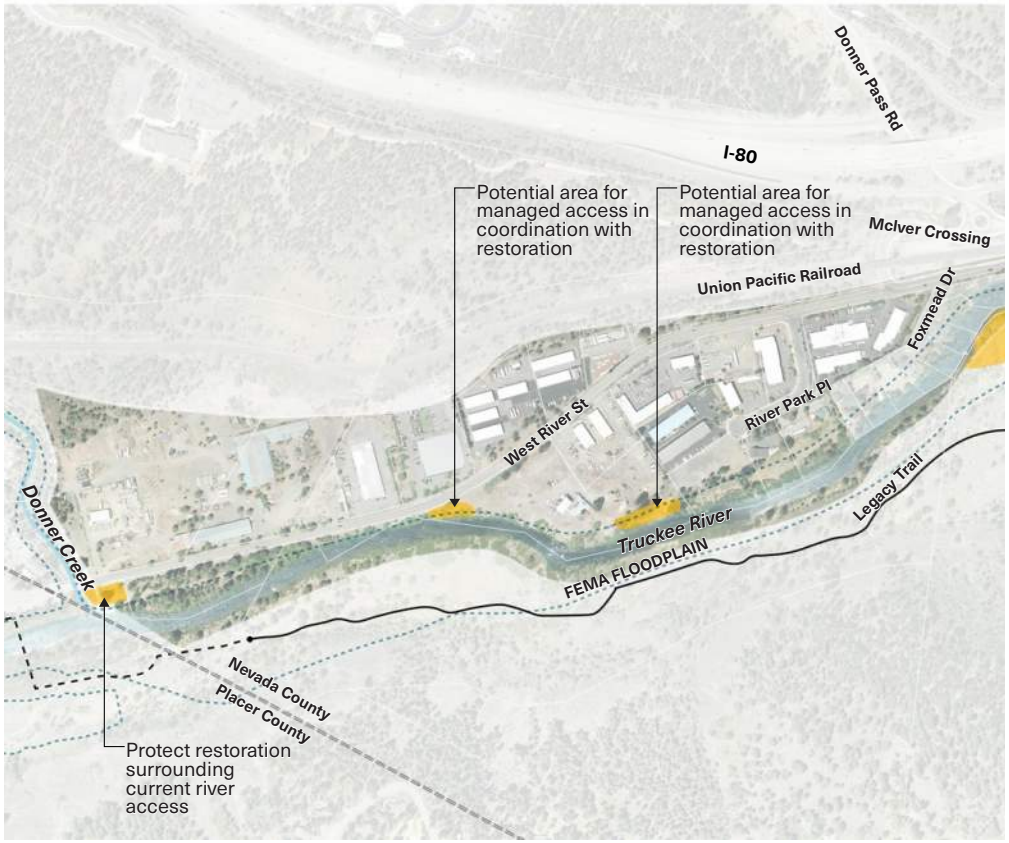
The Truckee River is a key community asset. Access to the river in its more developed context of the downtown should be coordinated with restoration of ecological functions and improvements to habitat and water quality. Using nature-based design—which emphasizes both ecological education and low-impact interaction—can foster stewardship while protecting sensitive areas.

This approach can include subtle but effective design strategies such as using native shrubs and fencing to deter entry into sensitive areas, placing felled trees with rootwads to prevent erosion, and installing natural elements like logs and boulders to guide access to more resilient zones like gravel bars or grassy floodplains. Access points should be professionally designed by a team that includes at least a hydrologist, ideally alongside a botanist, biologist, and landscape architect.

When making decisions about access, either on the north or south sides of the river, the RHAAT developed these points for consideration:

1. Manage access while protecting riparian resources.
2. Reduce access or dissuade use where there is significant or notable erosion and degradation of riparian vegetation and habitat. For example, access should be limited where there are sensitive riparian areas, or a condition of approval for future development projects would be to help promote riparian vegetation where appropriate.
3. Preferred access locations are those areas people are already using.
4. Consider designing and providing managed access to the river at pedestrian/bike bridge locations while mitigating and directing use to desired areas.
5. Consider trail connections and alignments when riparian and floodplain can be preserved and there are no wildlife corridor impacts.

Potential Areas for Managed River Access



Potential areas include the following (not inclusive of all potential areas):

- Improve managed access near the Donner Creek confluence, using naturalistic features on steep slopes to reduce erosion and designate it as publicly-accessible open space.
- Formalize access at Truckee Springs, using vegetation and fencing to control unmanaged use.

Legend

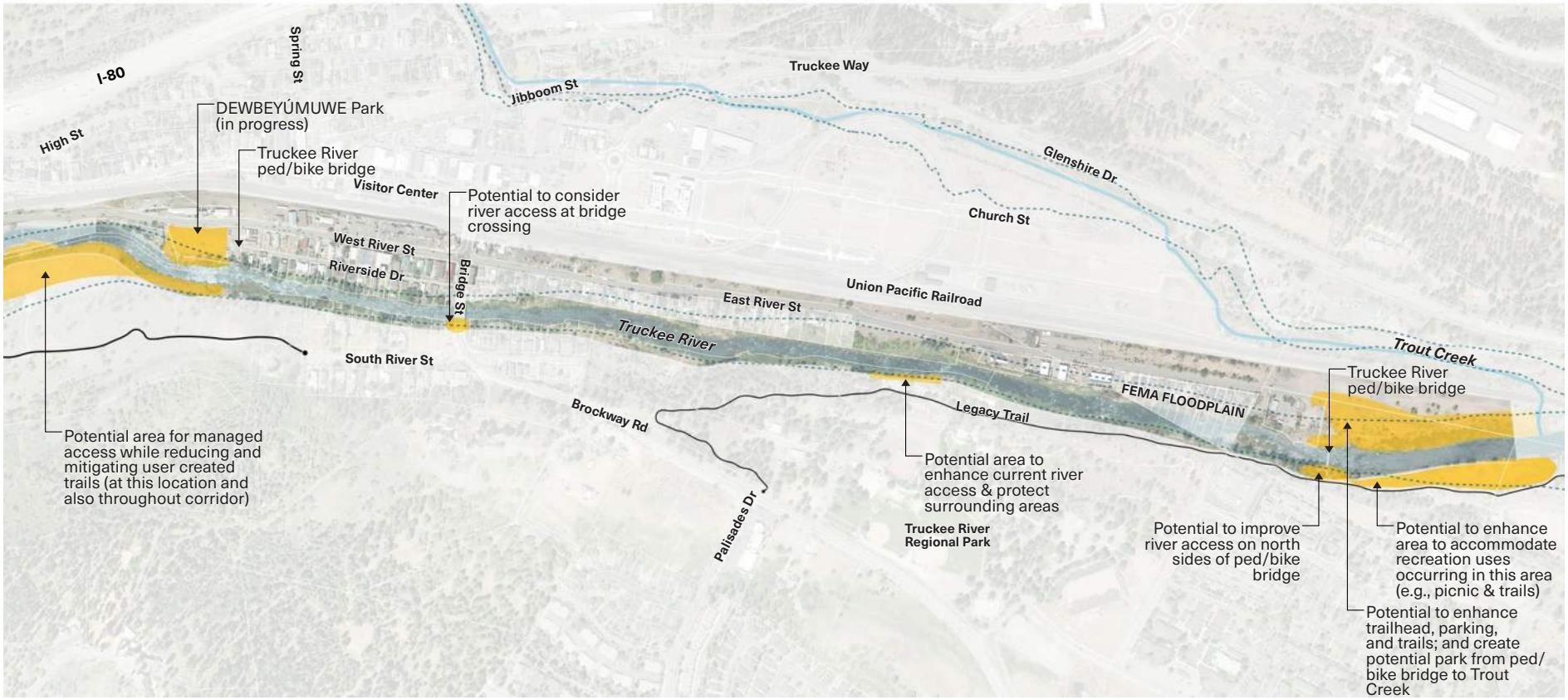
Truckee River

100-Year Floodplain Boundary (per FEMA)

Potential Areas for Managed River Access

Note: Locations shown are not precise and may not be inclusive of all opportunities . Managed access locations should be guided by the decision criteria developed by the RHAAT.

Potential Areas for Managed River Access



Legend

Truckee River

100-Year Floodplain Boundary (per FEMA)

Opportunity Area for Managed River Access Enhancements

Note: Locations shown are not precise and may not be inclusive of all opportunities . Managed access locations should be guided by the decision criteria developed by the RHAAT.

- Enhance access at the East River Street bridge, on the northern riverbank, and explore incorporating more park amenities like seating and overlooks near the nearby pedestrian/bike bridge.
- Consider improved access at the Trout Creek confluence, including fill removal, parking, and use evaluation.
- Clarify rights for public use below the high-water mark.
- Explore managed access at the southwest corner of Truckee River Partners' property and at River Park Place through easements or land agreements.

As development comes forward, the Town should collaborate with private and public landowners to provide locations for managed access along the Truckee River and reduce and mitigate unmanaged river access wherever public access is likely in a way that protects riparian and floodplain habitat.

Revive: Community Connectivity Opportunities

The Truckee River corridor currently supports walking, biking, and rolling through a network of facilities, including new sidewalks on West River Street near Bridge Street, existing bike lanes on West River Street, sidewalks along River Park Place, and two bicycle/pedestrian bridges that link the north side of the river to the Legacy Trail on the south side.

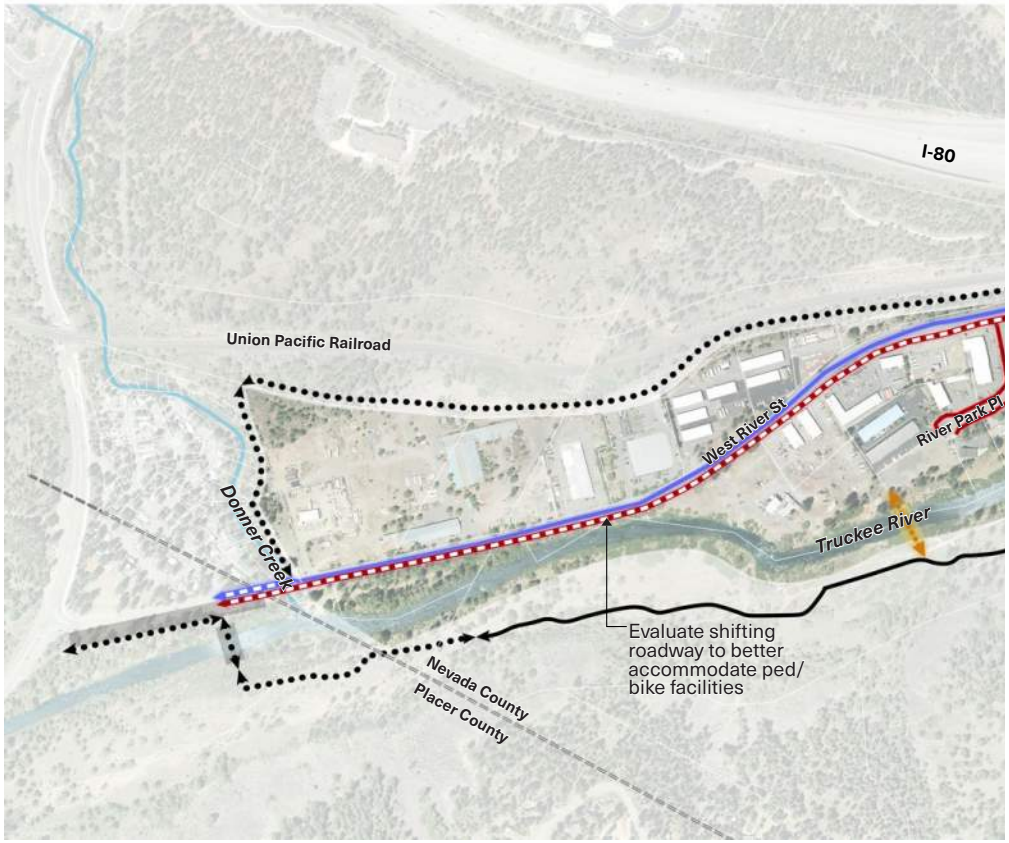
These bridges—located at the new DEWBEYÚMUWE? Park in the downtown area and at the eastern end of East River Street—not only enhance connectivity but are also designed to accommodate emergency vehicles. The Legacy Trail itself is a vital regional multi-use path, offering safe, scenic, and continuous access along the Truckee River while linking neighborhoods, parks, and downtown.

Public input highlighted strong support for improving the comfort, safety, and connectivity for people walking or rolling through the corridor and linking to other parts of town.

The following enhancements, shown on the adjacent maps, are recommended to strengthen connectivity:

- Work with Union Pacific Railroad (UP or UPRR) to use the rail corridor for a Class 1 shared-use path along the northern edge of the project area (including both West River Street and East River Street).
- Construct a Class 1 path along Donner Creek to link the proposed northern shared-use path with proposed sidewalks and existing bike lanes on West River Street. This, with the existing pedestrian/bike bridges, would complete the figure-eight loop envisioned in the 2005 River Revitalization Plan.
- Extend the sidewalk on West River Street from downtown to State Route 89, enabling existing and future residents to safely walk, bike, or roll between neighborhoods and town destinations.
- Upgrade the bike lanes across the Donner Creek bridge on West River Street to improve cyclist safety and access.
- If new pedestrian and bike bridges over the Truckee River and north toward the railyards are determined to be needed through the Active Transportation Plan, proposals should be guided by revitalization goals, trail connectivity, anticipated use, costs, access to open space, and potential ecological impacts, particularly to the riparian corridor. Refer to RHAAT design criteria. Note that not all R2SC members supported including the conceptual crossings.

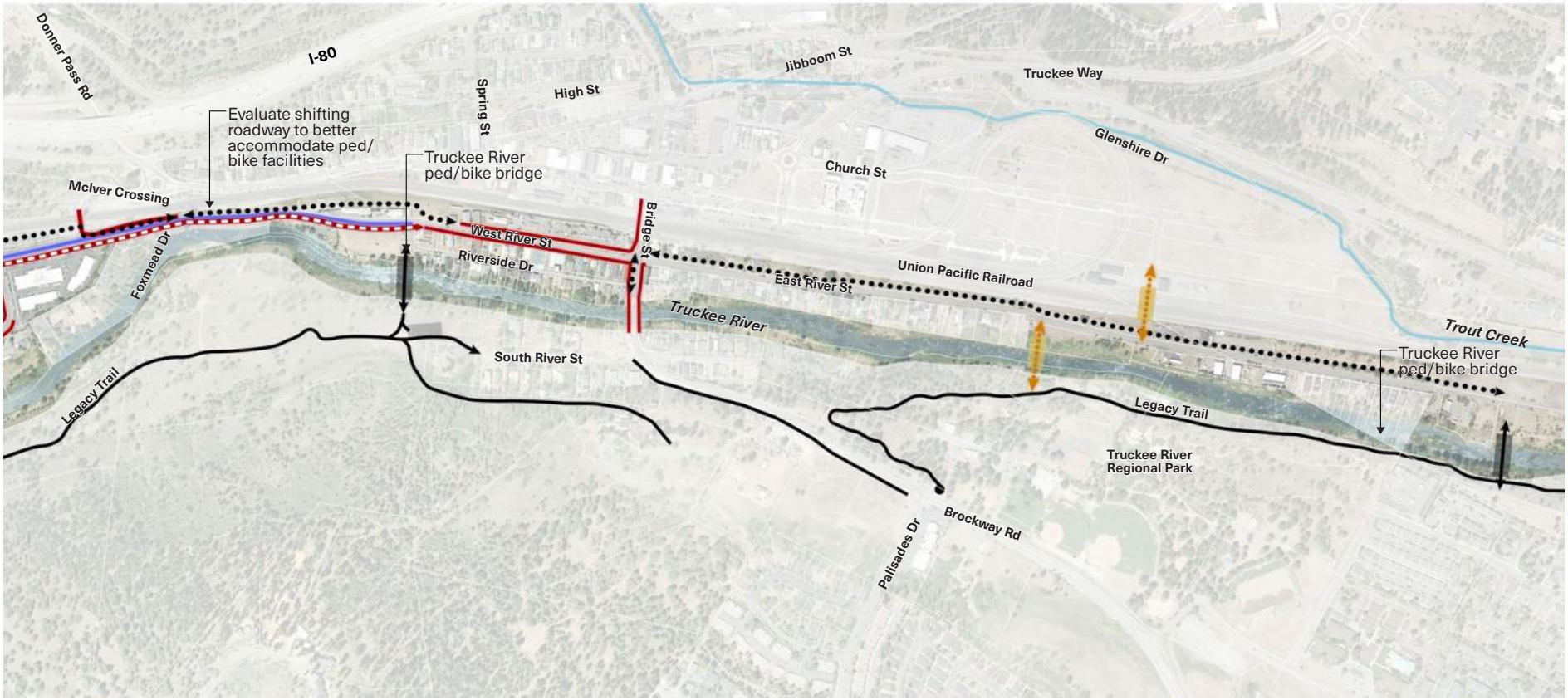
Community Connectivity Opportunities



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Paved Shared Use/Class 1 Path (Existing)
- Paved Shared Use/Class 1 Path (Proposed)
- Bike Lanes/Class 2 (Existing, On Both Sides of Road)
- Bike Lanes/Class 2 (Proposed, On Both Sides of Road)
- Bike/Ped Bridge (Existing)
- Bike/Ped Bridge (Planned & Funded)
- Conceptual Bike/Ped Bridge Crossings
- Sidewalk (Existing)
- Sidewalk (Proposed)

Community Connectivity Opportunities (continued)



Legend

- Truckee River
- 100-Year Floodplain Boundary (per FEMA)
- Paved Shared Use/Class 1 Path (Existing)
- Paved Shared Use/Class 1 Path (Proposed)
- Bike Lanes/Class 2 (Existing, On Both Sides of Road)
- Bike Lanes/Class 2 (Proposed, On Both Sides of Road)
- Bike/Ped Bridge (Existing)
- Bike/Ped Bridge (Planned & Funded)
- Conceptual Bike/Ped Bridge Crossings
- Sidewalk (Existing)
- Sidewalk (Proposed)

Mixed Use Character Descriptions

The West River, Downtown River, and East River Mixed Use Districts are distinct but connected areas along the Truckee River corridor. Each has its own role in shaping the look, vitality, and community experience. These character-use descriptions articulate the intended identity and function of each district, guiding land use decisions, urban design, and development priorities to reflect the vision informed by public input and refined by the R2SC. The mixed use designations provide flexibility for property owners to redevelop and integrate residential and variety of other compatible uses into each area.

West River Mixed Use District

Location

Parcels north and south of West River Street from the Donner Creek confluence of the Truckee River east to McIver Crossing. They do not include parcels zoned residential or open space.

Description

- Managed access to and celebration of a healthy Truckee River
- Eclectic, diverse neighborhood
- Housing and workplaces located in close proximity to each other
- Residents have convenient access to employment and neighborhood services
- Flexibility encourages adaptive reuse of older buildings
- Great public and outdoor spaces
- A variety of medium and higher-density residential mixed with existing uses
- Great multi-modal connectivity

Primary New Uses

- A variety of housing types and sizes
- Artisanal workspaces (such as bakeries, breweries, glass blowing, woodworking shops or other low impact production maker spaces)
- Neighborhood commercial, office, and service

Limited New Uses

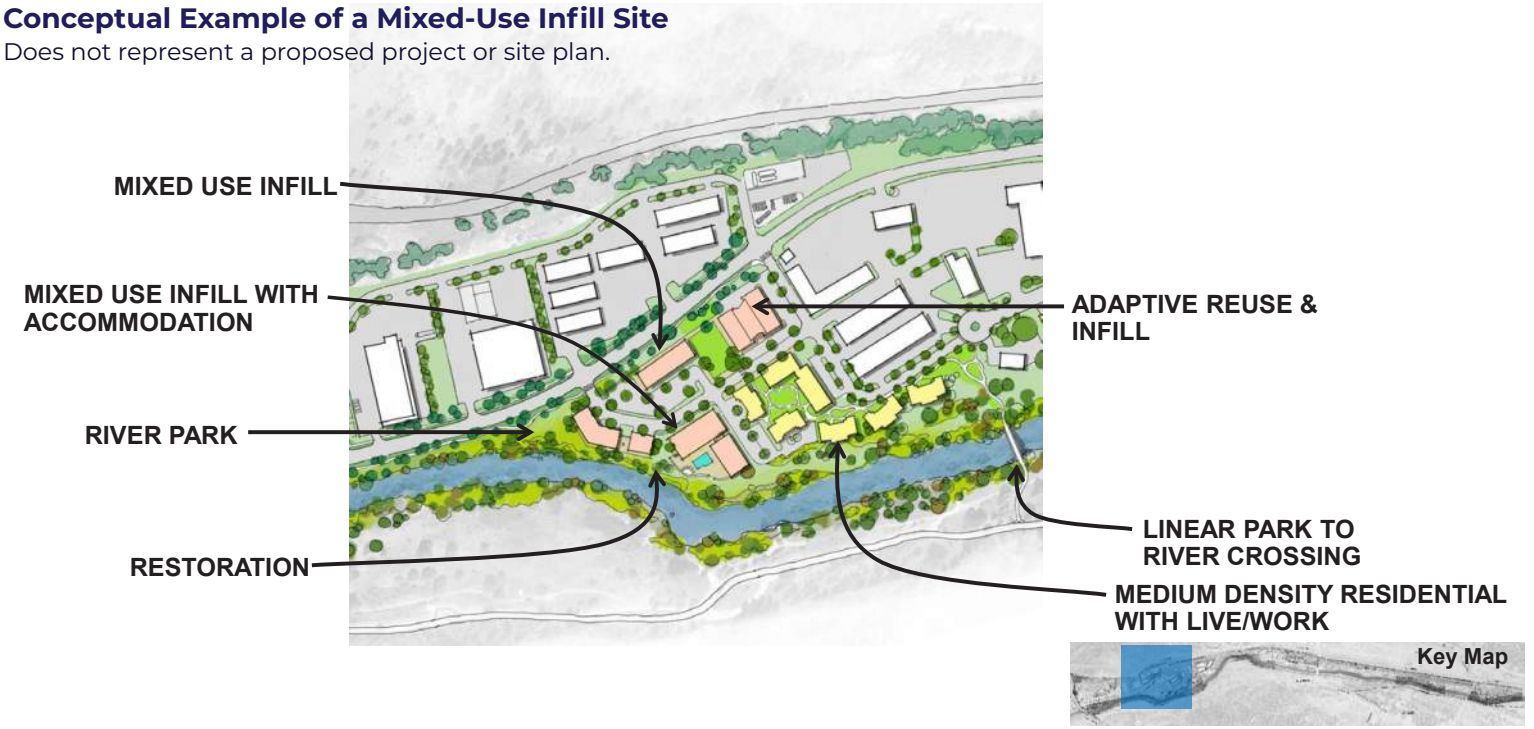
- Boutique lodging
- Repair services (such as auto, tech)
- Uses with concealed equipment storage

Example of a cottage type development around a central green space

Example of pedestrian oriented space with adjacent indoor/outdoor uses and potential for residential on the second story

Conceptual Example of a Mixed-Use Infill Site

Does not represent a proposed project or site plan.



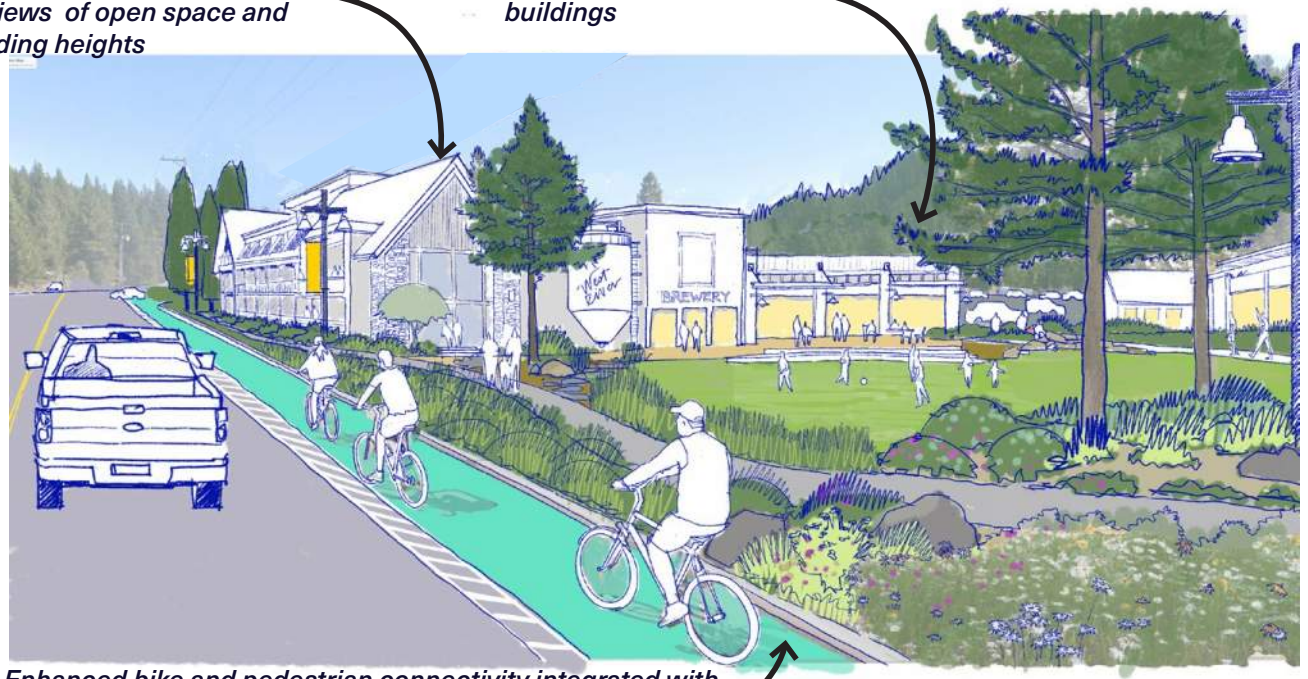
Conceptual Example (Before and After) of Adaptive Reuse and Mixed-Use Infill Site

Does not represent a proposed project or site plan.

Conceptual Example of Enhancements

Infill mixed uses frame the street while incorporating views of open space and staggering building heights

Adaptive reuse of existing buildings



Enhanced bike and pedestrian connectivity integrated with mountain landscape and underground powerlines

Example of adaptive reuse of an auto repair space into dining

Example of activated space with architectural elements that relate to historic industrial uses of the site

Example of adaptive reuse into a hotel and maintaining architectural elements of the former industrial use

Example of tiny homes development

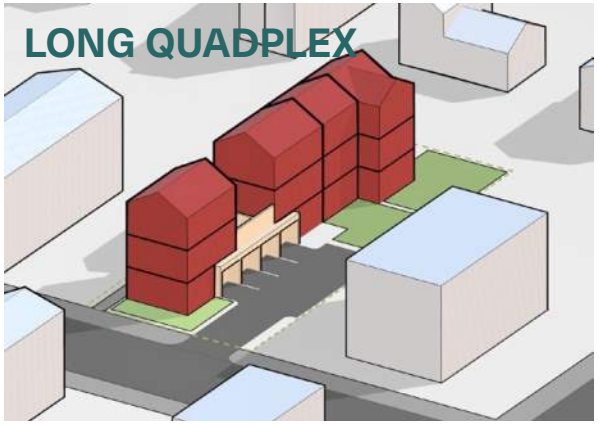
Example of adaptive reuse on Donner Pass Road of a former auto repair store

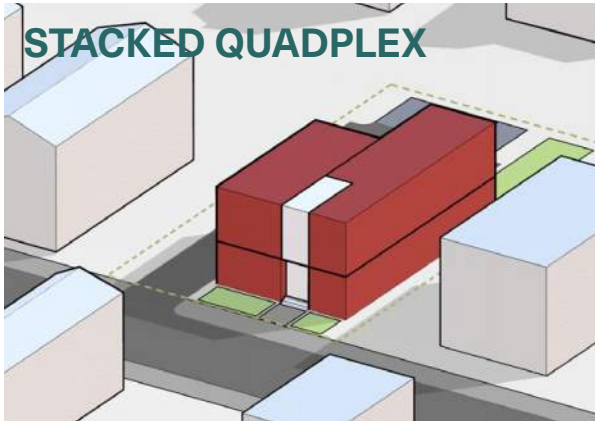
Example of duplex units

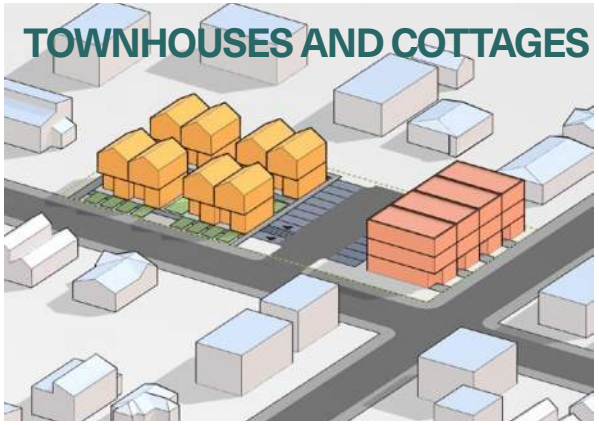
Example of six-plex unit

Multi-family Housing Building Typologies

A variety of housing types are envisioned for the West River Mixed Use District. A few of the examples are illustrated here and on the previous pages. The imagery is not intended to be inclusive of all types of housing that could be considered. They are provided to help convey the range of possibilities.







Managed access to the Truckee River near the Donner Creek confluence; includes restoration and defined pathway

Example of walk-up four-plex

Downtown River Mixed Use District

Location

Parcels north and south of West River Street from the McIver Crossing to Bridge Street, including existing commercial and work/live properties on East River Street near Bridge Street. Does not include parcels zoned residential or open space.

Description

- Visual connection to and celebration of a healthy river
- Historical, eclectic Truckee feel, connected to downtown
- Walkable with great public spaces
- DEWBEYÚMUWE Park, a river-oriented park
- Mix of a variety of vibrant commercial, office, lodging, and residential uses
- Incorporates more mixed use residential than downtown
- Multi-modal connectivity

Primary New Uses

- Commercial and office
- Vertical mixed use with housing and a variety of medium density housing types

Limited New Uses

- Minor auto service/repair
- Lodging
- Work/live

DEWBEYUMUWE Park with seating and overlooks of the Truckee River

Conceptual Example

Does not represent a proposed project or site plan.

Streetscape enhancements in the Downtown Mixed Use District

Example of the type of scale and stepping envisioned to allow for mixed use with residential (Image by David Baker Architects)

East River Mixed Use District

Location

Parcels north and south of East River Street starting approximately 2,000 feet from Bridge Street and continuing east past the East River Street Trailhead.

Description

- Managed access to and celebration of a healthy river
- Improved pedestrian and bike access to the East River Trailhead
- Enhanced trailhead facilities, managed river access, and open space
- Screening or beautification of the railroad
- Residential and mixed use infill
- All types of housing, including high- and medium-density residential, duplexes, triplex, or fourplex development, accessory dwelling units with single family residential
- Some commercial or mixed-use development
- Low-impact uses (doesn't generate high traffic volumes)

Primary New Uses

- A variety of medium and high density housing types
- Open space and managed river access
- Live/work

Limited New Uses

- Infill commercial and service uses that are compatible with river proximity and do not generate high traffic volumes (e.g., bike repair, coffee shop, salon)
- Lodging

Conceptual Example

Does not represent a proposed project or site plan.

n

Prototypical High Density Residential on a Small Parcel

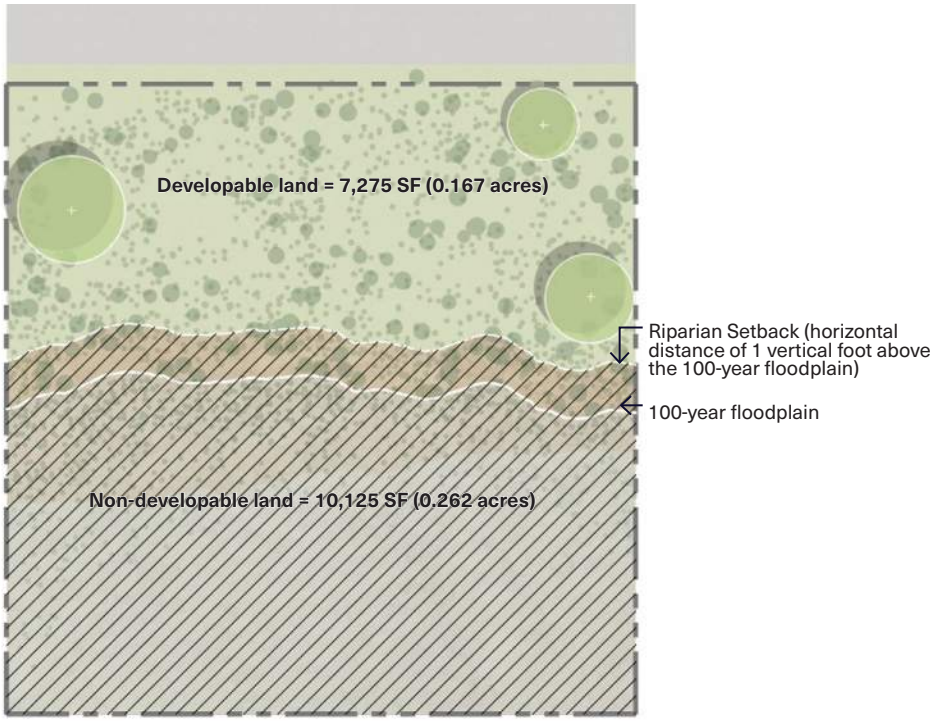
Parcels on the easternmost section of East River are constrained in size and with developable land. While the calculation of number of units per acre is based off the total parcel size, the Planning Commission often allows for a variance for the unit calculation to be determined by the acreage of developable land.

The prototype below illustrates how high density residential uses could be accommodated on similar sites, by using the acreage of developable land. Note that front, rear, and side setbacks and required open space, stormwater or landscaping does not reduce the determination of developable land.

The general steps are:

1. Calculate area of developable land (the below example has the acreage associated with the 100-year floodplain and the riparian setback removed from the overall parcel size)
2. Identify number of units per acre of developable land (site acreage X 24)
   - Example at DRH-24 zoning
   - 0.167 acres X 24 = 4 units
   - Must provide at least 50% of the maximum density. If 50% to 90% of maximum is provided, inclusionary housing units shall be provided on a sliding scale. Special circumstances, such as environmental constraints, could provide findings for an exception to minimum density requirements.
   - Building height allowed: 35' or 3 stories, whichever is less.
   - For the example with two duplex units, the parking requirement is 6 spaces, 4 of which are in a garage

Parcel Size = 17,400 SF (0.4 acres)

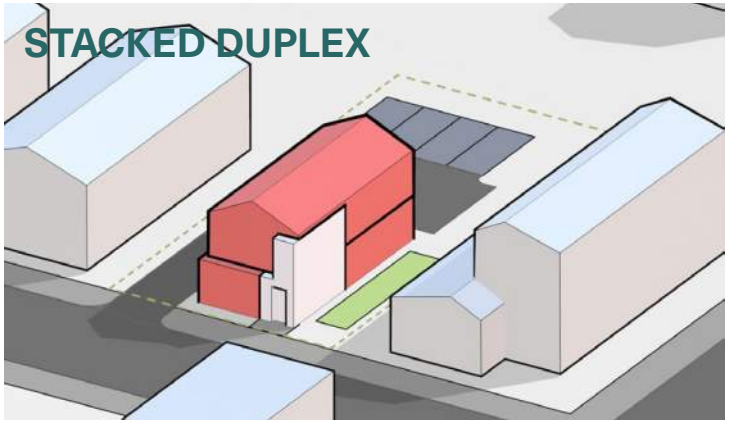


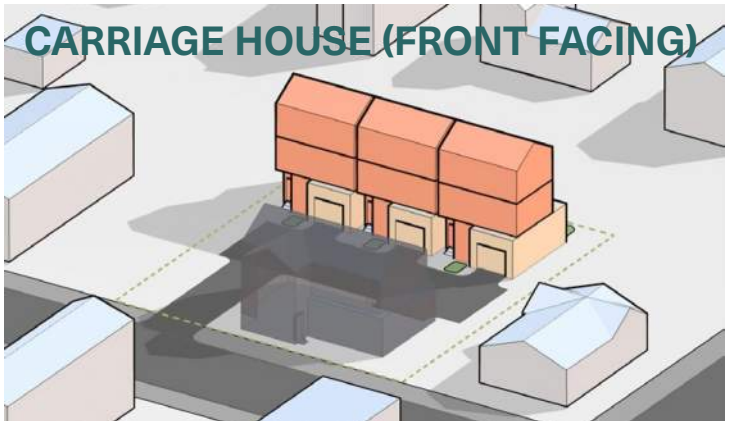
Parcel Size = 17,400 SF (0.4 acres)

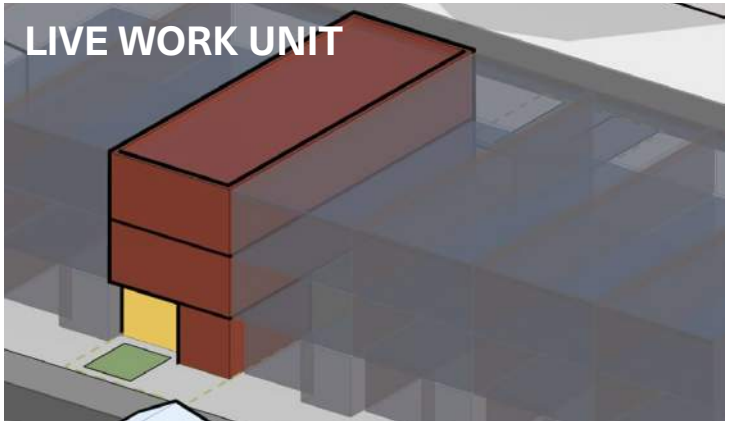
Multi-family Housing Building Typologies

In addition to the duplex example described on the previous page and in the below photograph, a variety of housing types may be applicable for consideration along East River Street. A few of the examples are illustrated here. The imagery is not intended to be inclusive of all types of housing that could be considered. They are provided to help convey the range of possibilities.

Example of a series of two-story duplexes







04

IMPLEMENTATION

Photo credit: Court Leve

CATALYZING CHANGE

To avoid developing a plan that lacks support and has the ability for implementation, at the Playbook's core are a series of action steps which prioritize river health, address key barriers to reinvestment, and foster direct partnerships with property owners and businesses to spark real revitalization, environmental restoration, and celebration of the Truckee River. Recognizing that revitalization efforts must move beyond planning and into implementation, the R2SC and the Town Council adopted a catalyst projects model. This model is designed to identify, support, and collaborate with private property owners whose projects align with the community's revitalization goals.

Catalyst Projects are intended to:

- **Create Early Successes**: By focusing on projects achievable within a 1-5 year window, the Town hopes to demonstrate visible progress quickly, building momentum for future efforts.
- **Leverage Public Investment:** Building upon nearly $47 million already invested by the Town in riverfront improvements like Legacy Trail and West River Streetscape, catalyst projects seek to attract private sector investment that complements these public assets.
- **Foster Public-Private Collaboration**: Rather than imposing rigid requirements, the Town aims to sit side-by-side with property owners, creating partnership agreements that are flexible but purposeful to achieve goals identified by the R2SC.

The goal of the partnership agreements between the Town and private property owners is to maintain flexibility and learn more about what incentives are needed and what barriers need to be removed to achieve R2SC goals while ensuring that revitalization efforts do not stall. In keeping with the entrepreneurial spirit of the initiative, the Town will remain an active but limited partner.

The lessons learned from the projects will inform future discovery phases for incentives and potential recommendations for code revisions. The outcomes of the discovery phases are intended to be brought back to the R2SC for review, discussion, and either a recommendation to advance to Town Council for consideration or a recommendation to not move forward.

Selected Catalyst Projects

A robust selection process began with a public Request for Interest (RFI) in fall 2024, community-wide outreach, interviews, and evaluation by an interview panel comprised of members from the CEVAT and RHAAT. Each applicant's project was assessed against four key criteria: alignment with R2SC goals, diversity of project types and locations, feasibility within five years, and a genuine commitment to collaboration.

Following the thorough review process, three Catalyst Projects were selected. These projects vary in location, scale, and focus but share a common potential to stimulate corridor-wide revitalization.

The three selected projects are:

Old Trestle Distillery (10331 West River Street)

Located in the heart of the river corridor, adjacent to the Town's newly completed park, the Old Trestle Distillery project envisions a flagship tasting room, restaurant, and event space that celebrates Truckee's connection to its river and brewing heritage. The project includes outdoor spaces overlooking the river and provides community gathering areas.

This project is particularly notable because it complements existing public investments and can act as a "quick win," visibly enhancing the new park and drawing more foot traffic to the area. The project's success could inspire adjacent property owners to pursue revitalization efforts of their own.

Mark Tanner Contractor Office (10603 East River Street)

Situated on East River Street, this project involves the reimagining or potential relocation of the existing Mark Tanner Contractor facility. With approximately 250 feet of river frontage, the project offers an opportunity to redesign and repurpose a key parcel to better align with the community's river vision.

Tanner has expressed a strong commitment to exploring innovative uses for the property, including the possibility of collaborating with neighboring properties for larger redevelopment opportunities. His leadership and willingness to champion a broader vision make this site a powerful catalyst on the east side of the corridor.

Location of Selected Catalyst Projects

Truckee River Village (10885 West River Street)

This project fronting the Truckee River along West River Street aims to adaptively reuse existing industrial buildings as commercial spaces while preparing for larger redevelopment. The overall Truckee River Village project envisions a mix of housing, commercial uses, public open space, trails, and environmental restoration.

The first phase, selected as a catalyst project, focuses on remodeling existing structures, enhancing the streetscape, and laying the groundwork for eventual floodplain restoration and new housing along the river. This project brings an essential combination of commercial vitality and environmental stewardship to the western portion of the corridor.

Playbook Action List

The work of the R2SC and the Action Teams, combined with the input received from property and business owners during interviews led to the development of a series of recommended actions to prioritize river health and access goals while removing barriers and incentivizing reinvestment. Table 3 summarizes the action steps and includes a high level estimate of the level of effort each action requires.

Potential Timeline

Figure 6 provides a high level review of the potential timeline for implementation. The timeline identifies the actions and projects included in the Fiscal Year (FY) 2025/2026 work plan and illustrates how other actions and projects tier from the lessons learned by the Catalyst Projects.

It is recognized that although a potential timeline is presented, it is subject to change depending on Town Council priorities and direction and available funding and partnerships.

Additionally, where some action items align with needs and goals of the Catalyst Projects, it is anticipated that Catalyst Project can proceed forward and inform the discovery phases, research, and recommendations of the future action items.

Continued R2SC Input

It is envisioned that as the Catalyst Projects are completed, lessons learned from the projects will be used to inform a series of discovery phase projects. For example, one of the Catalyst Projects identified a need to evaluate setbacks from the Truckee River. The completion of a survey of the floodplain and takeaways from the work associated with the Catalyst Project will be able to inform a more in-depth review of what setback modifications may entail and the benefits and impacts. This work will return to the R2SC for review and discussion. The R2SC may then recommend either not to move forward or they may provide recommendations for revisions

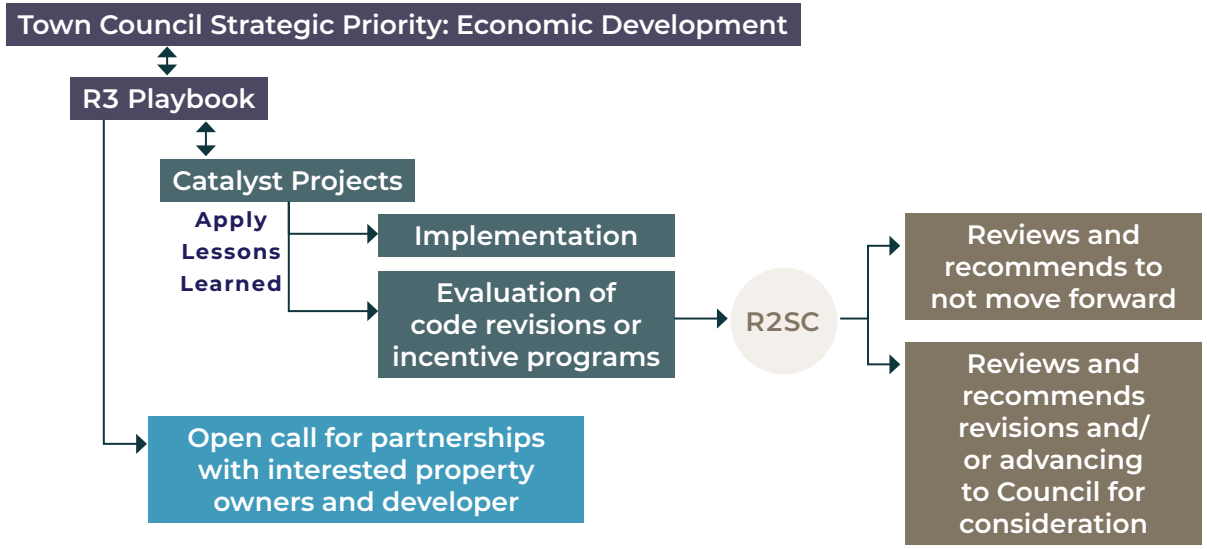


FIGURE 4. R2SC Continued Role and Relationship of the Catalyst Projects, R3 Playbook, and the Economic Development Strategic Priority

as well as a recommendation to advance the work for consideration by Town Council.

In this manner, the Catalyst Projects inform continued advancement of the R3 Playbook and the R3 Playbook informs Town Council's Economic Strategic Priority.

Implementation Guidelines

As actions and project advance, each will need to develop a more refined and clear schedule and set of objectives. Each project will provide additional opportunity for public input.

Some of the strategies that should be established at the kick-off of each action step include the following:

- Clear objectives and goals
- Roles and responsibilities
- Timelines and milestones
- Budget and funding needs
- Staffing needs
- Key performance indicators to measure progress and success
- Risks and mitigation strategies
- Communication plan to foster transparency and support
- Monitoring and evaluation framework to share progress and compare against objectives, with flexibility for adjustments

Level of Impact and Effort

Level of effort includes both an order of magnitude cost combined with the anticipated level of difficulty for completion. The breakdown for costs is below:

$ = up to $100,000

$$ = $100,000 to $250,000

$$$ = $250,000 to $1,000,000

$$$$ = over $1,000,000

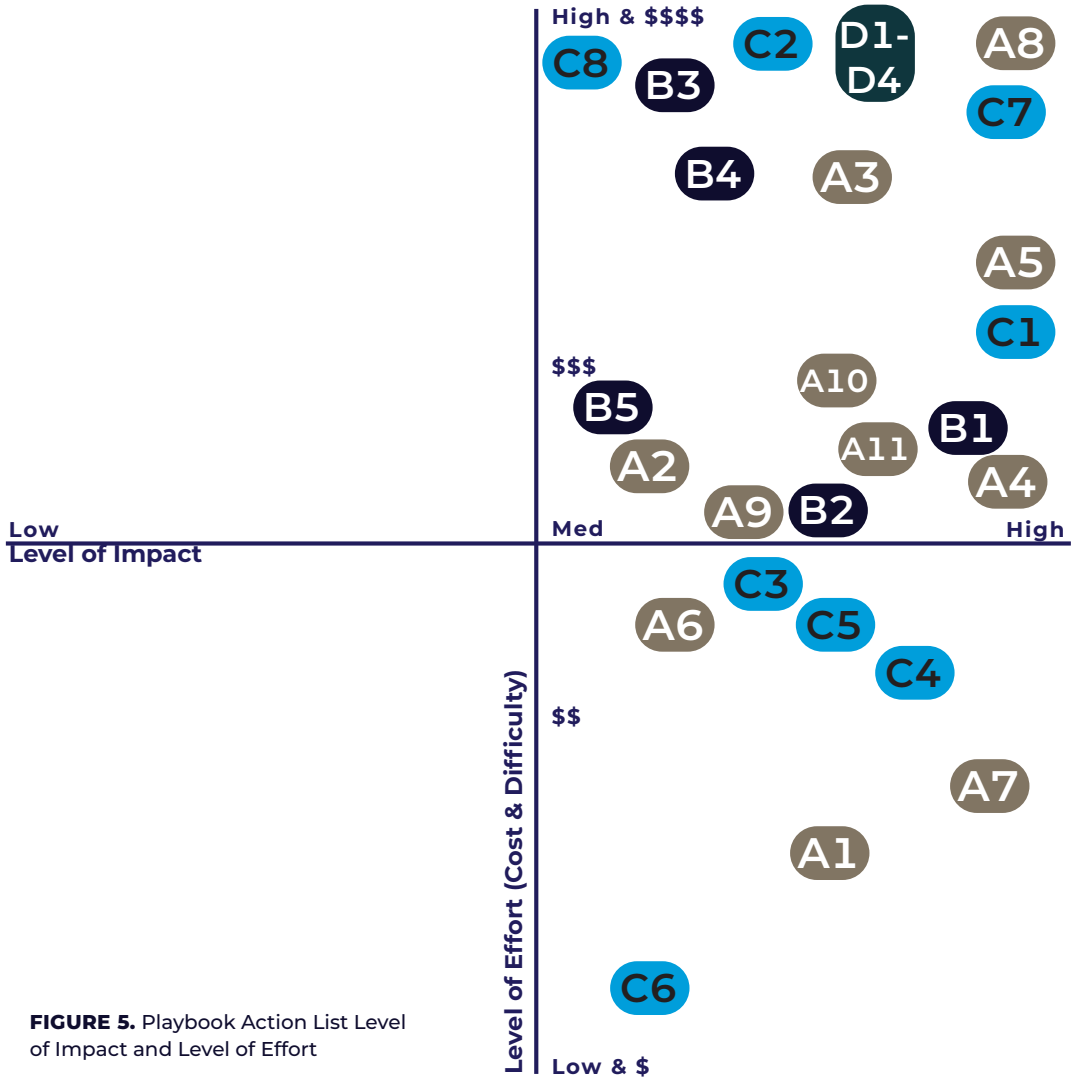


FIGURE 5. Playbook Action List Level of Impact and Level of Effort

Figure 5 graphically depicts the anticipated level of effort and level of impact for each action. All actions are anticipated to have medium to high level of impact.

FIGURE 6. Playbook Action List Timeline

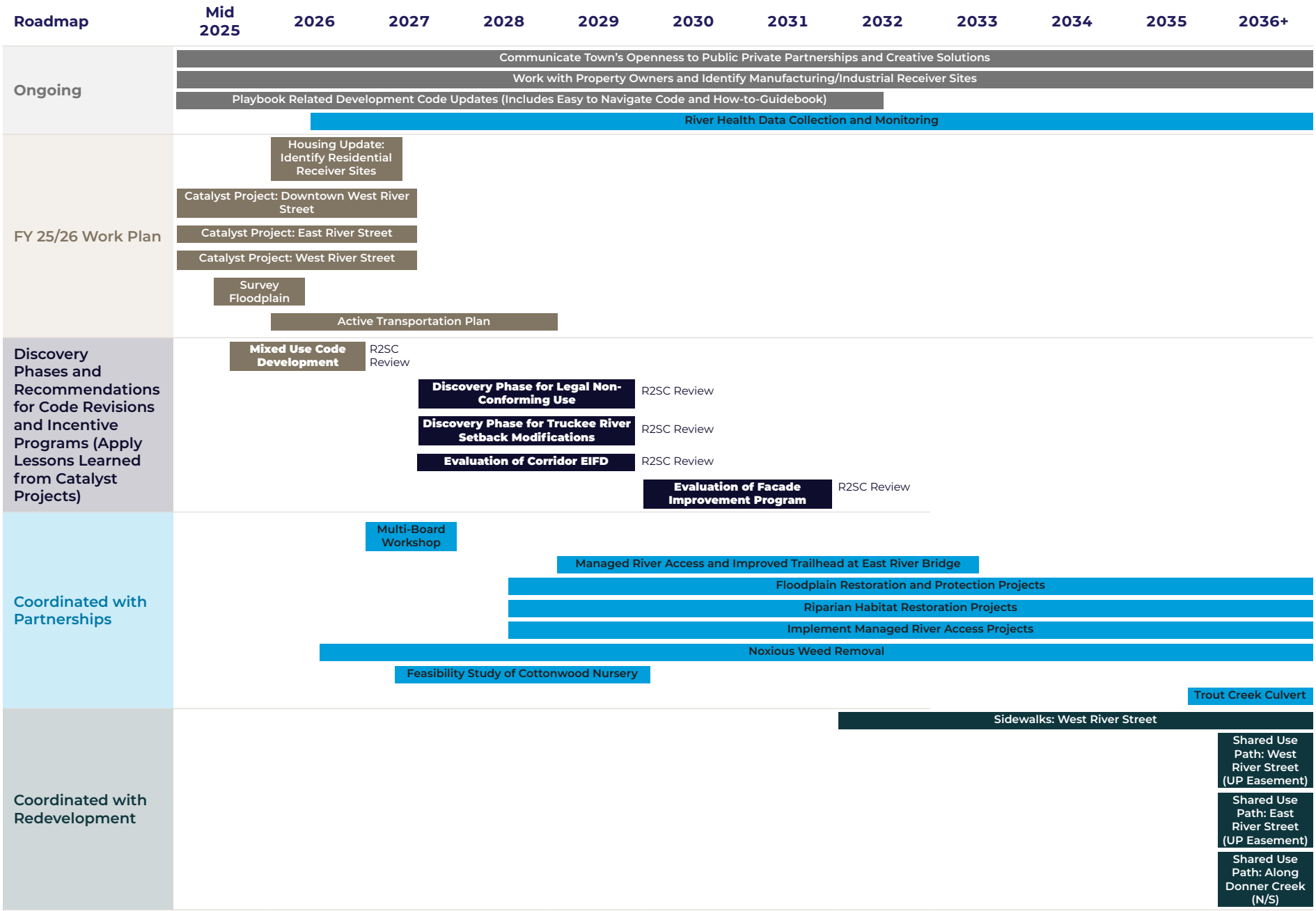


TABLE 3. Playbook Action List

No.	Action	Description	Level of Effort		Responsibility
			Order of Magnitude Cost ($ - $$$$)	Difficulty (Low, Med, High)	
Time Frame (See Waterfall Action List)					
A1	Catalyst Project Partnership: 10331 West River Street	A project adjacent to the DEWBEYÚMUWEʔ park, a riverfront restaurant. Opportunity for beautification, new commercial space, stormwater improvements, vegetation enhancements, and pedestrian and cyclist-oriented facilities with feasibility of completing before the five-year timeline.	$	Low	In Review by Town (to be provided prior to returning to Town Council)
A2	Catalyst Project Partnership: 10603 East River Street	A construction office and yard with potential for relocation, adaptive reuse, beautification, new commercial space development, workforce housing, parks and open space, river health restoration, floodplain restoration achievable within 5 years.	$	Med	In Review by Town (to be provided prior to returning to Town Council)
A3	Catalyst Project Partnership: 10885 West River Street	An existing commercial use interested in beautification, new commercial space development, potential opportunity for workforce housing and completion within 5 years.	$	High	In Review by Town (to be provided prior to returning to Town Council)
A4	Communicate Town's Willingness to Partner	Message the Town's openness to have conversations about public/private partnerships with willing property owners and interested developers and to find creative solutions. As part of the actions coming out of the organizational assessment being undertaken by the Town, incorporate River Revitalization into the effort with the intent to reinforce a culture of Town collaboration and predictability for what is required and anticipated timelines for property redevelopment. Inspire solution-oriented approaches to achieve R3 Playbook goals.	$$	High	In Review by Town (to be provided prior to returning to Town Council)
A5	Mixed Use Zoning Adoption (West River, Downtown River, and East River)	Revise zoning to align with the need for flexibility and mix of uses along West River Street. Incorporate takeaways for desired vision for catalyst project on East River Street and update zoning accordingly. Update the Development Code to reflect changes in density, land use, design guidance, parking, and setbacks to reflect the development types and patterns that are feasible and attractive. Updates should incorporate mixed use strategies to allow for flexibility to more easily adapt to market conditions.	$$	Med/High	In Review by Town (to be provided prior to returning to Town Council)
A6	Active Transportation Plan	Incorporate R2SC's transportation planning into the Town's Active Transportation Plan.	$$	Low	In Review by Town (to be provided prior to returning to Town Council)

TABLE 3. Playbook Action List (continued)

No.	Action	Description	Level of Effort		Responsibility
			Order of Magnitude Cost ($ - $$$$)	Difficulty (Low, Med, High)	
In Progress (Part of FY 25/26 Work Plan or Associated with FY 25/26 Work Plan Projects)					
A7	Survey 100-Year Floodplain	Survey the location of the 100-year floodplain to inform future considerations for modification of riparian setbacks.	$	Low	In Review by Town (to be provided prior to returning to Town Council)
A8	Identify Manufacturing and Outdoor Storage Receiver Sites	Work with private sector to develop affordable receiver sites for manufacturing and uses with outdoor equipment storage.	$$$$	Med/High	In Review by Town (to be provided prior to returning to Town Council)
A9	Identify Residential Receiver Sites	As part of the update of the Housing Plan, identify receiver sites for residential development as needed to align desired uses and densities for residential within the corridor. To facilitate the development of future receiver sites, incorporate residential receiver sites in the Housing Plan for lands identified as changing from residential to manufacturing in the 2040 General Plan.	$$	Med	In Review by Town (to be provided prior to returning to Town Council)
A10	How-to-Guidebook	As part of the development code update being undertaken by the Town, incorporate River Revitalization into the effort of developing an easy to use guide for property owner to enhance their understanding of the development code and process to reinvest in their property.	$	Med	In Review by Town (to be provided prior to returning to Town Council)
A11	Easy to Navigate Development Code	As part of the Town's update to the Development Code, incorporate R2SC feedback to make it easier to navigate and understand; incorporate graphics and diagrams.	$$	Med	In Review by Town (to be provided prior to returning to Town Council)

TABLE 3. Playbook Action List (continued)

No.	Action	Description	Level of Effort		Responsibility
			Order of Magnitude Cost ($ - $$$$)	Difficulty (Low, Med, High)	
Near Term (Applies lessons learned from Catalyst Projects and other In Progress actions and brings them to R2SC for discussion)					
B1	Discovery Phase for Truckee River Setback Modification	Conduct a discovery phase for an appropriate setback from the Truckee River for non-open space parcels on West River Street and East River Street that allows appropriate development while protecting river health. Setbacks should be consistent with the key strategies for environmental restoration described on page and pages - of the Playbook and should be consistent with public safety, environmental protection, and river access goals. Variations in topography and hydrology may allow for narrower or wider setbacks. Project level review may allow for variations in the setback as a way to achieve Playbook goals for environmental and floodplain restoration and managed river access.	$	Med	In Review by Town (to be provided prior to returning to Town Council)
B2	Discovery Phase for Legal Non-Conforming Program	Conduct a discovery phase for a program that protects public health and safety while allowing for some level of reinvestment into non-conforming properties with the requirement that reinvestments must also achieve at least one of the specific goals identified in the Playbook (e.g., housing, environmental improvements, connectivity/mobility, and beautification).	$	High	In Review by Town (to be provided prior to returning to Town Council)
B3	Multi-Board Workshop	Convene a multi-board workshop to align community leaders and partners around the vision and goals for the corridor and identify opportunities and support for receiver sites throughout town.	$	Med	In Review by Town (to be provided prior to returning to Town Council)
B4	Evaluation of Enhanced Infrastructure Financing District	Evaluate the use of contemporary tax increment financing tools, like enhanced infrastructure financing districts (EIFDs) to be a funding source for public serving infrastructure such as streetscape, roadway realignment, utility undergrounding, pathways, open space, and river restoration. If appropriate, utilize EIFDs as a potential source to fund public infrastructure and reduce the cost of redevelopment.	$	High	In Review by Town (to be provided prior to returning to Town Council)
B5	Evaluation of Facade Enhancement Forgivable Loan Program	Encourage aesthetic improvements by private property owners – evaluate a forgivable loan program for aesthetic enhancements along the corridor for all types of uses, including residential properties within the Historic Preservation Overlay District.	$$	Med	In Review by Town (to be provided prior to returning to Town Council)

TABLE 3. Playbook Action List (continued)

No.	Action	Description	Level of Effort		Responsibility
			Order of Magnitude Cost ($ - $$$$)	Difficulty (Low, Med, High)	
Mid Term (Seeks partnerships with non-profits and property owners as part of site specific projects)					
C1	Riparian Habitat Restoration	Restore riparian and aquatic habitat along the Truckee River	$$$	Med	In Review by Town (to be provided prior to returning to Town Council)
C2	Floodplain Restoration	Implement floodplain restoration and protection projects.	$$$$	Med	In Review by Town (to be provided prior to returning to Town Council)
C3	Address Unmanaged River Access	As development comes forward, collaborate with private and public landowners to provide locations and create a plan for managed access along the Truckee River and reduce and mitigate unmanaged river access wherever public access is likely in a way that protects riparian and floodplain habitat.	$$	Med	In Review by Town (to be provided prior to returning to Town Council)
C4	Data Collection and Monitoring	Hold the Truckee River to a high standard. Develop annual data collection and monitoring program of stormwater and nonpoint source sediment pollution and consider including Surface Water Ambient Monitoring Program (SWAMP) criteria.	$$	Low	In Review by Town (to be provided prior to returning to Town Council)
C5	Noxious weed removal	Treat and remove noxious weeds.	$$	Med	In Review by Town (to be provided prior to returning to Town Council)
C6	Cottonwood Nursery Study	Conduct due diligence/feasibility study for the Truckee-Tahoe Sanitary Agency ponds to serve as cottonwood nursery for corridor.	$	Low	In Review by Town (to be provided prior to returning to Town Council)
C7	Managed River Access and Improved Trailhead at East River Street Bridge	Improve managed access near the East River Street Bridge Trailhead. Improve trailhead and evaluate concessionaire options.	$$$$	Low	In Review by Town (to be provided prior to returning to Town Council)
C8	Trout Creek Culvert	Reconfigure the Trout Creek railroad culvert to enhance fish movement.	$$$$	Med	In Review by Town (to be provided prior to returning to Town Council)

TABLE 3. Playbook Action List (continued)

No.	Action	Description	Level of Effort		Responsibility
			Order of Magnitude Cost ($ - $$$$)	Difficulty (Low, Med, High)	
Long Term (Prioritization comes through the Active Transportation Plan and implementation tied to redevelopment by property owners)					
D1	Sidewalks: West River Street	Develop sidewalks along western portion of West River Street. Implement in concert with adjacent property development.	$$$$	Med	In Review by Town (to be provided prior to returning to Town Council)
D2	Shared Use Path in UP Corridor: West River Street	Develop a paved, Class 1 shared use path in UP lands north of West River Street.	$$$$	High	In Review by Town (to be provided prior to returning to Town Council)
D3	Shared Use Path along Donner Creek	Develop a paved, Class 1 shared use path along Donner Creek. Implement in concert with adjacent property development.	$$$	High	In Review by Town (to be provided prior to returning to Town Council)
D4	Shared Use Path in UP Corridor: East River Street	Develop a paved, Class 1 shared use path in UP lands north of East River Street	$$$$	High	In Review by Town (to be provided prior to returning to Town Council)

Potential Incentives and Funding Sources

As properties along the corridor are redeveloped, the expectation is that plans and projects will align with the vision and goals of the Playbook. At the same time, flexibility is essential to respond to market conditions, uncertain implementation timelines, and phasing needs.

Property redevelopment and overall economic vitality can play a key role in funding and delivering environmental restoration, trail connections, and parks and open space. In addition to paying impact fees, redeveloped sites can be designed to incorporate ecological restoration, build trails, manage and treat stormwater, create public parks and gathering spaces, and provide river access. These improvements can, in turn, attract new businesses—creating a win-win for both the environment and the corridor's economy.

Parks, trails, and redevelopment often increase nearby property values, leading to higher property tax revenues. This increased revenue can help fund future restoration and connectivity projects. Modern financing tools, such as Enhanced Infrastructure Financing Districts (EIFDs), can also leverage rising tax revenues to support public-serving infrastructure like roadways, streetscapes, trails, and environmental improvements.
*and community alignment. The Playbook reaffirms the Town's commitment to innovation, sustainability, and inclusive growth — honoring its past while boldly shaping its future.

The Playbook recognizes that in addition to needing willing property owners, regulatory and financial impediments to implementation exist. The below summary of potential incentives and funding sources is provided as a quick reference for the Town. There are many different incentives and funding sources that could be utilized. Ideally, the mix of incentives and different funding strategies is combined in a way that

maximizes opportunities and minimizes the financial burden on the community. Not every potential source of funds is listed. The intent is to select the most relevant and effective source for a given project, recognizing that it will vary over time. It is also recognized that the use of incentives should be balanced with the goal for river health and scenic enhancement. Development of a formal incentive program would be reviewed by the R2SC.

Regulatory Incentives

Development Standards Incentives

- Provide regulatory relief
- Modify allowed land use types
- Revised legal non-conforming regulations
- Adjust density requirements (dwelling units/acre or DUA)
- Adjust floor area ratios (FAR)
- Increase height limits
- Modify setbacks
- Modify allowed building types and materials

Permit Streamlining Incentives

- Ministerial approvals
- Reduced approval times
- Streamlined/concurrent review

Financial Incentives

Direct Financial Assistance

- Provide fee waivers and/or deferrals
- Provide property, sales, or TOT Tax Rebates

Assistance with Public Improvements

- Acquiring easements for potential multi-modal connectivity projects (e.g., shared use paths, bridges)
- Streetscape Improvements (traffic calming, bike/ped improvements, street lighting, landscaping)
- Undergrounding of existing utilities
- New infrastructure improvements (water/sewer, electrical)
- Planning Grants/RFP/RFI
- Lot line adjustments
- Environmental review
- Master planning
- Environmental Remediation/Cleanup
- Brownfield mitigation
- Water quality best management practices (BMPs)

Business Relocation Assistance

- Maintain an inventory of available, appropriately zoned industrial/manufacturing lands
- Tax credits or abatements for relocating businesses
- Grants or loans to offset moving costs or site improvements
- Upgrade infrastructure to make sites ready for relocating businesses
- Expedited permitting for tenant improvements at a new location
- Creating a relocation toolkit or guide outlining steps and contacts
- Help connect business owners with industrial brokers and commercial real estate advisor of suitable properties
- Help connect business owners with public entities who may relocate, allowing their current industrial sites to be sold

Funding Sources

Local

- General Fund
- Sales Tax
- Transient Occupancy Tax (TOT)
- Impact Fees and Mitigation Requirements
- Mills Act Contracts (Historic Properties Only)
- User Fees and Concessions
- Streetscape Improvement Forgivable Loan

Regional and State Funding

- Affordable Housing and Sustainable Communities (AHSC) Program
- Urban Greening Grants (UGG) Program
- Active Transportation Program (ATTP)
- Transportation Alternatives Program (TAP)
- Bicycle Transportation Account (BTA)
- Safe Routes to School Program
- State Highway Operation and Protection Program (SHOPP)
- Caltrans Sustainable Transportation Grant (SB1)
- Proposition 68 Per Capita Program
- Local Streets and Roads Program (LSRP)
- Local Transportation Funds (LTF)
- Energy Conservation Assistance Act (ECAA)
- California Public Utility Commission (CPAC) Rule 20A Undergrounding
- Climate resiliency grants

Federal Funding Sources

- Community Development Block Grants (CDBG)
- Federal Emergency Management Agency (FEMA) Disaster Mitigation

Private/Non-Profit Funding Sources

- Private Donations
- Sponsorship Programs
- Private Charities and Foundations

Financing Mechanisms

- Cost Reimbursement Agreements
- Municipal Bonds
- Special Assessment Districts
- Business Improvement Districts (BIDs)
- Landscaping and Lighting Assessment Districts (LLADs)
- Mello-Roos Community Financing Districts (CFDs)
- Enhanced Infrastructure Financing Districts (EIFDs)
- Infrastructure State Revolving Fund (ISRF)
- Drinking Water State Revolving Fund (DWSRF)
- Clean Water State Revolving Fund (CWSFR

Receiver Sites

As of 2024, the study area contains approximately 51 acres of non-vacant parcels used for manufacturing, industrial, or service-related activities. This estimate was based on the Nevada County Assessor's parcel database, supplemented with building square footage data from CoStar and aerial imagery from Google Earth.

Within the corridor, about 316,000 square feet (roughly 7 acres) of built space was identified, with an assessed value of approximately $26 million. Subtracting this built area from the total leaves around 41 acres used for open-air storage, parking, and internal circulation (excluding public rights-of-way). Approximately 90% of both the land area and built space is concentrated along West River Street.

When evaluating relocation opportunities for existing uses, properties with aging buildings may be prioritized for near-term conversions. While some businesses benefit from their current river corridor location, many are there primarily due to low cost and available space. The primary concerns voiced by businesses during this study were affordability and, for some, the possibility of purchasing the land and buildings.

Replacement Rental Subsidy Costs

BAE developed an economic model to understand the conditions under which businesses may choose to relocate to newly built space. The space would need to be of equal or greater utility and be made available at a cost that is similar to what the business is currently paying. Assumptions in the model include:

- Lease rates in the river corridor are conservatively $1.50 per square foot per month, triple net.
- Roughly 300,000 square feet of newly built space is needed given the strong demand for industrial flex space in Truckee.
- Market rate rent for new construction is $2.60 per square foot per month, triple net (rent needed to make an industrial flex project financially feasible on a for-rent basis assuming a 10 percent developer return.
- The estimated rent subsidy required to facilitate relocation of 300,000 square feet of built space would be around $3.96 million per year.

Overall, substantial funds from the previously described funding sources or financing mechanisms would be required to incentivize rapid property turnover and redevelopment and to prevent adverse impacts to property owners and tenants.

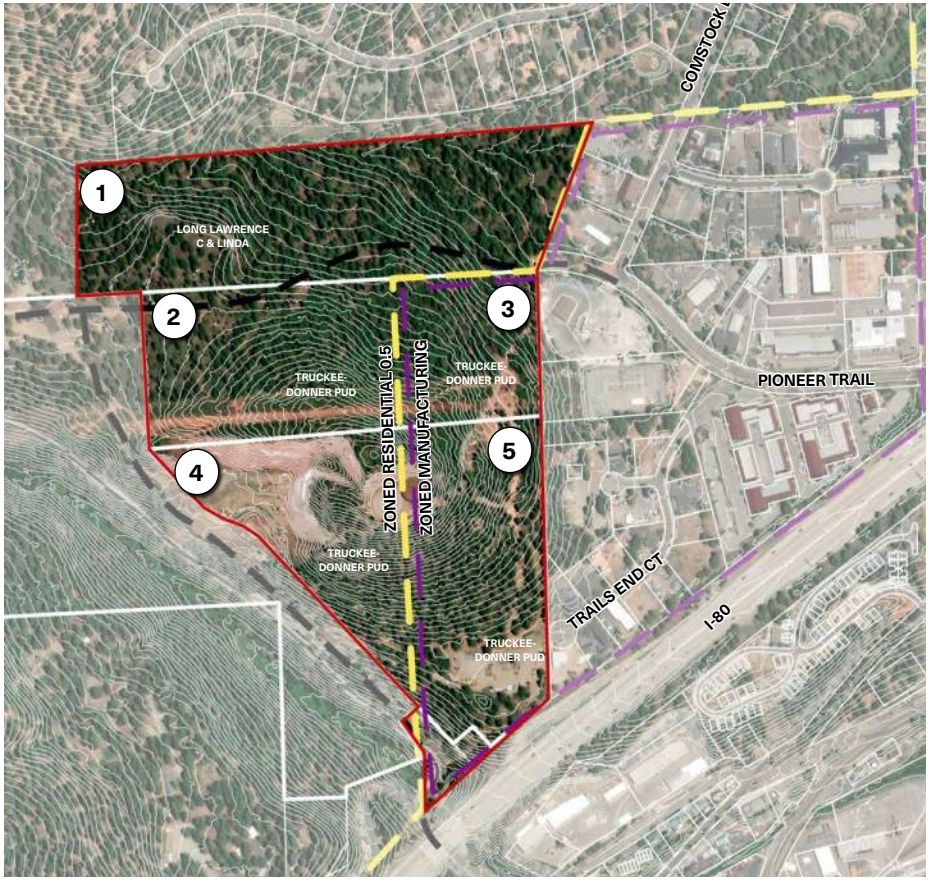
Receiver Site Subcommittee

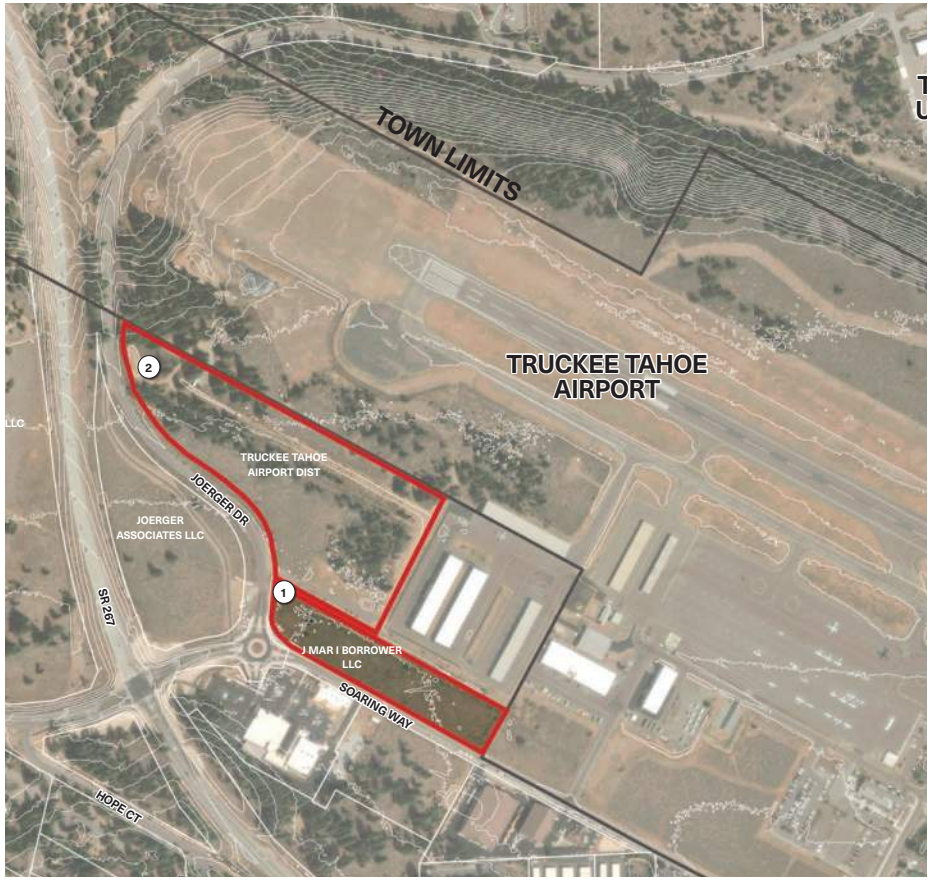
To support future relocation of existing industrial and service businesses, the Receiver Site Subcommittee reviewed possible locations where these uses could move. Industrial-zoned land is limited within the Town boundaries, but some opportunities exist. These include parcels in the Trails End area and a site near the airport within the Joerger Ranch planned development—both of which could accommodate businesses interested in relocating. The developer of the Pioneer Center also expressed interest in building a facility to accommodate those interested in relocating. It is recognized that this approach would not satisfy the desire for some business owners who would prefer purchasing land for their use.

The Town's 2040 General Plan designates additional areas for future Manufacturing/Industrial use. However, some of these areas are currently zoned for residential use. Before these properties can be rezoned for industrial purposes, alternative sites would need to be identified to accommodate displaced residential uses.

Another potential relocation site could become available if the Truckee Donner Public Utility District (PUD) moves and consolidates its operations. Preliminary discussions suggest the PUD may relocate to surplus land owned by the Tahoe-Truckee Sanitation Agency (T-TSA), located north of the airport. T-TSA's surplus land could provide relocation opportunities, but their current policy only allows transfers to other public agencies. Enabling broader use of these lands would require a policy shift and engagement with the T-TSA Board. Additionally, some stakeholders have expressed concern about relocating businesses from one stretch of the Truckee River corridor to another, questioning whether this would result in meaningful environmental or community benefit.

Maps and diagrams on the following pages illustrate the location and size of industrial/manufacturing-zoned parcels and the T-TSA surplus land identified as potential receiver sites.



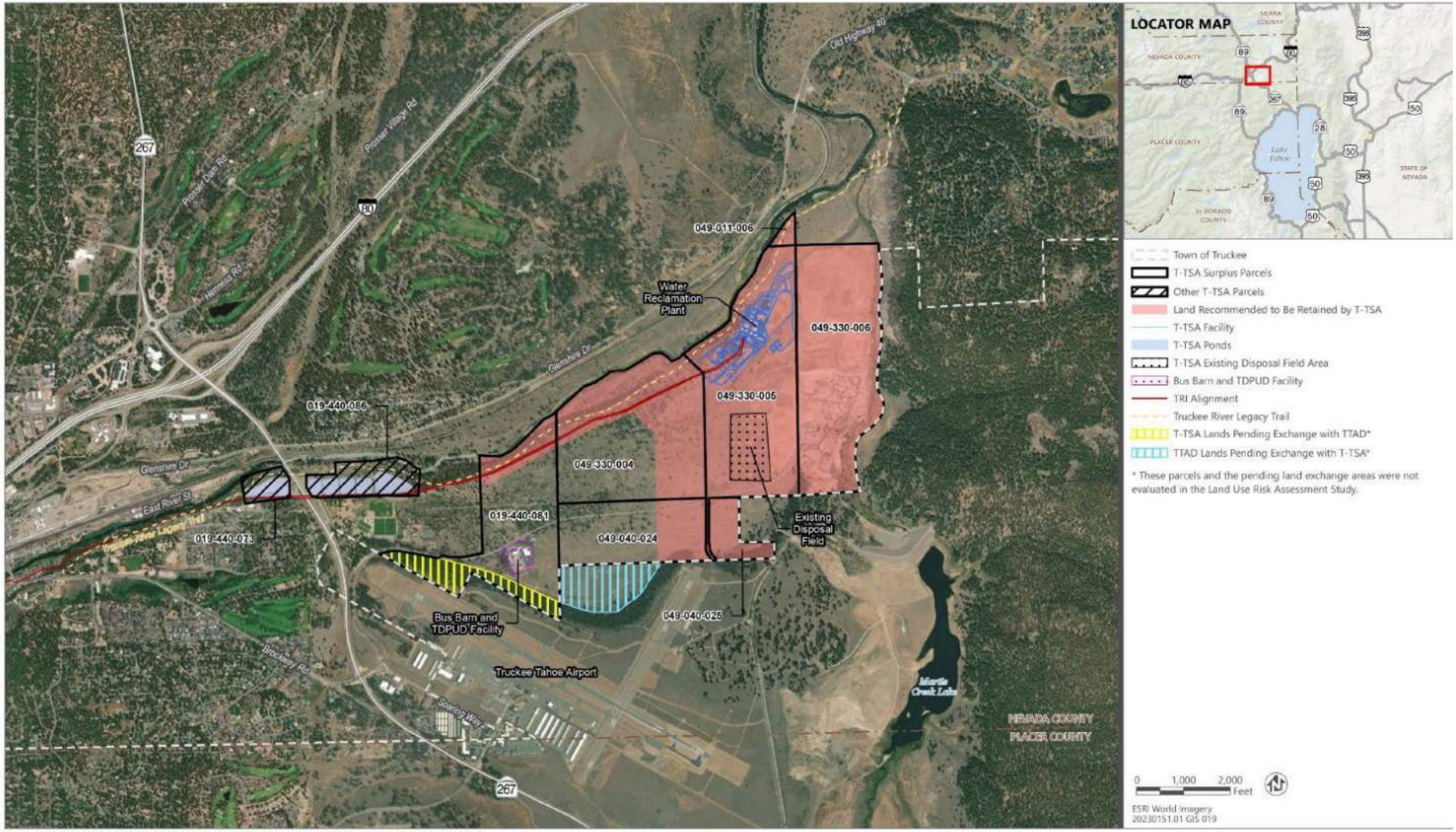


LEGEND

AREA	OWNER	ZONING	ACRES	SQFT	NO. OF RES. UNITS
1	TRUCKEE-DONNER PUD	RS-0.50	26.5	1,154,340	13
2	TRUCKEE-DONNER PUD	RS-0.50	14.9	649,044	7.5
3	TRUCKEE-DONNER PUD	MANUFACTURING	9.3	405,108	N/A
4	TRUCKEE-DONNER PUD	RS-.50	12.9	561,924	6.5
5	TRUCKEE-DONNER PUD	MANUFACTURING	17.2	749,232	N/A
TOTALS			80.8	3,519,648	27

LEGEND

AREA	OWNER	ZONING	ACRES	SQFT	UNITS
1	J MAR I BORROWER LLC	PLANNED COMMUNITY	4.9	212,752	N/A
2	TRUCKEE TAHOE AIRPORT DIST.	PLANNED COMMUNITY	24.9	1,083,772	N/A
TOTALS			29.8	1,298,088	N/A



Source: Data downloaded from Town of Truckee and Nevada County in 2023; adapted by Ascent in 2024.

Figure 1 Recommended Land for Retention

NORTH AREA

LEGEND

AREA	OWNER	ZONING	ACRES	SQFT
1	TAHOE-TRUCKEE SANITATION AGENCY	PUBLIC FACILITY	97.2	4,234,032
2	TAHOE-TRUCKEE SANITATION AGENCY	PUBLIC FACILITY	75.3	3,280,068
3	TAHOE-TRUCKEE SANITATION AGENCY	PUBLIC FACILITY	63.2	2,752,992
TOTALS			235.7	10,267,092

Given the uncertainties, dependencies, and longer timelines involved in the PUD and T-TSA scenarios, these sites are unlikely to align with the R2SC's near-term goal of identifying implementable projects within a 1–5 year timeframe. In contrast, the Tanner property offers a more immediate example of successful relocation and could serve as a model. Lessons from that effort are intended to guide future discussions with other business owners who are open to moving.

In order to accommodate the current industrial uses along West River and East River streets, the receiver sites should typically meet the following characteristics:

- Flat or gently sloped terrain with adequate space to support equipment movement and storage
- Efficient site access for truck and trailers without impacting residential uses
- Proximity to service areas (for snow equipment, the ability to efficiently serve neighborhoods)
- Basic utility access (power, water, sewer, cable/wifi, cellular)

Moving Forward Together

The Playbook builds on past plans—including the 2005 Downtown River Revitalization Plan, the 2040 General Plan, and the Downtown Truckee Plan—to restore, revitalize, and reimagine the Truckee River corridor.

The project area is divided into three key land-use areas (described in Chapter 3), each with a unique mix of uses. To support reinvestment, zone changes should be considered that encourage mixed-use development and allow flexibility. Adaptive reuse of existing buildings should also be supported when rezoning takes place.

> Adoption of the Playbook does not change existing zoning. In areas where different land us-es are recommended, rezoning must be initiated—either by the Town or property owners—through the standard public process. This includes review by the planning commission and Town Council which include public comment.

If zoning is changed and an existing use no longer fits, it would become a legal nonconforming use. These uses can continue as long as they operate within the rules of the Town's Development Code.

The Playbook also recommends exploring a program that protects public health and safety while allowing for some level of reinvestment into properties with non-conforming uses. The program is envisioned to require that reinvestments must also achieve at least one of the specific goals identified in the Playbook (e.g., housing, environmental improvements, connectivity/mobility, and beautification). It is also envisioned that similar to the lessons learned from the catalyst project, the evaluation of a program to reinvest in properties with non-conforming uses would also be brought back to the R2SC for future discussion.

Community Leadership is Key

Moving forward, community involvement remains essential. Even if formal meetings are no longer held, groups like R2SC, RHAAT, and CEVAT—and individual community members—can help bring the Playbook to life by:

- Partnering with property owners (including catalyst project applicants) to overcome challenges
- Collaborating with developers and investors to spur reinvestment
- Advocating for projects and participating in public meetings and workshops
- Helping identify or connect the Town with funding sources
- Writing support letters for grant applications
- Sharing updates and promoting awareness through local media and social platforms
- Identifying opportunities for public-private partnerships

A key difference between this Playbook and the 2005 Plan is its emphasis on strong partnerships, especially with property owners. To move from planning to action, the Town and community must work together—using what was learned from catalyst projects and leaning into collaboration to achieve the shared vision for the river corridor.

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MEMORANDUM

To:	Town of Truckee, R2SC River Health and Access Action Team
From:	Design Workshop, Stephanie Grigsby
Date:	10/30/2024
Project Name:	Truckee Downtown River Revitalization Action Plan
Project #:	7378
Subject:	Revised R2SC River Health and Access Action Team River Health Opportunities and Considerations
Copy To:	Balance Hydrologics and Catherine Schnurrenberger

This memo summarizes the meeting information, discussions, considerations, and opportunities developed by the River Health and Access Action Team (RHA Action Team). The opportunities come from a series of publicly noticed meetings held from April 25, 2024, through October 10, 2024. Edits have been incorporated to reflect the comments and feedback from the River Revitalization Steering Committee (R2SC) made during the October 1, 2024, Steering Committee meeting and discussed by the RHA Action Team on October 10, 2024.

During this series of meetings, the RHA Action Team received presentations and comments from:

- Balance Hydrologics and Catherine Schnurrenberger
    - Baseline Hydrology and Ecology Assessment (presented May 9, 2024, and June 10, 2024)
    - Truckee River Downtown Ecological Features Assessment memo and recommendations (presented September 13, 2024)
- Town of Truckee Stormwater Program
    - Regulatory background, Town stormwater monitoring data, and Town stormwater infrastructure (presented August 8, 2024)
- Whitewater Park proposal (presented August 8, 2024)
    - Truckee River Whitewater Park Feasibility report (2022, AECOM)
    - Whitewater Park Studies "Research Results and Design Guidelines (2018, Colorado Parks & Wildlife).
- Truckee River Chapter of Trout Unlimited
    - Recommendations for the Truckee River within the R2SC Study Area (shared with RHA Action Team, August 5, 2024)
- Truckee River Legacy Foundation
    - Recommendations and ideas for river health and access (shared with RHA Action Team, August 6, 2024)

As an outcome of the presentations and discussions, the RHA Action Team agreed that the enhancement recommendations summarized in the Truckee River Downtown Ecological Features Assessment memo (September 18, 2024) should be incorporated into the opportunities the RHA Action Team presents to the River Revitalization Steering Committee (R2SC) for discussion and potential incorporation into the overall Truckee River Downtown Revitalization Action Plan.

The maps accompanying this memo incorporate site-specific opportunities identified both in the Ecological Features Assessment report and by the RHA Action Team. In addition to the site-specific opportunities, the Ecological Features Assessment report and the RHA Action Team also identified a series of opportunities that apply throughout the river corridor. Those opportunities are summarized in this memo.

1.0 Guiding Principle

The RHA Action Team appreciated that the ecological baseline presentations and report began with the below 2040 General Plan guiding principle related to the Conservation and Open Space Element. This principle informs the RHA Action Team's considerations.

> "Preserve and expand the quality and quantity of natural systems in Truckee by promoting aquatic and terrestrial biodiversity and by implementing environmental, ecological, and conservation-minded strategies".

2.0 River Health and Access Enhancement Opportunities

2.1 Six Categories to Support the Guiding Principle. The enhancement opportunities are organized into six categories: floodplain restoration and protection, stormwater management and monitoring, vegetation enhancement, wildlife habitat connectivity, managed access, and bike and pedestrian connectivity. For each category, the RHA Action Team discussed a series of opportunities that relate both to the entire corridor and to specific opportunity sites. The site-specific opportunities are not intended to bind a property owner to any particular action. Rather, they are presented for consideration as properties are redeveloped in order to work toward the guiding principle stated above.

2.2 Mapping Includes Donner and Trout Creeks. The mapping associated with the opportunities was expanded to show the Truckee River corridor from SR 89 to SR 267. The increased site context incorporates the RHA Action Team's recommendation to incorporate Donner Creek and Trout Creek as bookends for the corridor. It was discussed that each creek and its confluence with Truckee River present priority opportunities for water quality protection and enhancement. Both tributaries represent high quality riparian areas that could provide open space with managed access on both ends of the corridor.

2.3 Upstream Impacts Need to be Considered. When discussing the river corridor, it was also noted that roads and development located upstream (e.g., Interstate 80) impact river health. Although outside of the immediate study area, the RHA Action Team supports efforts to reduce sediment runoff from the upstream locations and supports increased monitoring of those locations.

2.4 Recommendations Could be Higher Than CEQA and Other Regulatory Requirements. Many of the recommendations identified in this memo align with project approval requirements from CEQA and other regulatory requirements. Where additional enhancements are desired, such as removing fill in the floodplain and incorporating managed access points, incentives can be used to encourage property owners to implement those elements into projects.

2.5 Access Management and Maintenance. River access and trail alignments in the river corridor should be adaptively managed and maintained to minimize adverse impacts to riparian resources. Adaptive management is an approach used by land managers to evaluate and adjust strategies based on a set of defined performance indicators and thresholds. Tactics to address undesirable user behaviors are implemented, evaluated, and adjusted on a regular basis. For example, if the number of user-created trails exceeds a defined limit of disturbance, vegetative or physical barriers can be put in place. These strategies should be applied to access points on both the north and south side of the river and from the Legacy Trail. Where monitoring shows that social trails or user-created trails impact sensitive resources, measures should be taken to restrict river access and direct use to more desirable access locations.

2.6 Opportunities are Noted on Six (6) Maps. The site-specific opportunities summarized below reflect the discussions and feedback from the RHA Action Team. The opportunities and the recommendations from the Truckee River Downtown Ecological Features Assessment (2024, Balance Hydrologics) are summarized on the attached maps. Note that although the items below each category are numbered, the number does not indicate priority. It is included for ease of reference and discussion.

2.7 Decision-Making Criteria for Managed Access. Managed access can be incorporated into restoration actions with enhancement of stabilized access points and avoidance of sensitive communities and processes.

Access does not always need to be physical access. Viewpoints which allow community members to visually engage and appreciate the river while limiting physical access can be encouraged where physical access would impact riparian resources and habitat.

In general, fewer access points are identified along the north side of the river than the south side of the river. Along the north side, access should be coordinated with willing property owners and primarily align with existing access locations and/or with existing or new bridge crossings. Access along the south side of the river is anticipated to occur at more locations.

(Draft considerations are below for review and discussion. Note that criteria that is more objective versus subjective is helpful during permitting and approvals.)
When making decisions about access, either on the north or south sides of the river, these points should be considered:

1. Manage access while protecting riparian resources.
2. Reduce access or dissuade use where there is significant or notable erosion and degradation of riparian vegetation and habitat. For example, access should be

limited where there are sensitive riparian areas, or a condition of approval for future development projects would be to help promote riparian vegetation where appropriate.
3. Preferred access locations are those areas people are already using.
4. Consider designing and providing managed access to the river at pedestrian/bike bridge locations while mitigating and directing use to desired areas.
5. Consider trail connections and alignments when riparian and floodplain can be preserved and there are no wildlife corridor impacts.

2.8 Compliance Monitoring for the River Health and Access Recommendations in the R2SC Action Plan. We recommend staff and council members implement processes to monitor whether or not the recommendations of 1) the R2SC Action Plan are being implemented and 2) the recommendations/considerations of the RHAAT are being implemented, in particular the decision-making points regarding access.

2.9 Floodplain Restoration and Protection

- Corridor-wide Recommendations:
    1. Remove fill to expose floodplain soils to help promote riparian habitat and hydraulic connectivity.
    2. Stabilize banks using bio-engineered approaches.
    3. Reconnect river hydrology with the floodplain.
    4. Enhancements should not negatively affect flows or instream biota across all seasons.
    5. Reconnect to historic channels; for example, water could be directed to the channels via downed trees.
    6. Approach should reflect the current flood regime with a goal of having a more natural floodplain.
- Site Specific Opportunities:
    1. Opportunity for fill removal and floodplain restoration near River Park Place from River Park Place to West River Street as shown in associated map.

2.10 Stormwater Management and Monitoring

- Corridor-wide Recommendations:
    1. Provide more data, with the goal of preventing sediment from entering the Truckee River and its tributaries through the Town's stormwater management system. Develop a long-term monitoring program with data collected during non-runoff events and runoff events.
        a. Evaluate the severity of non-point source sediment pollution in the study area, with the goal of reducing sediment and urban runoff impacts.
        b. Sample stormwater outfalls during runoff events.
        c. Map riverbed conditions and sediment deposition.
        d. Conduct bioassessments and benthic macroinvertebrate surveys.

2. Utilize bio-engineering design and low-impact development techniques both before and after underground stormwater infrastructure (e.g., bioswales and vegetated infiltration systems at outlets).
3. Develop resources and identify potential funding sources to provide private property owners stormwater management recommendations that may be used to help mitigate runoff from private properties.
4. Address stormwater from public and private properties within the entire study area. Prioritize impact mitigation based on benefit derived.

- Site Specific Opportunities:
    1. Because of the proximity to the river, stormwater runoff from West River Street public and private lands may have opportunities for treatment.
        a. Redevelopment provides the opportunity to reduce sediment impacts from lands where such impacts might now be occurring.

2.11 Vegetation Enhancement

- Corridor-wide Recommendations:
    1. Treat noxious weeds. (A noxious weed is a plant that is legally defined as a pest and is known to be harmful to the state's public health, agriculture, wildlife, recreation, or property. Noxious weeds are usually invasive, meaning they are not native to the area and can outcompete native plants for water and nutrients.)
    2. Thin overstocked forested areas.
    3. Promote cottonwood regeneration.
    4. Protect existing stands of willow and alder along the river.
- Site Specific Opportunities:
    1. Explore if the Truckee-Tahoe Sanitary Agency ponds could serve as cottonwood nurseries while still maintaining and meeting functional requirements for overflow.
    2. Protect and enhance riparian vegetation along Donner Creek and Trout Creek.

2.12 Wildlife Habitat Connectivity

- Corridor-wide Recommendations:
    1. Enhance and restore riparian and aquatic habitat. This aligns with the 2040 General Plan, Conservation and Open Space Element guiding principle: “Preserve and expand the quantity and quality of natural systems in Truckee by promoting aquatic and terrestrial biodiversity and by implementing environmental, ecological, and conservation-minded strategies.”
- Site Specific Opportunities:
    1. The stretch of river between the Foxmead boulder and the pedestrian bridge is high quality trout habitat.
    2. Reconfigure the Trout Creek railroad culvert to enhance fish movement between the creek and the Truckee River.
    3. Protect Trout Creek as a viable trout stream, with the goal of ensuring that Trout Creek can hold a sustainable population of its namesake fish.

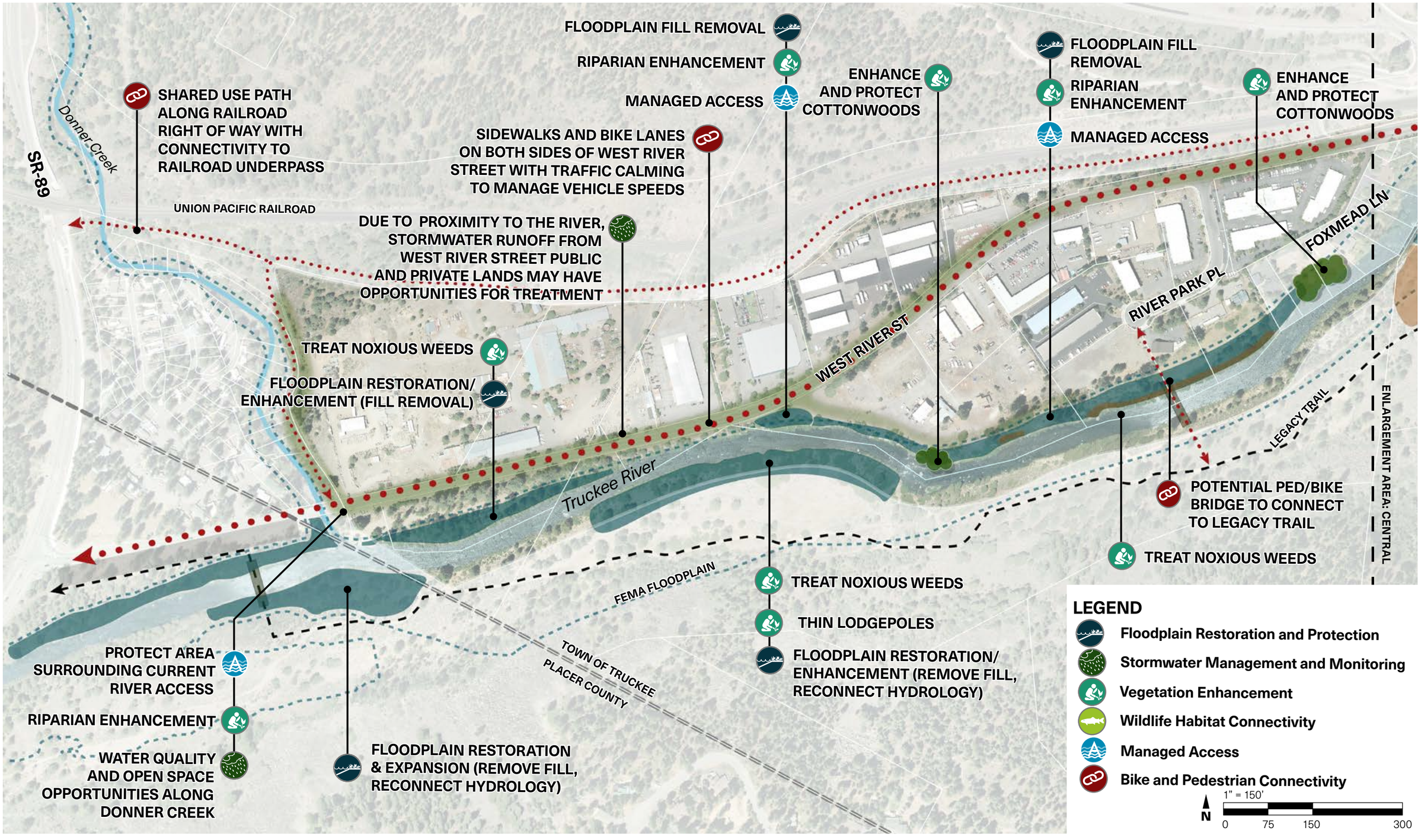
2.13 Managed Access

- Corridor-wide Recommendations:
    1. Access points should be professionally designed by a team that should at a minimum include a hydrologist. The desire is for the team to include a hydrologist, botanist, biologist, and a landscape architect, among other desired expertise.
    2. Define what is included in "open space", "river park", and "managed access". Access points should accommodate or work with the river's different flows. The below descriptions summarize how the RHA Action Team referred to the terms.
        a. "Open spaces" are relatively undeveloped. There may be trails and some managed public access, but the majority of the site is left in a naturalized state or restored.
        b. "River Park" is an area designed for public use. It supports recreational activities through modest development, including limited areas of hardscape and irrigated turf. A river park is anticipated to have areas of restoration and managed access.
        c. "Managed Access" refers to carefully sited and designed places that allow public access through a site or to the river. Erosion control and protection or riparian vegetation are important components. Constructed trails provide access and strategies are implemented to discourage or prevent access to sensitive resources.
- Site Specific Opportunities:
    1. Access near Donner Creek confluence occurs on a steep slope where there are erosion concerns. Reduce impacts to natural resources while accommodating access through improved features (such as log or stone steps) that fit the natural setting. This area could be an open space park and provide access to the river.
    2. Look at opportunities to access the river from the DEWBEYÚMUWE? PARK.
    3. Provide access at defined locations in Truckee Springs and reduce and mitigate unmanaged access (e.g. through fencing and vegetative plantings). Acknowledge existing access points from Land Trust properties.
    4. In particular, enhance access at the bridge on East River Street. Consider improved access on north and south sides of the river at bridge locations.
    5. Consider a park opportunity near the existing pedestrian/bike bridge on East River Street.
    6. Consider potential open space with managed access to the river at Trout Creek confluence. Remove fill in this area, define parking, and manage access because it is a high use area. Evaluate existing uses (e.g., short term camping) to determine appropriate types of recreation and access. Incorporate additional data on the Trout Creek culvert as part of potential enhancements in the area.
    7. Clarify areas of public use below the high-water mark for in-water and riverbank access.
    8. Potential opportunity for public access at the southwest corner of the Truckee River Partners' property and at River Park Place by negotiating mutually beneficial easements or land purchases with property owners.

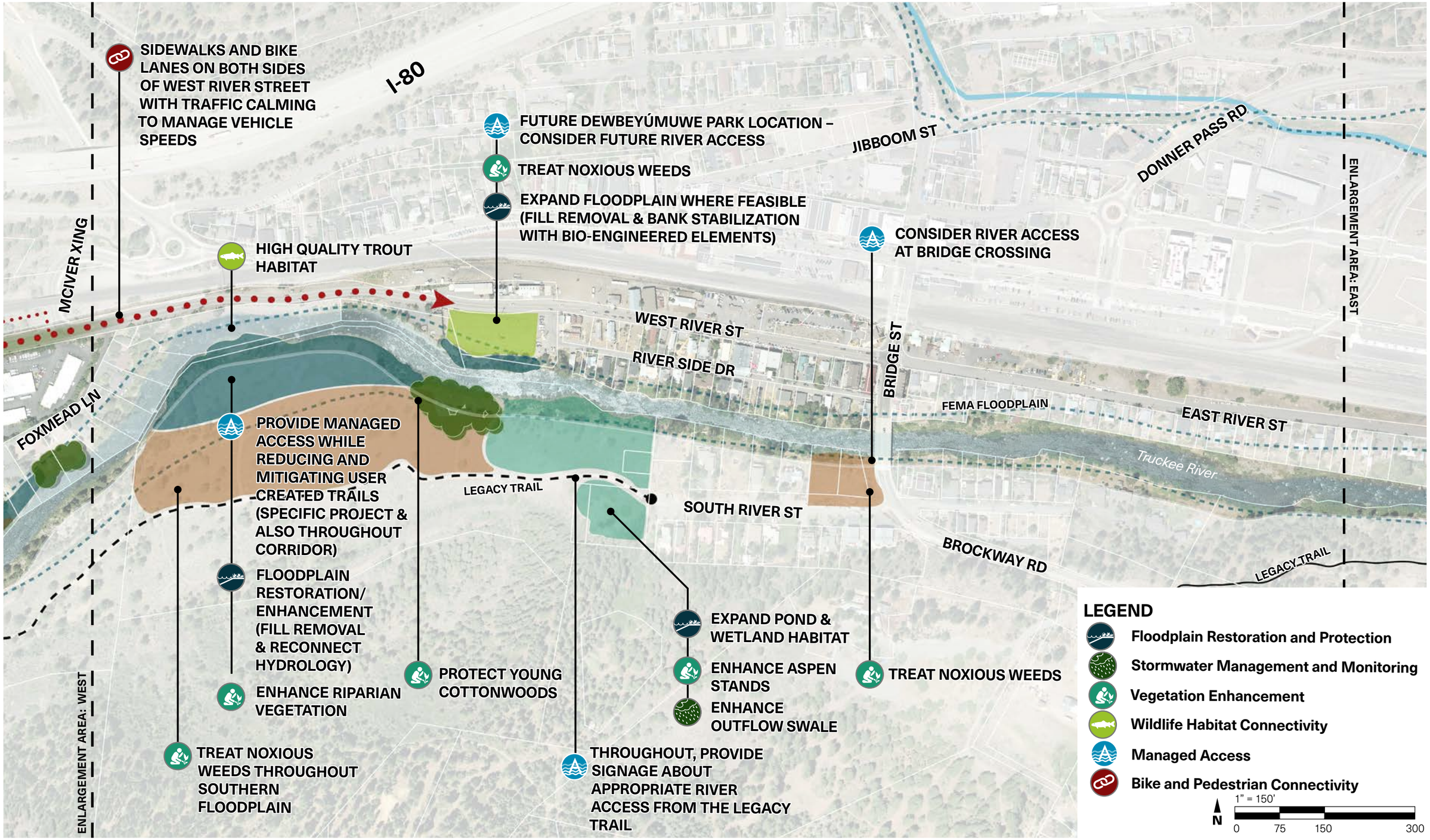
2.14 Bike and Pedestrian Connectivity

- Site Specific Opportunities:
    1. Add bike lanes and sidewalks to both sides of West River Street. However, use traffic engineering methods to help reduce vehicle speeds when bike lanes are added.
    2. Incorporate a potential Class 1 trail/shared use path along the railroad alignment in the West River Street area.
    3. Connect to the Legacy Trail at River Park Place – consider acquiring an easement to develop a share use path connection and pedestrian/bike bridge with public access to the river.
    4. Incorporate signage along the Legacy Trail to inform users of appropriate river access locations.
    5. Consider pedestrian/bike bridge to connect East River Street to the Regional Park near existing parking area in the Regional Park.
    6. If riparian and floodplain can be preserved, and there are no wildlife corridor impacts, consider providing trail connectivity along Donner Creek in addition to existing bike paths. Connection could be to the existing railroad underpass along SR 89.

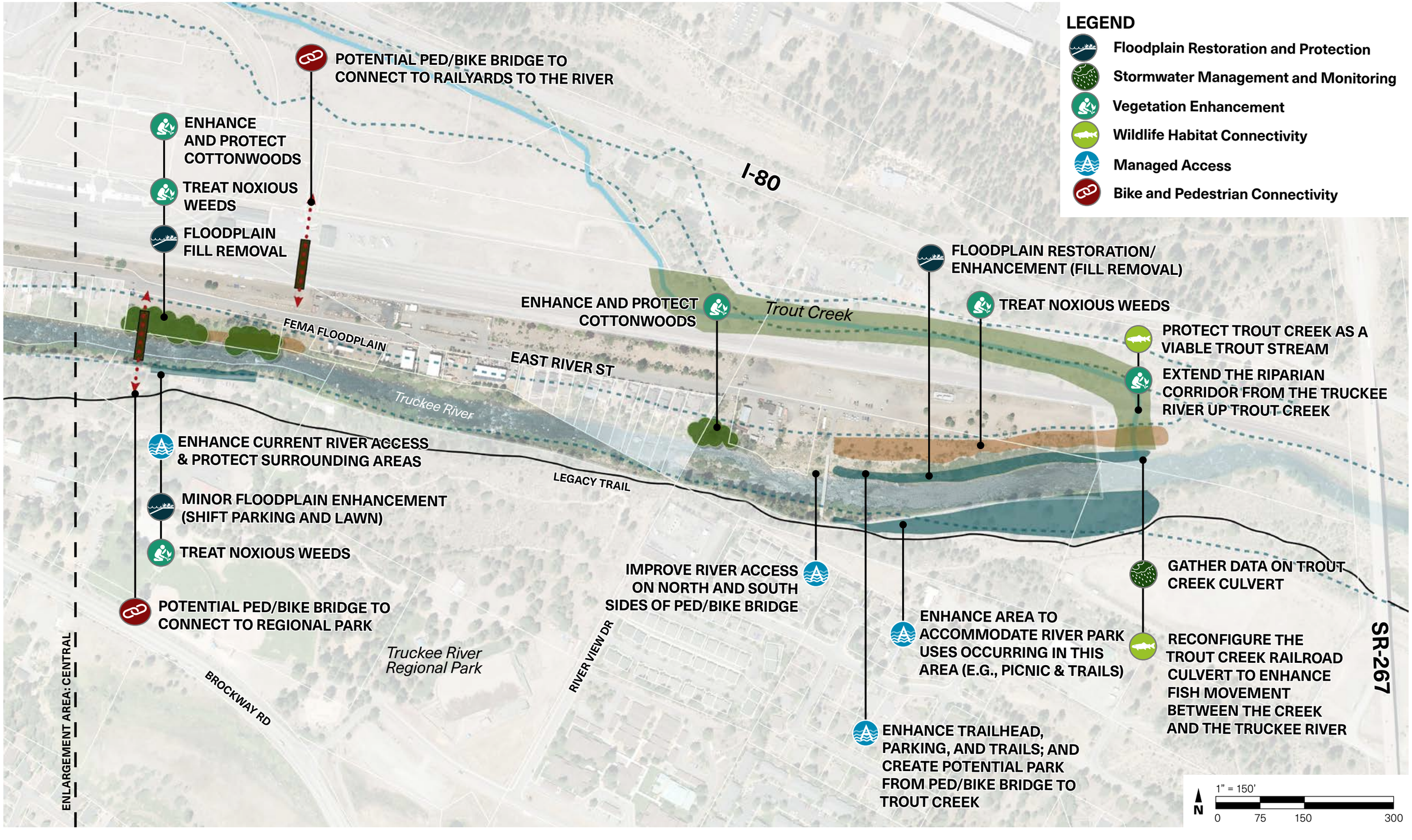
RIVER HEALTH AND ACCESS OPPORTUNITIES | WESTERN AREA



RIVER HEALTH AND ACCESS OPPORTUNITIES | CENTRAL AREA



RIVER HEALTH AND ACCESS OPPORTUNITIES | EASTERN AREA



TECHNICAL MEMO

To: Stephanie Grigsby, Design Workshop
From: David Shaw, Erika Groh, and Catherine Shnurrenberger (CS Surveys)
Date: September 18, 2024
Cc: River Revitalization Steering Committee

Subject: Truckee River Downtown Corridor Ecological Features Assessment

Introduction and Purpose of the Assessment

Balance Hydrologics and CS Surveys are working together with Design Workshop on preparation of the Truckee River Revitalization Action Plan (Plan) for the Town of Truckee. In developing the Plan, we understand that Design Workshop and the Steering Committee would like to:

- Characterize the degree to which Plan elements may disrupt wildlife and vegetation corridors;
- Describe the impacts of in-channel sedimentation on aquatic habitat and riparian vegetation, and whether proposed Plan elements might reduce or increase sediment delivery to the Truckee River;
- Evaluate whether proposed plan elements may affect river flows or harm or benefit riparian areas; and
- Identify opportunities to improve riparian and floodplain functions and values.

To provide a context in which to carry out these evaluations, Balance and CS Surveys have developed this baseline assessment of ecological functions. This assessment aims to address a goal of the Town of Truckee's General Plan: to "Preserve and expand the quantity and quality of natural systems in Truckee by promoting aquatic and terrestrial biodiversity and by implementing environmental, ecological, and conservation-minded strategies."

The Study Area for the Truckee River Revitalization Project extends from the junction of Highway 89 and West River Street at the upstream end to near the Highway 267 overpass at the downstream end (**Figure 1**). The Study Area includes light commercial development, residential development, and natural upland and riparian vegetation.

Previous Studies

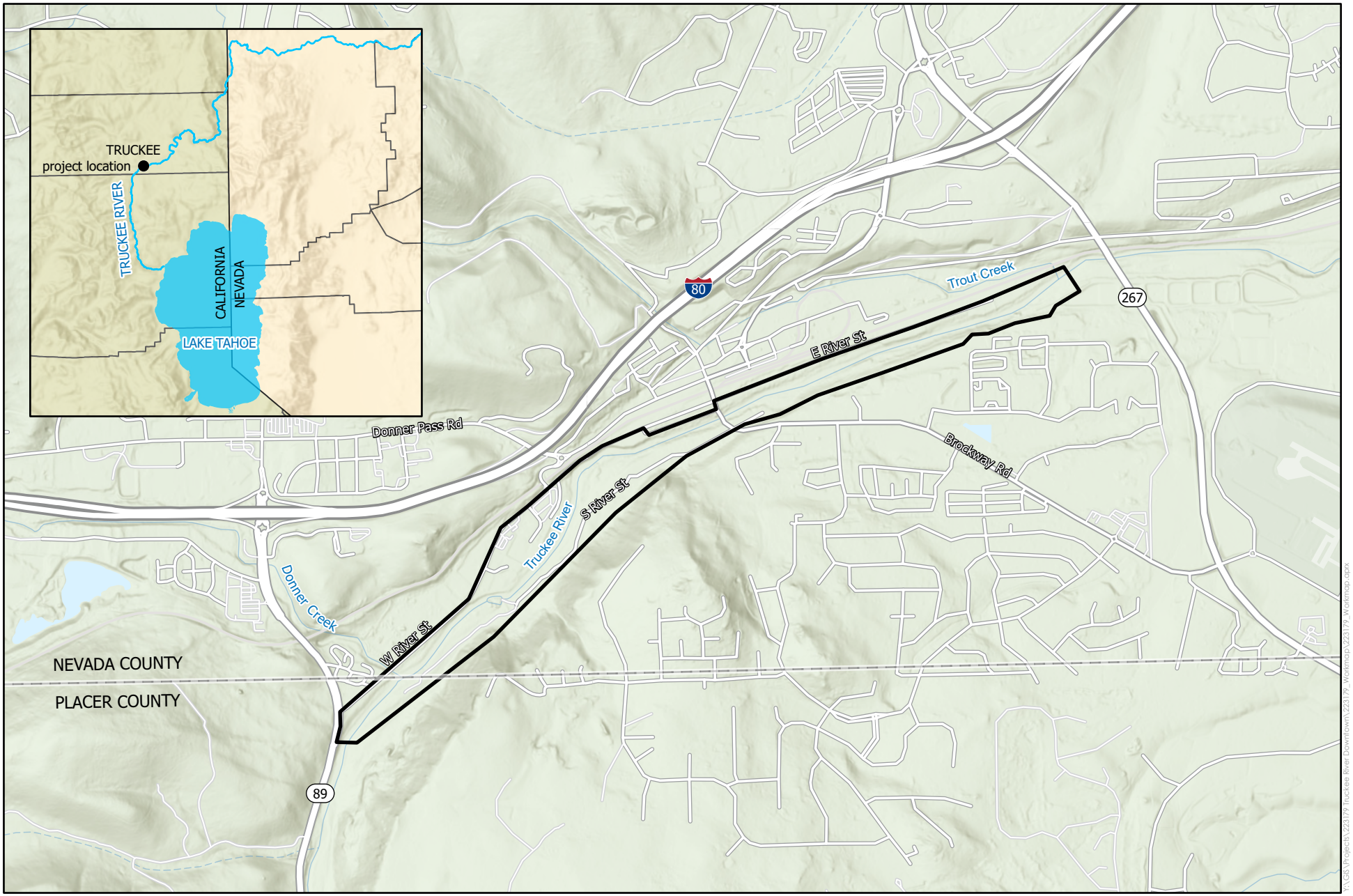
This assessment is based primarily on our and others' previous work within the Study Area, as supplemented by reconnaissance-level field observations. We have reviewed and utilized the following prior published work:

- Downtown River Revitalization Strategy (Town of Truckee, 2005)
- Town of Truckee GIS spatial data (where available)
- Downtown Truckee River Revitalization Assessment (Balance Hydrologics, 2018)
- Truckee River Legacy Trail Phase 4 Resource Assessments
- Truckee River Watershed Council bioassessment data (where available)
- Water quality data, as available from the Truckee River Watershed Council, Truckee River Information Gateway (TRIG), and the Town of Truckee's Truckee River Water Quality Monitoring Program
- Truckee River Corridor Access Plan (EDAW, 2006)
- 100-year floodplain mapping and Flood Insurance Studies completed by FEMA
- Big Jack East NEPA Resource Assessments (Tahoe National Forest)
- Placer County River Trail Resource Assessments, CEQA and NEPA
- Truckee Springs Resource Assessments (Town of Truckee)

Baseline (Existing) Conditions

Geomorphology

The unique geological and land-use history of the Town River Corridor has left a distinct range of geomorphic features within the Study Area, shown in **Figures 2a**, **2b**, and **2c**, and discussed in detail below.



DATA SOURCES: California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA, Esri, CGIAR, USGS

Balance Hydrologics

N 0 1,000 2,000 3,000 Feet

DATE: MARCH 25, 2024 | PN: 223179 | Scale: 1:24,000

Figure 1

Study Area
Truckee River Downtown
Placer and Nevada Counties, California

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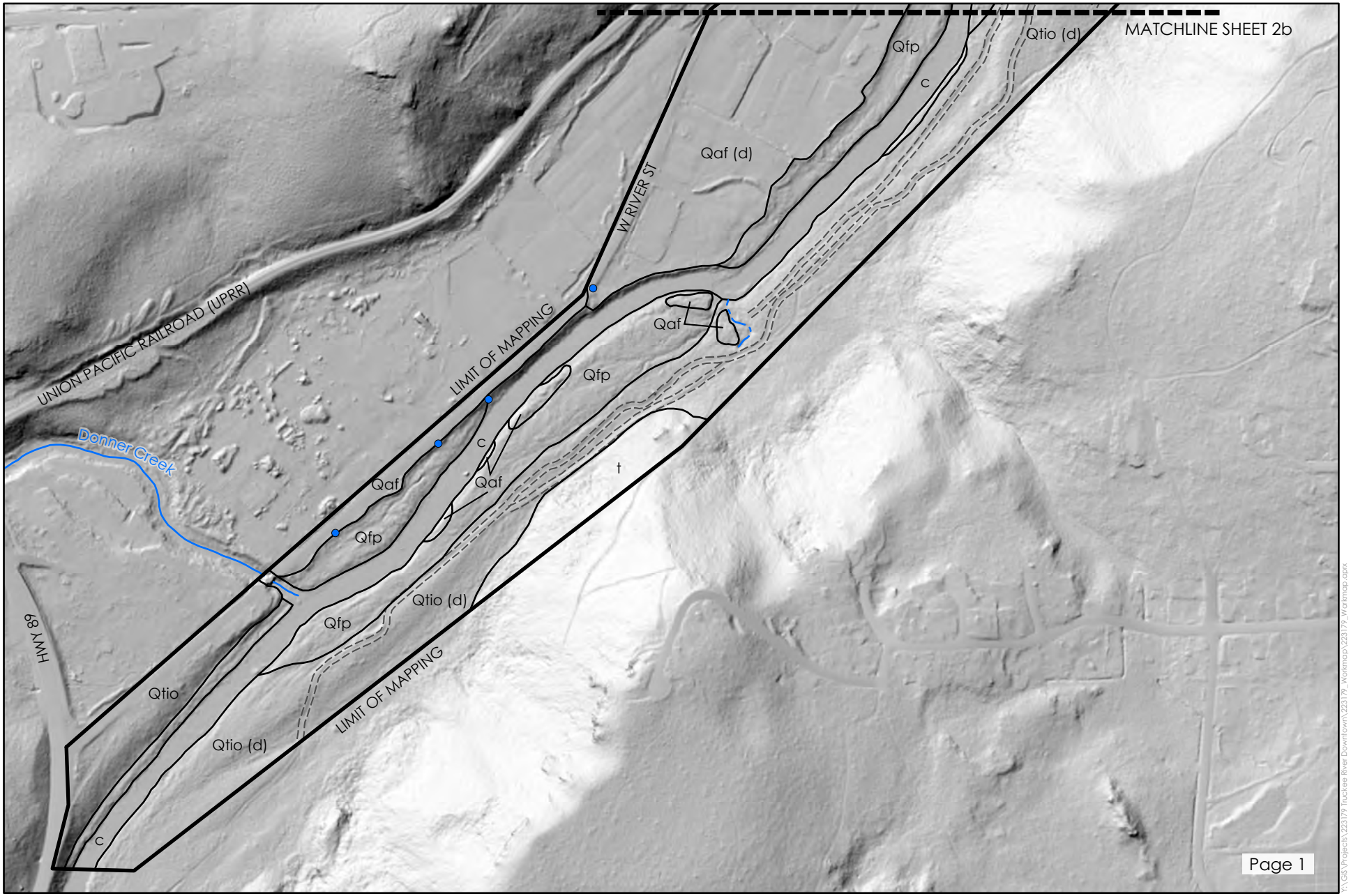
Pre-development conditions

The Truckee River has a history of repeated glaciation, most recently in the late Pleistocene (from about 250,000 to 15,000 years ago). Glaciers moved large amounts of material from surrounding peaks to the valleys where it was deposited as till and glacial outwash. Geologic mapping compiled by Saucedo (2005) indicates that the Study Area reach of the Truckee River between the Town of Truckee and Boca is largely confined within the glacial outwash features (see **Figures 2** and **3**). Many of the glacial outwash features were derived by glacial outburst floods ('jokulhlaups' of Birkeland, 1964), which left behind large boulders that now control the locations of riffles and pools in the system. As a result, the Truckee River in the Study Area acquired a channel form created roughly 20,000 years ago, with very limited or no active channel migration or meandering occurring since that time, except as induced by human disturbance.

Channel bed material appears to have a bi-modal grain size distribution, with steeper boulder riffles separated by lower-gradient gravel and cobble reaches that exhibit a more dynamic gravel/cobble riffle-and-pool morphology within the confines of the channel. Channel gradient varies from 3.3 percent in the steeper boulder riffles and 0.6 percent in the gravel and cobble reaches.[1] Scour pools are formed in gravel and cobble substrate at the tail of boulder riffles, as well as around very large immobile boulders, where localized scour occurs and provides habitat and cover for fish.

[1] Channel gradient is interpreted from LiDAR returns off the water surface at low flows.



DATA SOURCES:

Balance Hydrologics

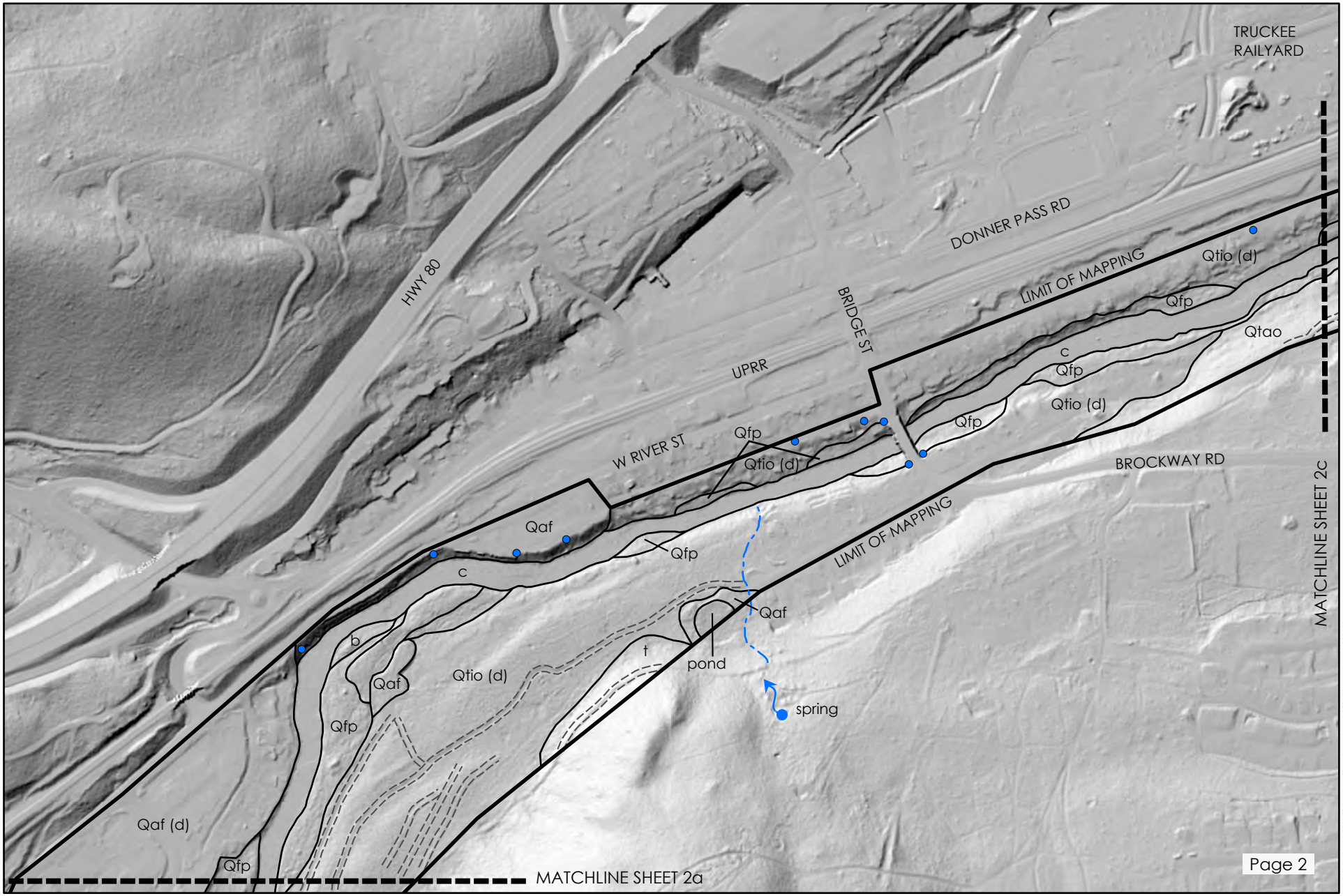
Stormwater Outlet	b	bar	Qfp	active floodplain
Drainage Ditch	c	channel	Qtao	Tahoe outwash
Tributary Stream	Qaf	artificial fill	Qtio	Tioga outwash
Ephemeral Stream	d	disturbed	Tv	bedrock
Trail				

N 0 250 500 750 Feet

DATE: APRIL 11, 2024 | PN: 223179 | Scale: 1:6,000

Figure 2a

Geomorphic Features Map
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES:

Balance Hydrologics

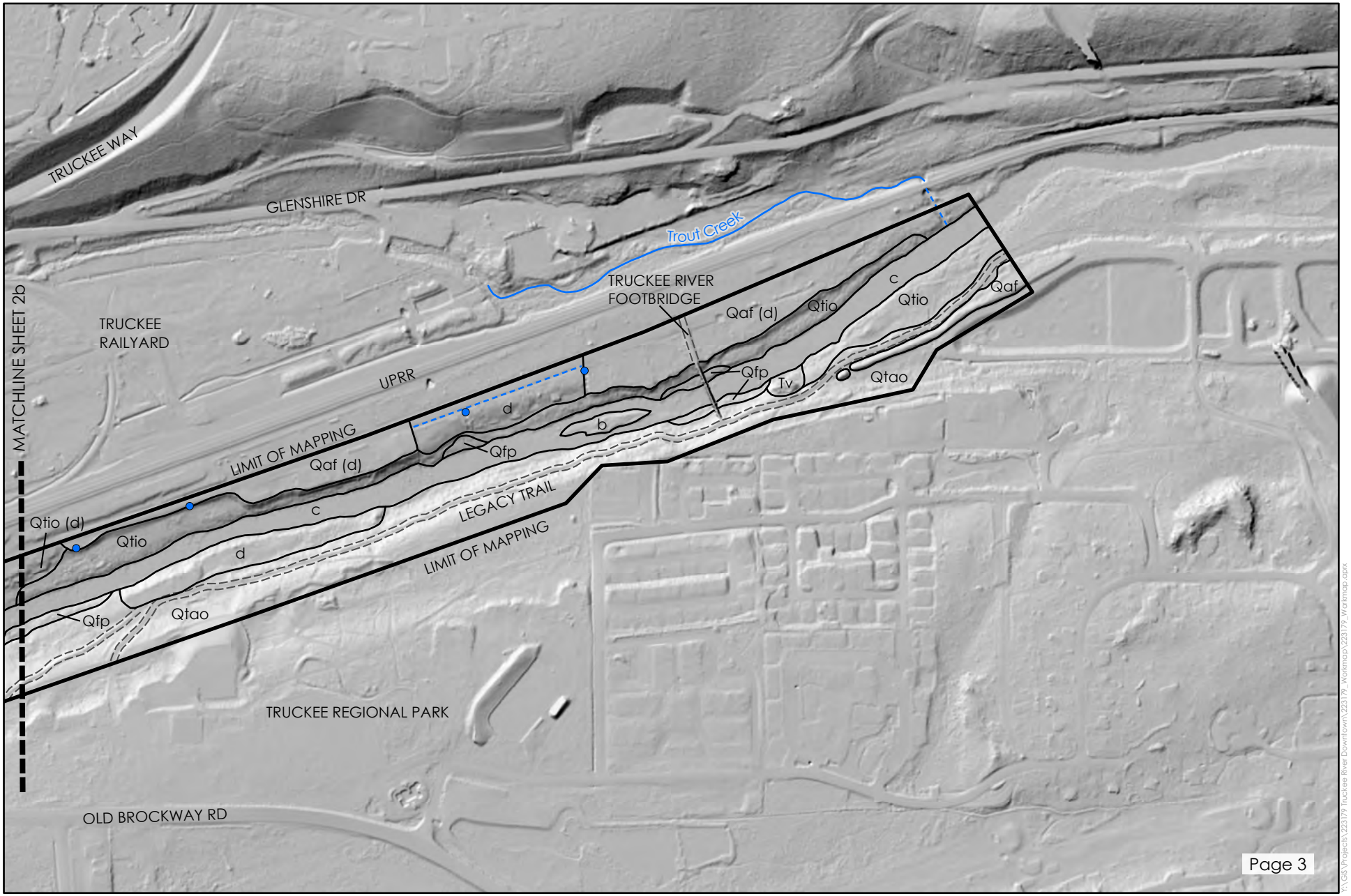
Stormwater Outlet	b	bar	Qfp	active floodplain
Drainage Ditch	c	channel	Qtao	Tahoe outwash
Tributary Stream	Qaf	artificial fill	Qtio	Tioga outwash
Ephemeral Stream	d	disturbed	Tv	bedrock
Trail				

N 0 250 500 750 Feet

DATE: APRIL 11, 2024 | PN: 223179 | Scale: 1:6,000

Figure 2b

Geomorphic Features Map
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES:

Balance Hydrologics

- Stormwater Outlet
- Drainage Ditch
- Tributary Stream
- Ephemeral Stream
- Trail

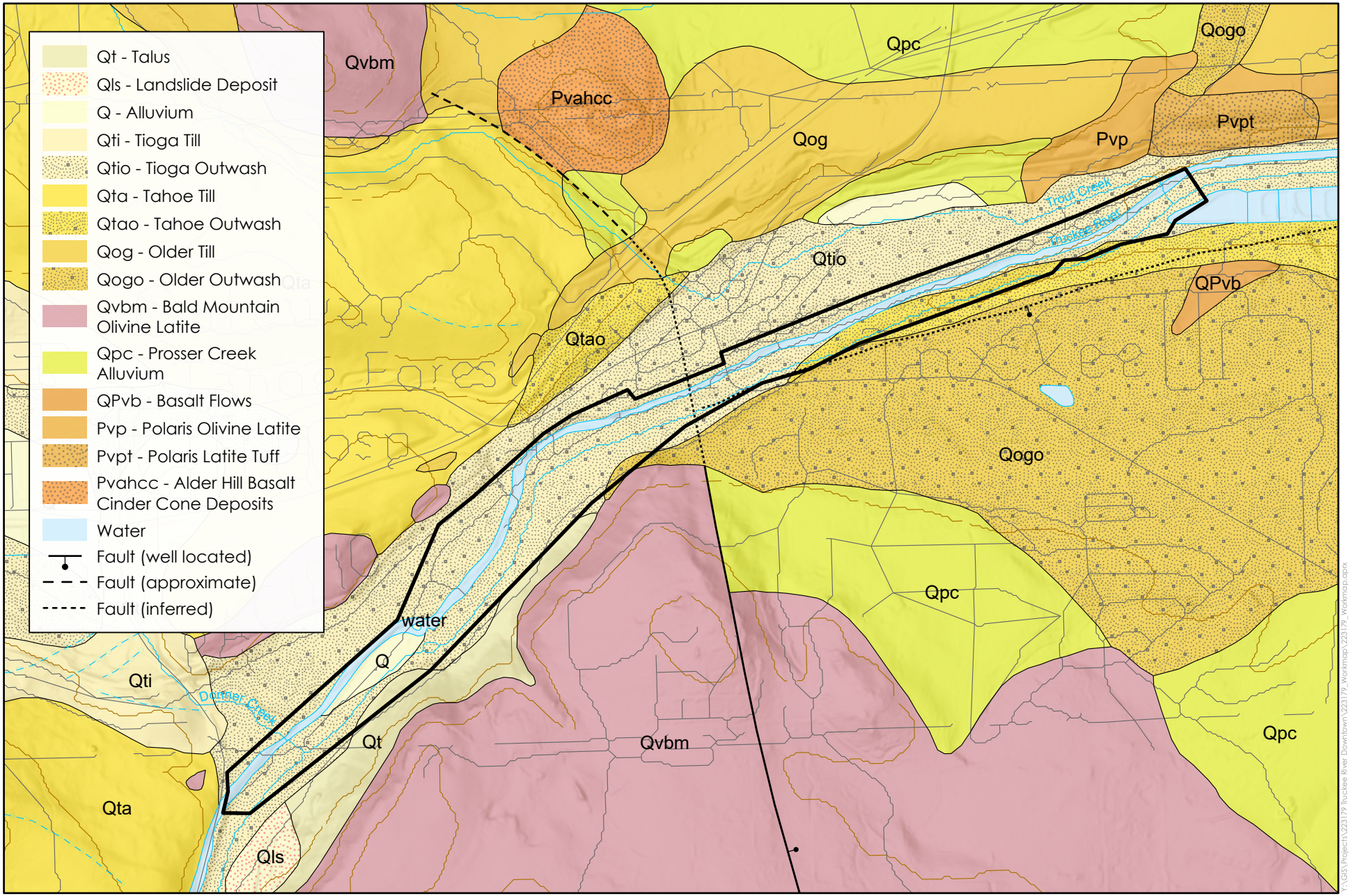
b	bar	Qfp	active floodplain
c	channel	Qtao	Tahoe outwash
Qaf	artificial fill	Qtio	Tioga outwash
d	disturbed	Tv	bedrock

N 0 250 500 750 Feet

DATE: APRIL 11, 2024 | PN: 223179 | Scale: 1:6,000

Figure 2c

Geomorphic Features Map
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES: Saucedo, G. J., 2005, Geologic map of the Lake Tahoe basin, California and Nevada: U.S. Geological Survey, Regional Geologic Map Series Map No. 4, scale 1:100,000.

Balance Hydrologics

N 0 500 1,000 1,500 Feet

DATE: MARCH 25, 2024 | PN: 223179 | Scale: 1:18,000

Figure 3

Geologic Map
Truckee River Downtown
Placer and Nevada Counties, California

Figure 4. Boulders and large cobble derived from glacial outburst flooding largely control channel form and limit channel migration.

Geomorphic features mapping

The Town River Corridor is mostly comprised of active channel (**Figure 2**, Unit c), floodplains (Qfp), and glacial outwash terraces (Qtao and Qtio), with extensive disturbed surfaces associated with current and historical land uses. Channel migration and floodplain dynamics throughout much of the Study Area are limited by bank material composed of very coarse outwash deposits and relatively high adjacent glacial outwash terraces and fill (Qaf), as well as disturbance (d) associated with infrastructure such as embankments and abutments for West River Street and private parcels. Where present, gravel-cobble reaches appear to be more dynamic than the boulder riffles and follow a somewhat predictable form, such as riffle-pool-glide sequences.

Bar deposits within the channel tend to be flooded annually, and vegetation communities therefore tend to be dynamic within the channel. Active floodplains are very limited within the Study Area, largely due to the glacial outwash history, and also due to extensive disturbance and historical fill placement within the river and floodplain corridor.

Terraces nearest the river channel are associated with outwash from the most recent glaciation, and are commonly mistaken for abandoned floodplains; however, they formed during glacial-fluvial processes between 14,000 and 26,500 years ago (Birkeland, 1964). Older terraces form many of the nearly flat areas at higher elevations.

Human disturbance

The Study Area falls within the center of Washoe (Wa She Shu) territory. Three general settlement areas have been reported from the confluence with Donner Creek, east to Boca and the confluence of the Little Truckee River (Lindstrom, 2017). As late as the 20th century, the Washoe would make long treks across the Sierra passes for hunting, trading, and gathering acorns. These aboriginal trek routes, patterned after game trails, are often the precursors of our historical and modern road systems, which closely follow the alignment of the Truckee River. As such, any proposed activities within the Town River Corridor will require careful consideration of cultural resources.

Since the 1800's, the Town River Corridor has experienced physical and ecological impacts, in part due to anthropogenic disturbances associated with logging, milling, ice harvest, dairy and cattle ranching, recreation, modern transportation, and land and community development (Lindstrom, 2017). The associated infrastructure permanently transformed the landscape. Roads, railroads, flumes, drainage ditches, and diversions over a de-forested landscape created flow paths, erosion, and fine sediment transport delivery from the hillsides directly to tributary streams and the Truckee River. Diversions for the Truckee lumberyard are among the most significant of the in-channel modifications that took place at that time. Railroad construction and development along the Truckee River corridor through downtown consisted of mass grading in many areas, with fill placement directly in the channel and floodplain.

During the 1950s, 60s, and 70s, the rural ranching- and timber-based economy- began shifting to more recreational and community development, especially after the Olympics in 1960. The Town of Truckee experienced rapid population growth in the 1990's upwards of a 56% increase from 1991 to 2000 (Town of Truckee, 2015). Today, primary land uses consist of residential-commercial development, on-going road improvements, and recreational uses.

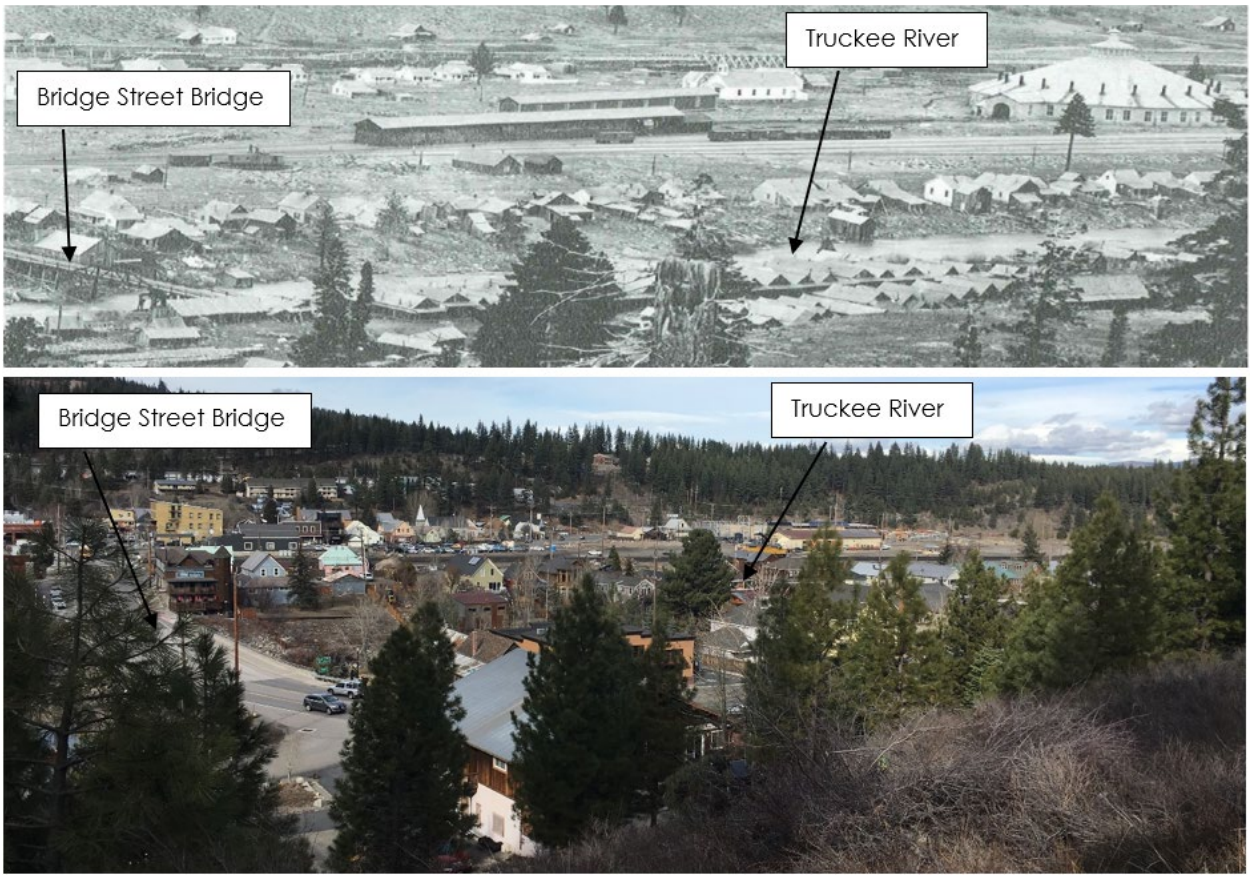


Figure 5. Historical and modern view of East River Street and the railyard.

Hydrology

The total watershed area for the Truckee River within the Study Area is approximately 585 square miles, however, this area is inclusive of the watershed areas for two large, dam-regulated lakes that modulate the natural flow regime. First, Lake Tahoe is located roughly 14 miles upstream of the Study Area. Flow from Lake Tahoe into the Truckee River—the only outlet for the lake—is regulated by a dam near Tahoe City, California. The watershed area of Lake Tahoe measured at the dam is 507 square miles. Several unregulated tributaries contribute flow to the Truckee River between Lake Tahoe and the Study Area, including Bear Creek, Deer Creek, and Squaw Creek, among other smaller streams. Second, Donner Lake is located roughly 3 miles west of the Study Area and has a watershed area of about 14 square miles. A dam on the east end of Donner Lake regulates flow into Donner Creek, a major tributary to the Truckee River. Cold Creek, which flows from Coldstream Canyon, is not regulated and accounts for almost half of the Donner Creek watershed. Donner Creek enters the Truckee River at the upstream extent of the Study Area. Subtracting the watershed areas for Lake Tahoe and Donner Lake, the unregulated watershed area is on the order of 64 square miles.

For the purposes of flood hazard mapping, the Federal Emergency Management Agency publishes Flood Insurance Rate Maps (FIRMs) showing areas of high, moderate, and low flood risk. **Figure 6** shows portions of the Study Area mapped by FEMA as "Zone AE," and the "100-year floodway," where Base Flood Elevations have been calculated for the 100-year flood event, and where the town has placed restrictions on development.

Limitations on topographic resolution used for FEMA mapping can cause inaccuracies in determining actual flooding extents. Furthermore, the extent of inundation during the 100-year flood may have little to do with riparian and floodplain functions and values, especially in the built environment where historical disturbance has limited historical floodplain extents. It is therefore also useful to consider the "Geomorphic Floodplain," which is (or historically was) inundated on a much more frequent basis, such as the 1- to 5-year flow. This area is typically where riparian vegetation and riverine processes take place, and where water quality and habitat benefits are most effective.

Water quality

The Truckee River is listed as impaired for suspended sediment concentration (SSC), and the Lahontan Regional Water Quality Control Board has adopted a Total Maximum Daily Load for SSC (TMDL, Lahontan RWQCB, 2008). Suspended sediment monitoring data suggest that most fine sediment comes from the "Town Corridor" identified by Balance Hydrologics (2014b) as between State Route (SR)89 and Boca.

The TMDL consists of a number of indicators and target values for each indicator (Water Board, 2008, Table 4.13-TR-1). The only direct indicator is suspended sediment concentration in the Truckee River, with a numeric target of less than or equal to 25 milligrams per liter (mg/L) as an annual 90th percentile value measured at Farad (USGS Station 10346000). Additional indirect indicators include best management practices (BMPs) and restoration implementation, including:

- Implementing road sand application BMPs and monitoring their effectiveness;
- Implementing and maintaining BMPs on ski runs;
- Maintenance or decommissioning of dirt roads, especially those roads with high potential for sediment delivery to surface waters; and
- Legacy site restoration and BMP implementation.

DATA SOURCES: Esri, NASA, NGA, USGS, FEMA, Maxar

Balance Hydrologics

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DATE: MARCH 25, 2024 | PN: 223179 | Scale: 1:18,000

Figure 6

FEMA 100-year Floodway
Truckee River Downtown
Placer and Nevada Counties, California

Measurements of fine sediment load within the Town River Corridor indicate that the numeric target has been met since the TMDL was adopted, and the Town of Truckee and CalTrans have made efforts to complete projects that are expected to reduce sediment discharge to the Truckee River. Monitoring of riverbed conditions from 2012 to 2014, however, indicated an increase in fine sediment deposition downstream of the Study Area (Balance Hydrologics 2014a), and the highest suspended sediment production and delivery to the Town Corridor was observed to be sourced from developed areas in the lower Donner Creek watershed (Balance Hydrologics, 2014b).

Both the Town and Caltrans are responsible for recovery of road traction sand applications. During the winters of 2013 through 2017, Caltrans reported an annual average application rate of approximately 38 tons per lane per mile of Interstate 80, with no available reporting of recovery rates. For the same period, the Town of Truckee reported applying approximately 6,000 tons of sand to roads, with a 94% recovery rate over the same period (Balance Hydrologics, 2018). This results in approximately 1 ton of unrecovered traction sand application per mile of road within the Town limits, equal to approximately 26.2 tons/square mile (Balance Hydrologics, 2018); however, the proportion of unrecovered sand which makes it to the Truckee River is not known.

The Town's stormwater ordinance requires both temporary and permanent Stormwater Best Management Practices (BMPs) for construction and development activities, and the Town is incorporating stormwater management BMPs into upcoming Capital Improvement Projects. From 2010 through 2016, the Town jointly participated with Placer County in implementing the Truckee River Water Quality Monitoring Program (TRWQMP), and the town continues to operate turbidity monitoring equipment on the Truckee River upstream and downstream of Town's boundaries; however, data from these stations have not been analyzed, and limited to no water quality monitoring has occurred since 2014 within the Town limits or the Downtown Corridor.

Vegetation communities mapping

The purpose of the vegetation survey is to map plant communities and land use types within the Study Area, and to describe the ecological health and function of those areas. The ecological health is based on the function and composition of observed plant species, the resistance/resilience of each plant community under stressors such as climate change and fragmentation, and the presence/absence of and potential for non-native invasive and/or noxious weeds.

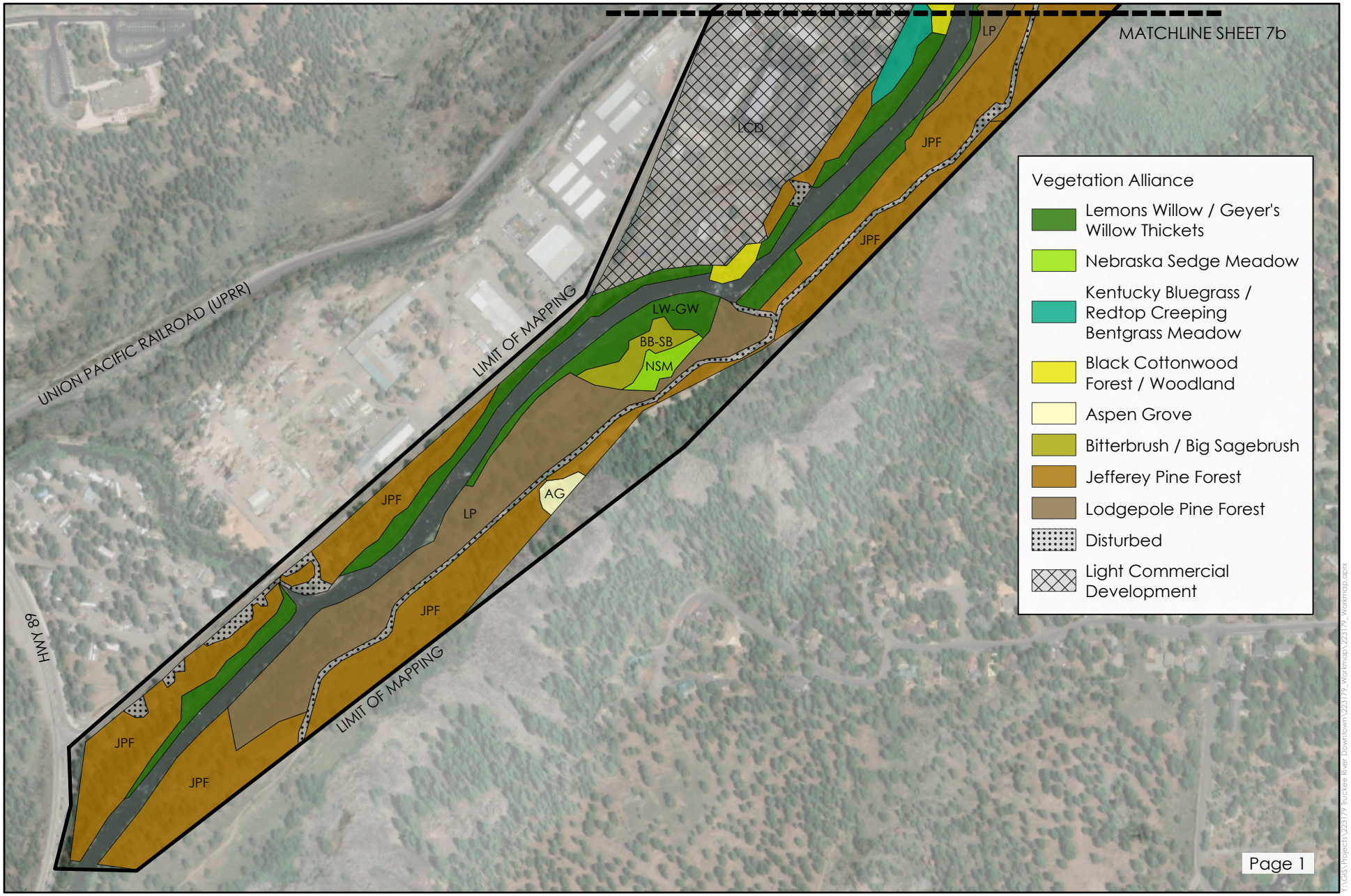
The vegetation was mapped according to the Manual of California Vegetation online edition (CNPS 2024), as shown in **Figures 7a, 7b,** and **7c**. Vegetation types are described as alliances based on the dominant species in the vegetation layer that best defines the vegetation type. For forest types, the vegetation is based on the dominant species in the forest canopy layer, for shrub dominated communities, species in the shrub layer define the community and for herbaceous communities, species in that layer define the species.

Mountain Alder Thicket – For this vegetation alliance, mountain alder (*Alnus incana*) is dominant or co-dominant in the shrub canopy. Other shrubs may include mountain maple (*Acer glabrum)*, red osier dogwood (*Cornus sericea),* and willow species *(Salix sps.)*. Trees such as white fir (*Abies concolor*), lodgepole pine (*Pinus contorta ssp.murrayana*), and Jeffrey pine (*Pinus jeffreyi*) may be present at low cover. Within the Study Area, Pacific willow (*Salix lasiandra*), sandbar willow (*Salix exigua*), and Lemmon's willow (*Salix lemmonii*) are the most common co-dominant species. In the Study Area, this vegetation type is found along the banks of the Truckee River.

Black Cottonwood Forest and Woodland – Black cottonwood (*Populus trichocarpa*) is dominant or co-dominant in the tree canopy. White fir, mountain alder, lodgepole pine, and willow species may be co-dominant with black cottonwood. For the Cottonwood stands in the Study Area, Lemmon's willow, lodgepole pine, and mountain alder are present and sometimes co-dominant. Cottonwood stands or patches of cottonwood are present on the higher terraces of the Truckee River floodplain. These surfaces currently only receive flow and maintain saturated soils during high flow events.

Regeneration of cottonwoods is limited throughout the Study Area, with few pole age (10 – 25 year old) cottonwoods present. Regeneration appears to be by vegetative means, root sprouting, and cladosptosis (sprouting from dropped branches and twigs). Regeneration from seed would require more regular and longer duration flooding in the late spring/early summer to allow for deposition, germination of seeds, and growth of cottonwood seedlings. This typically occurs on point bars and active floodplains, and it does not occur in the Study Area.

Throughout the Study Area, cottonwood seedlings and saplings (poles) have been damaged and killed by current and past beaver activity. The lack of regeneration has left this section of the Truckee River with only mature and decadent trees, which are less capable of vegetative regeneration.



Balance Hydrologics

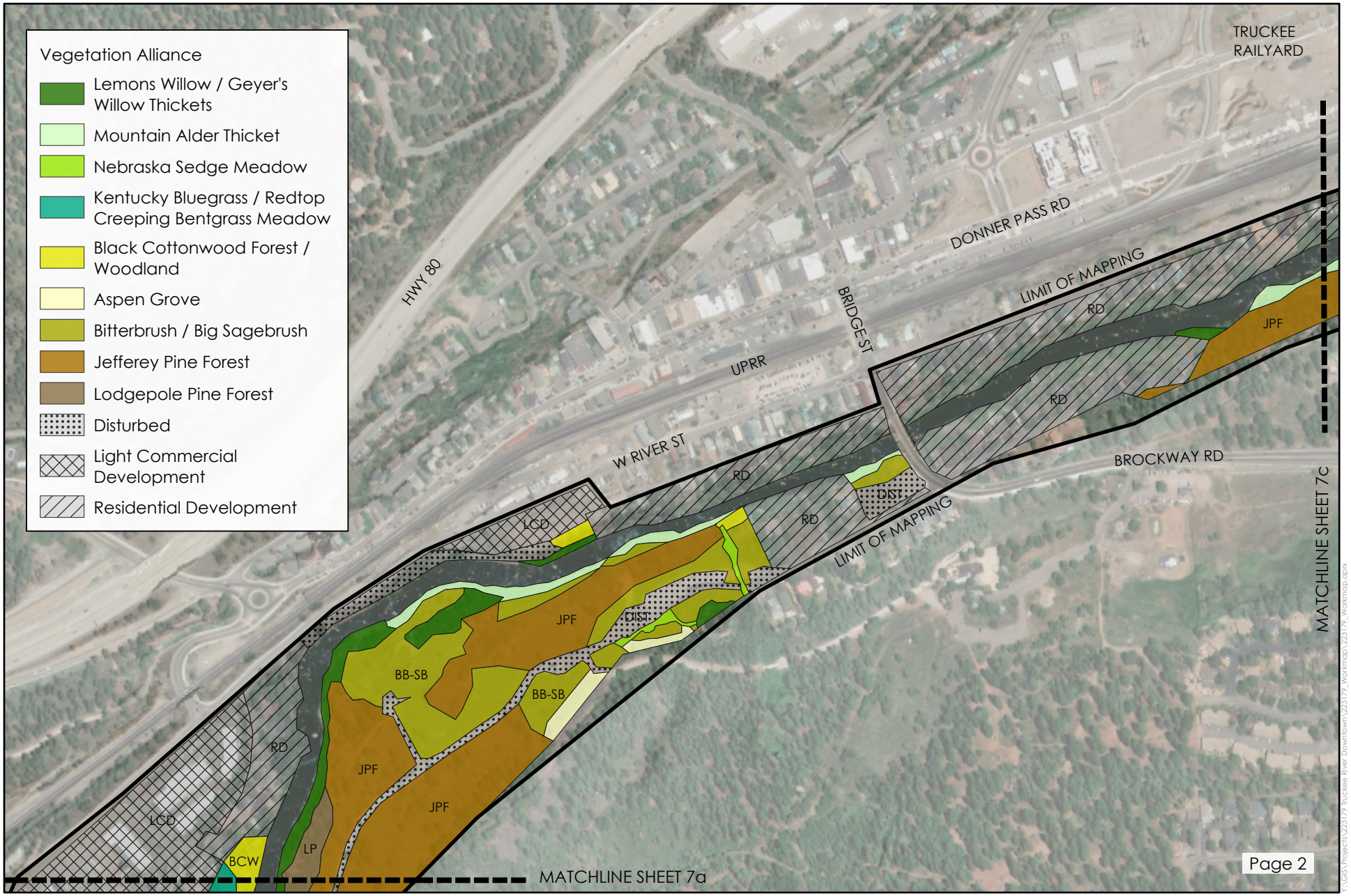
Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: MARCH 27, 2024 | PN: 223179 | Scale: 1:6,000

Figure 7a

Vegetation Communities
Truckee River Downtown
Placer and Nevada Counties, California



Balance Hydrologics

Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

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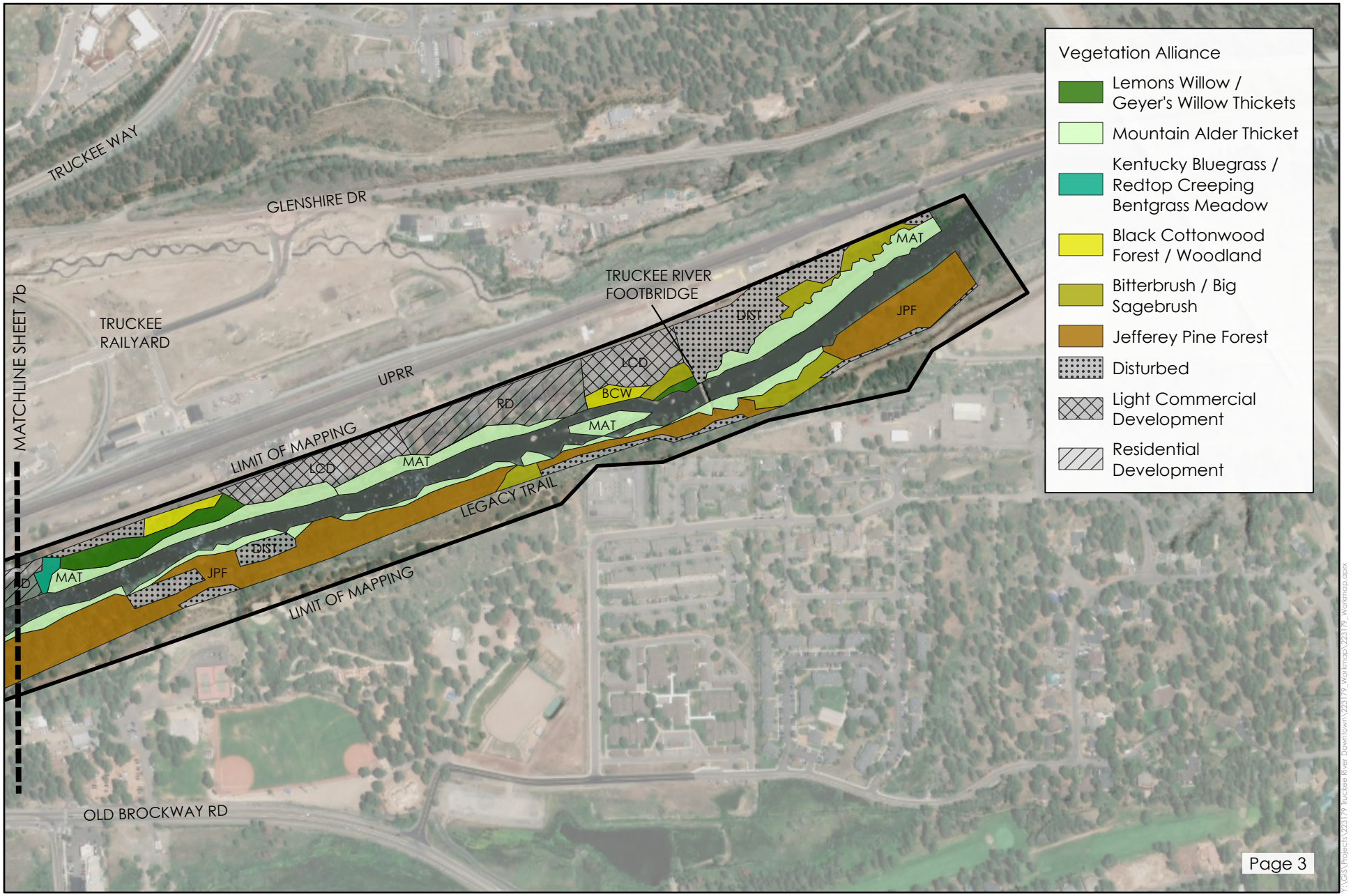
DATE: MARCH 27, 2024 | PN: 223179 | Scale: 1:6,000

Figure 7b

Vegetation Communities
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Maxar

Balance Hydrologics

Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

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Figure 7c

Vegetation Communities
Truckee River Downtown
Placer and Nevada Counties, California

Jeffrey Pine Forest and Woodland – Jeffrey pine is dominant or co-dominant in the tree canopy. In our area, white fir, lodgepole pine, red fir (*Abies magnifica*) and incense cedar (*Calocedrus decurrens*) are often present and/or co-dominant in the tree canopy. Typical understory species in the Study Area include antelope bitterbrush (*Purshia tridentata*), big sagebrush (*Artemisia tridentata*), mountain snowberry (*Symphoricarpos rotundiflorus*), serviceberry (*Amelanchier utahensis* and *A. alnifolia*), snowbrush (*Ceanothus velutinous*), and mountain whitethorn (*C. cordulatus*). This vegetation alliance is an upland forest type and is located either outside the geomorphic floodplain or on upper terraces that are rarely flooded by the Truckee River.

Antelope Bitterbrush - Big Sagebrush Scrub – In our area antelope bitterbrush and big sagebrush are co-dominant in the shrub canopy. Other shrub species such as green rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Ericameria nauseosa*), snowbrush, mountain snowberry, and serviceberry are also present. Within the Study Area, scattered lodgepole pine or Jeffrey pine are present in this vegetation alliance. Common herbaceous species include: squirreltail grass (*Elymus elymoides*), Kentucky bluegrass (*Poa pratensis*), Sandberg's bluegrass (*Poa secunda*), Indian ricegrass (*Achnatherum hymenoides*), sulphur buckwheat (*Eriogonum umbellatum*), and mountain brome (*Bromus carinatus*). This vegetation alliance occurs in upland areas and high terraces that are not flooded or inundated during the growing season. Within the Study Area, this vegetation alliance often forms a patchwork with either the Jeffrey pine alliance or the Lodgepole pine alliance.

Lemmon's Willow / Geyer's Willow Thickets – The Manual of California Vegetation online edition only recognizes the Lemmon's willow thicket as a vegetation alliance with Lemmon's willow as the dominant species in the shrub canopy. Within the Study Area, and throughout the Truckee-Tahoe area it is common to have willow thickets in which Lemmon's willow and Geyer's willow (*S. geyeriana*) are co-dominant in the shrub canopy. Other common species in the shrub canopy are mountain alder, Wood's rose (*Rosa woodsia*), and Pacific willow. The understory species vary depending on the hydrologic conditions. Areas with saturated soils for most of the growing season support sedge and rush species such as Nebraska sedge (Carex nebrascensis) and Baltic rush (*Juncus balticus*). Drier areas support understory species such as Kentucky bluegrass, five finger cinquefoil (*Potentilla gracilis*), yarrow (*Achillea millefolium*), and goldenrod (*Solidago elongata*). Within the Study Area, this vegetation alliance is present along the banks of the Truckee River, often integrating with Mountain Alder Thickets. There is also a more extensive patch of this vegetation alliance on the lower terraces adjacent to the Truckee River in an area that is seasonally flooded.

Nebraska Sedge Meadows – Nebraska sedge is dominant or co-dominant in the herbaceous layer often with yarrow, western bistort (*Bistorta bistortoides*), field sedge (*C. praegracilis*), beaked sedge (*C. utriculata*), tufted hairgrass (*Deschampsia cespitosa*), creeping spikerush (*Eleocharis macrostachya*), willowherb (*Epilobium ciliatum*), Baltic rush, and Kentucky bluegrass. This vegetation alliance occurs only in areas that have saturated soils throughout at least part of the growing season. One area of Nebraska Sedge Meadow borders a spring fed tributary that flows through the historic ice pond near South River Street. This vegetation alliance is also present adjacent to some of the Lemmon's willow/ Geyer's willow thickets and is supported by an ephemeral tributary to the Truckee River.

Kentucky Bluegrass - Redtop - Creeping Bentgrass Meadows – Typically within this vegetation alliance, creeping bentgrass (*Agrostis gigantea*), redtop (*Agrostis stolonifera*), meadow foxtail (*Alopecurus pratensis*), meadow fescue (*Festuca arundinacea*), Timothy (*Phleum pratense*) and/or Poa pratensis is dominant or co-dominant in the herbaceous layer. Other common species that occur in this vegetation alliance are yarrow, fiver finger cinquefoil, meadow barley (*Hordeum brachyantherum*), Baltic rush, field horsetail (*Equisetum arvense*), and Oregon checker mallow (*Sidalcea oregana*). Emergent trees and shrubs may be present at low cover. Within the Study Area, Kentucky bluegrass is the dominant species. This vegetation alliance is found adjacent to the Lemmon's willow/Geyer's willow thickets and/or the Nebraska sedge meadow, on the upper floodplain, or lower terraces.

Lodgepole Pine Forest and Woodland – In this vegetation alliance, lodgepole pine is the dominant species in the forest canopy. Other species may be present in the forest canopy such as Jeffrey pine, white fir, and aspen (*Populus tremuloides*). This vegetation alliance is known to occur on terraces, lake and meadow margins, and depressions that flood seasonally within the Tahoe area. In other areas this vegetation alliance may occur on upland slopes and ridges to the tree line. Within the Study Area this vegetation type often occurs on the upper terraces between the Mountain Alder or Lemmon's Willow/Geyer's Willow thickets and Jeffrey Pine Forest/Woodlands and/or the Antelope Bitterbrush – Big Sagebrush Scrub vegetation alliance.

Aspen Groves – In this vegetation alliance, aspen is the dominant or co-dominant species in the tree canopy with white fir, lodgepole pine, Jeffrey pine, and black cottonwood. The shrub layer is open to continuous, and is composed of species such as serviceberry, mountain snowberry, creeping snowberry (*Symphoricarpos mollis*), snowbrush, Wood's rose, and antelope bitterbrush. Within the Study Area, this vegetation type occurs at the base of the north facing forested slope where snowmelt from the hillslope supports the Aspen groves.

Residential Development – Includes residential homes, landscaped areas, and access such as roads and driveways.

Light Commercial Development – Includes business/commercial development and associated areas such as parking areas, roads, and work yards.

Disturbed – Recently disturbed areas such as dirt roads, parking areas, areas where natural vegetation has been removed and any current vegetation is composed of colonizer or disturbance species, not the naturally occurring vegetation alliances.

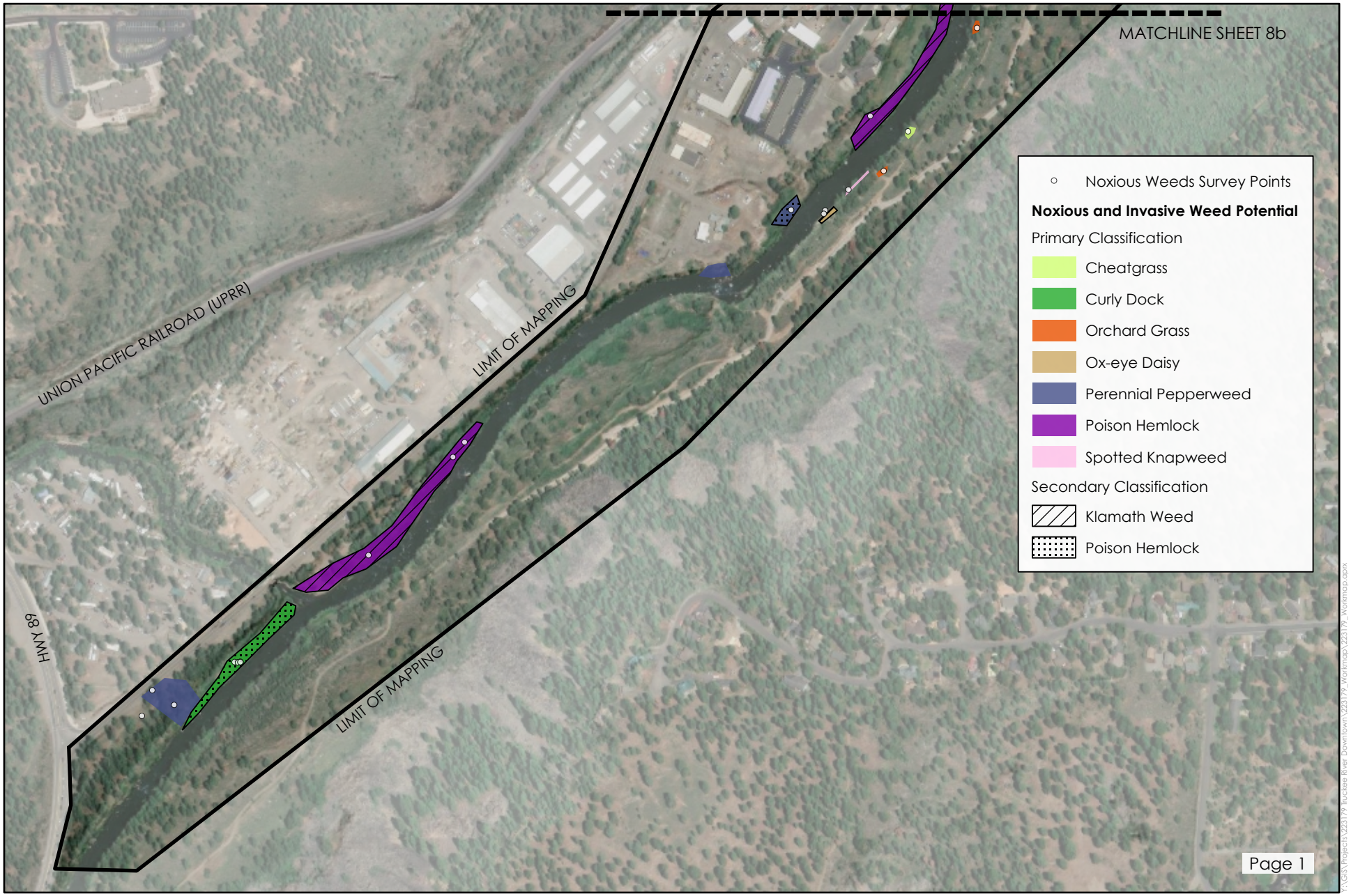
Historical and ongoing impacts to vegetation

Vegetation throughout the Study Area has been affected by both natural and human disturbances. Development activities such as logging, spring development, water diversions, logging, mining, grazing, construction of homes, commercial buildings, railroads, and roads began in 1863. All these activities have affected current vegetation composition and ecological health. Potential areas for noxious weed occurrences are shown in **Figures 8a, 8b,** and **8c**.

The Study Area is mostly surrounded by developed lands, and the vegetation alliances within the Study Area are fragmented. For example, the upland Jeffrey Pine Forest and Woodland Alliance would naturally extend to both the north and south of the Truckee River but currently is limited due to the residential development to the south of the Study Area and the commercial and residential development to the north of the Study Area. Riparian vegetation along the shore of the river is fragmented due to residential development. This is true for all vegetation alliances within the Study Area, and this fragmentation can affect the ecological function of the vegetation communities.

Wildlife

Riparian habitat within the Town Corridor is patchy, but nevertheless provides habitat for aquatic and terrestrial species, such as aquatic insects, insectivorous birds, amphibians, and terrestrial wildlife such as small and large mammals. The CDFW's Terrestrial Connectivity, Areas of Conservation Emphasis (ACE) dataset summarizes information on terrestrial connectivity (**Figure 9**). ACE hexagons are ranked from 1 to 5 with 1 having the most limitations for connectivity and 5 representing "Irreplaceable and Essential Corridors". These 2.5 square mile hexagons consider the presence of mapped corridors or linkages and the juxtaposition to large, contiguous, natural areas (CDFW 2024). The area containing and adjacent to the Study Area is ranked primarily as "1 – Limited Connectivity Opportunity" due to presence of existing



DATA SOURCES: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Maxar

Balance Hydrologics

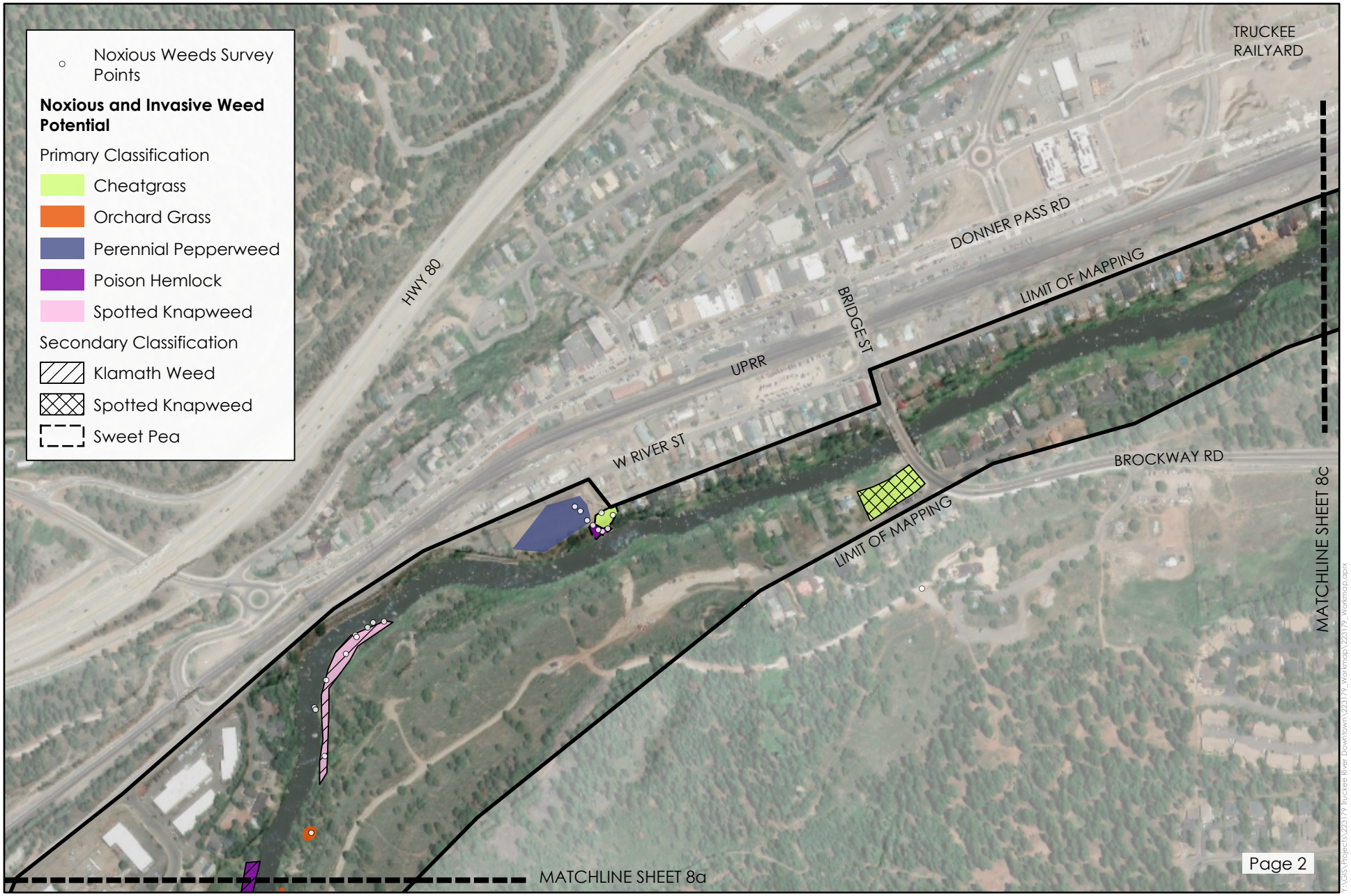
Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: MARCH 27, 2024 | PN: 223179 | Scale: 1:6,000

Figure 8a

Noxious Weed Potential
Truckee River Downtown
Placer and Nevada Counties, California



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Balance Hydrologics

Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

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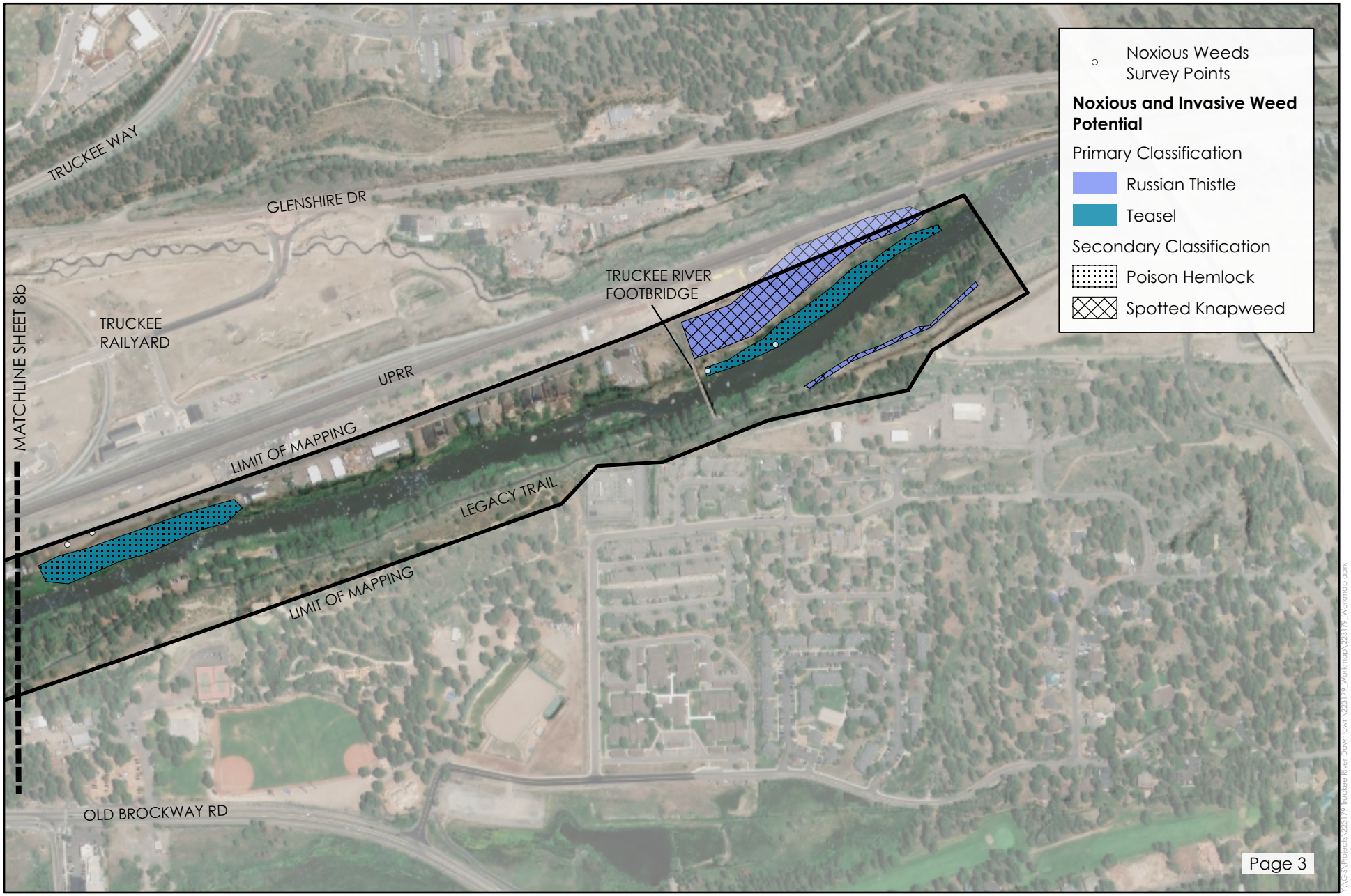
DATE: MARCH 27, 2024 | PN: 223179 | Scale: 1:6,000

Figure 8b

Noxious Weed Potential
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Maxar

Balance Hydrologics

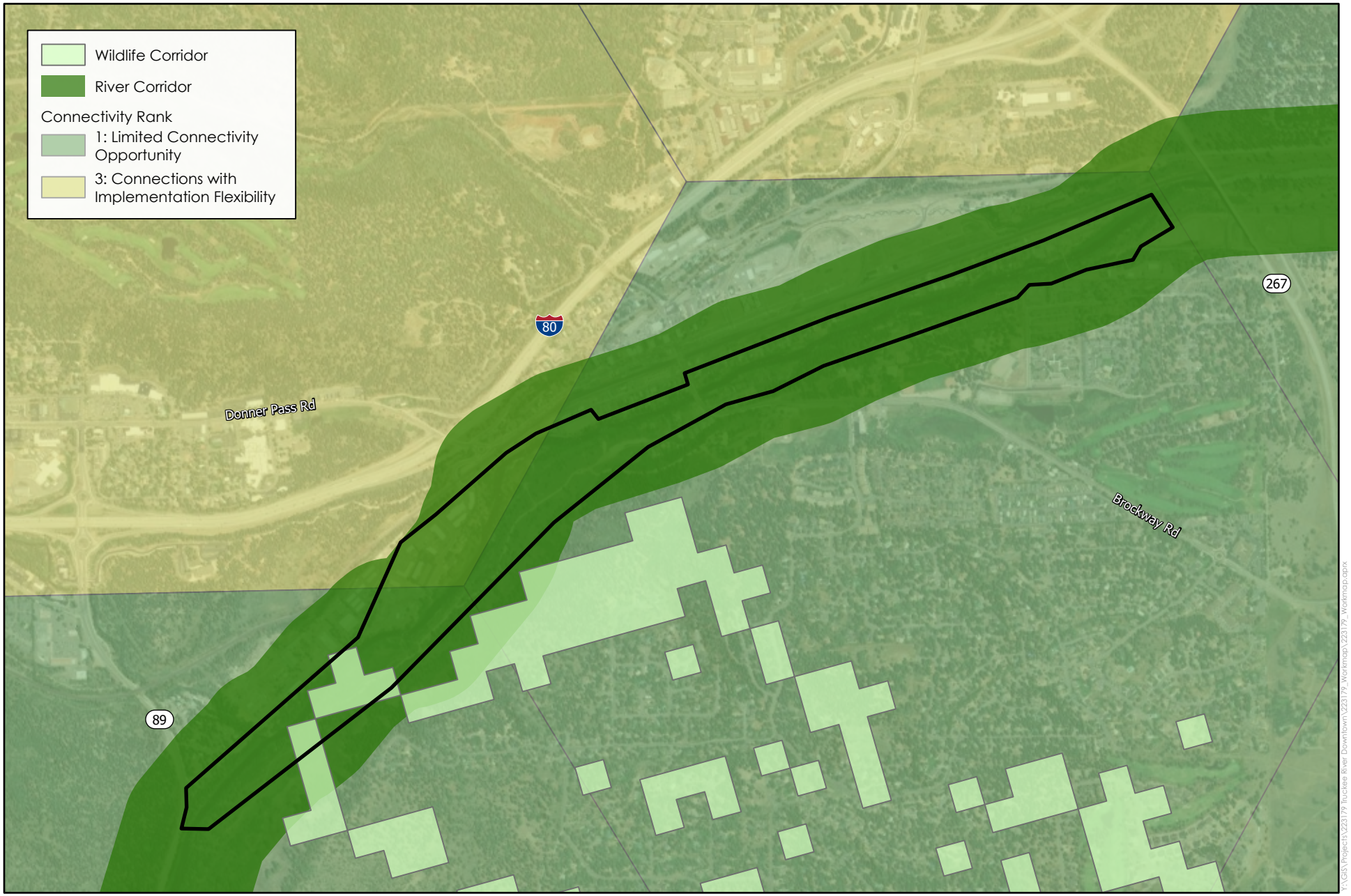
Vegetation Survey Data Source:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: MARCH 27, 2024 | PN: 223179 | Scale: 1:6,000

Figure 8c

Noxious Weed Potential
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES: Esri, NASA, NGA, USGS, FEMA, Maxar, California Department of Water Resources.

Balance Hydrologics

N 0 500 1,000 1,500 Feet

DATE: SEPTEMBER 13, 2024 | PN: 223179 | Scale: 1:18,000

Figure 9

DWR Wildlife Corridors
Truckee River Downtown
Placer and Nevada Counties, California

development that limits direct connections to large "Natural Landscape Blocks". Immediately downstream of the downtown corridor, the State of California has designated most of the Truckee River from Trout Creek to the Nevada state line as a Wild Trout Waterway. A goal of the State of California's Wild Trout Policy is to protect high-quality wild trout habitat from "adverse impact by land or water development projects" (CFGC, 2023).

Although the downtown corridor is not explicitly mapped by CDFW as an essential corridor for connectivity at a regional level, the corridor itself likely provides linkages to nearby essential corridors. To the south of the Study Area, the Truckee River connects to U.S. Forest Service (USFS) Lands that are mapped as a "Natural Landscape Block" and some "Natural Areas Small" provide a nexus to USFS lands to the south and to open lands of other ownership to the east. This increases the functionality of the Study Area as a wildlife corridor.

It should also be noted that when these smaller "Natural Areas" are connected, there is an indirect connection between the Study Area and ACE polygons that are ranked as "5 -Irreplaceable and Essential Corridors". The preservation and maintenance of the "Natural Areas Small" within the Study Area, and of the Truckee River Riparian Corridor, are important in maintaining terrestrial and riparian connectivity with these "Irreplaceable and Essential Corridors."

Wildlife surveys were not completed as part of this overview study; however, the Donner Basin Watershed Assessment (CBEC and others, 2016) provides a comprehensive list of the many species that may be expected to occur within the downtown corridor. Common mammal species include: American black bear (*Ursus americanus*), North American beaver (*Castor canadensis*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), long-tailed weasel (*Mustela frenata*), mountain lion (*Puma concolor*), Columbian black-tailed deer (*Odocoileus hemionus columbianus*), mule deer (*Odocoileus hemionus*), common porcupine (*Erethizon dorsatum*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), western spotted skunk (*Spilogale gracilis*), ground squirrels (*Spermophilus spp*.), chipmunks (*Neotamias spp*.), and voles (*Arborimus spp*.).

Common amphibian species expected to use the river include Sierran chorus frog (*Pseudacris sierrae*), and western toad (*Bufo boreas*).

Common migratory birds that may occur include: Clark's grebe (*Aechmophorus clarkii*), great blue heron (*Ardea herodias*), great egret (*Ardea alba*), turkey vulture (*Cathartes aura*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), common merganser (*Mergus merganser*), Cooper's hawk (*Accipiter cooperii*), red-tailed hawk (*Buteo jamaicensis*),

American coot (*Fulica americana*), killdeer (*Charadrius vociferus*), band-tailed pigeon (*Patagioenas fasciata*), mourning dove (*Zenaida macroura*), great horned owl (*Bubo virginianus*), common nighthawk (*Chordeiles minor*), Anna's hummingbird (*Calypte anna*), white-headed woodpecker (*Picoides albolarvatus*), northern flicker (*Colaptes auratus*), Steller's jay (*Cyanocitta stelleri*), Clark's nutcracker (*Nucifraga columbiana*), black-billed magpie (*Pica hudsonia*), common raven (*Corvus corax*), mountain chickadee (*Poecile gambeli*), pygmy nuthatch (*Sitta pygmaea*), brown creeper (*Certhia americana*), American dipper (*Cinclus mexicanus*), western bluebird (*Sialia mexicana*), American robin (*Turdus migratorius*), savannah sparrow (*Passerculus sandwichensis*), dark-eyed junco (*Junco hyemalis*), brown-headed cowbird (*Molothrus ater*), pine grosbeak (*Pinicola enucleator*), and evening grosbeak (*Coccothraustes vespertinus*).

Common native fish species that may be expected to occur in the Study Reach include Paiute sculpin (*Cottus beldingi*), speckled dace (*Rhinichthys osculus*), and mountain whitefish (*Prosopium williamsoni*). There are also introduced fish such as rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), and eastern brook trout (*Salvelinus fontinalis*).

Special Status species known or likely to occur near the Donner Basin (CBEC and others, 2016) may also be expected to occur within the Town Corridor. These listed species may include: California wolverine (*Gulo gulo leteu*), Pacific fisher (*Martes pennanti*), Sierra marten (*Martes americana sierrae*), Sierra Nevada mountain beaver (*Aplodontia rufa californica*), Sierra Nevada red fox (*Vulpes vulpes necator*), Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), Pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), Sierra Nevada yellow-legged frog (*Rana sierra*), Bald eagle (*Haliaeetus leucocephalus*), Northern goshawk (*Accipiter gentilis*), Yellow rail (*Coturnicops noveboracensis*), Black tern (*Chlidonias niger*), California spotted owl (Strix occidentalis occidental), Great gray owl (*Strix nebulosa*), Long-eared owl (*Asio otus*), Black-backed woodpecker (*Picoides arcticus*), Willow flycatcher (*Empidonax traillii*), Vaux's swift (*Chaetura vaux*), Yellow warbler (*Dendroica petechia*), Yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*).

Recommendations

The Truckee River downtown corridor has undergone extensive disturbance due to historical land use, modifications to the floodplain, and impaired water quality from within the Town of Truckee. With increasing human access and use by the community and our visitors, preservation, restoration, and ongoing stormwater management policies and actions have the potential to minimize or reverse these impacts. Opportunities for protection and enhancement include:

- Vegetation Management consisting of
  - Treating noxious and invasive weeds to enhance riparian and upland habitats
  - Thinning overstocked forested areas
  - Promoting cottonwood regeneration
- Enhancing riparian areas in conjunction with
  - Fill removal and floodplain re-exposure
  - Reconnecting hydrology to disturbed floodplain areas
  - Enhancing sediment deposition in existing floodplain areas
- Providing human access points in strategic locations, while incorporating principles of "Eco-revelatory design" to protect riparian areas, raise awareness, and increase stewardship of the river corridor.
- Ongoing implementation of the Town's stormwater management program and expansion of the town's water quality monitoring program to evaluate its effectiveness.

Vegetation Management

The natural vegetation alliances within the Study Area primarily support native species. The ecological condition of the upland vegetation is good, and there is limited enhancement potential for these areas. The ecological condition of the riparian vegetation is good to poor. Enhancement of meadow vegetation and willow thickets would require improved connectivity to surface and ground water, which would necessitate larger scale restoration. Black Cottonwood Forests and Woodlands are no longer regenerating at a rate that will sustain the existing stands. Measures to improve regeneration are needed to maintain these stands, however, ongoing maintenance is needed to increase the potential for success. Aspen Groves also have limited regeneration and would benefit from enhancement and maintenance. Noxious and invasive weed species exist throughout the Study Area mainly in areas that serve as vectors for weed propagation: the Legacy Trail, existing roads/trails, and the river. There are small

"Natural Areas" at the west end of the project south of the river that provide connectivity to high value wildlife corridors, and these should be preserved.

Jeffrey Pine Forest and Woodland and Lodgepole Pine Forest and Woodland

The two-upland forest/woodland vegetation alliances (Jeffrey Pine and Lodgepole) have both been logged in the past. These areas are now composed of second and third growth trees. There is currently good regeneration both within the Lodgepole Pine Forest and Woodland Alliance and within the Jeffrey Pine Forest and Woodland Vegetation Alliance. Both vegetation alliances are located primarily within Regional Park Lands, Land Trust Lands, or U.S. Forest Service Lands, and are therefore unlikely to be directly affected by development, apart from limited effects from utilities that run through the Study Area.

The main disturbance to these two vegetation alliances is recreation, from the paved Legacy Trail and the dispersed unofficial trails. There have been some direct impacts: tree removal, clearing of vegetation, and compaction of soil. These trails also serve as a vector for introduction of invasive/noxious weeds species, an indirect effect. Russian thistle and spotted knapweed are two noxious/invasive weed species that have established on the margins of the Legacy Trail downstream of the pedestrian bridge. Cheatgrass is an invasive species that has spread into disturbed areas along the Legacy Trail and in high use areas throughout the Study Area.

Overstocked forests with high tree density, especially younger trees that can serve as ladder fuels, increase the potential for higher intensity fires. The Jeffrey Pine Forest/Woodland Alliance within the Study Area does not appear to be "overstocked", and there are openings within the forested areas that reduce fuel loads and limit the potential for crown fires. The trees do not currently appear to be adversely affected by pathogens such as the pine bark beetle, however, the effects of this pathogen increase with drought and other stressors.

The Lodgepole Pine Forest/Woodland Alliance is overstocked in some areas, particularly the south side of the river near the confluence with Donner Creek. Typically, this vegetation alliance, when located adjacent to an active river system, experiences periods of natural disturbance that remove trees, leaving openings for new trees to sprout. The terraces where this vegetation alliance is located have little connection to the Truckee River, limiting natural processes. This vegetation alliance is also subject to pathogens, and wildfire in the overstocked areas would increase fire intensity and susceptibility to pathogens.

Enhancement Potential

Treat known weed populations and watch for future weeds, limited to the Legacy Trail and other high use areas. Thin overstocked areas on the south bank near Donner Creek. Watch for conifer die off due to stressors and remove dead trees.

Antelope Bitterbrush – Big Sagebrush Scrub

This alliance occurs within the forested vegetation types, and between the upland forest and riparian area. This vegetation alliance is healthy. There is good regeneration, and both shrub and herbaceous cover is composed predominantly of native species. The same noxious/invasive weed species found in the forest vegetation alliances are present in Antelope Bitterbrush – Big Sagebrush Scrub Alliance, with scattered areas of cheatgrass in openings and spotted knapweed and Russian thistle along the Legacy Trail downstream of the pedestrian bridge.

Enhancement Potential

Hand pull Russian thistle along the Legacy Trail. Pull or treat Spotted Knapweed with approved herbicides.

Black Cottonwood Forest and Woodland

Black Cottonwood Forests/Woodlands are in small, limited areas on the upper terraces along the Truckee River. Some of these areas may be within the geomorphic floodplain but none of them are now hydrologically connected to the Truckee River. This limits reproduction from seed which requires sustained overbank spring flows that allow seed to deposit on point bars and the active floodplain (Borman and Larson, 2002). In low moisture environments such as higher terraces, cottonwoods reproduce vegetatively, sprouting from stumps, roots, or discarded branches and twigs. This mode of regeneration was observed within the Study Area, but it was limited.

Overall, the ecological health of the Cottonwood Forests/Woodlands in the Study Area is poor. Nearly all areas have older, often decadent trees and little regeneration. Beavers have removed young and mature trees in the past and some beaver activity is present now. There has been some attempt at protecting trees from beavers (e.g., wire mesh around the lower portion of the trunks). The mesh is old, ineffective, and currently the aspens are growing into the mesh, potentially harming the cambium which is the layer beneath the bark where new cells that grow wood and bark tissue are generated.

The condition of the Cottonwood stands is very poor, and the lack of regeneration may lead to a loss of these majestic trees, which are an aesthetic asset of the Truckee River as it runs through town. Regeneration at this point will be difficult and require expenditure, effort, and maintenance.

Enhancement Potential

Cottonwoods are not a long-lived species. Individual trees often only live about 75 years. When cottonwoods are connected to the active floodplain there is continual mortality and regeneration. Cottonwoods within the Study Area do not have this cycle of mortality and regeneration leading to mature or decadent trees that are more susceptible to disease and less able to reproduce vegetatively. Without regeneration there will be a decrease in cottonwood stands.

Regeneration may be stimulated by removing some decadent and mature trees, thereby stimulating the root buds to sprout more stems. The existing sapling and pole age cottonwoods should be protected from beavers with fencing. This may be removed once trees are larger and/or there is no sign of beaver activity. Any area where regeneration is being encouraged should also be fenced. Vulnerable older trees, where beaver activity is high, should also be protected. A monitoring plan should be set up to maintain fencing and wire mesh, and to observe the growth of young cottonwood stems.

Lemmons' Willow/Geyer's Willow Thickets

Willow thickets are present along the banks of the Truckee River and in some adjacent wet areas and side channels. Habitat for willow thickets is limited, which also limits the regeneration. Willows with abundant floodplain area for establishment will spread vegetatively. Regeneration is stimulated by removal of living stems; in this way a large extensive thicket may withstand herbivory by beavers. Within the Study Area, recent beaver activity was found scattered throughout, but less than ten percent of the stems were browsed at any willow patch. Decadent and dead material was found mostly where willows existed in drier conditions.

The banks of the Truckee River and the active floodplain where willow thickets and alder thickets grow are good habitat for many weed species. Perennial pepperweed, bull thistle, spotted knapweed, poison hemlock, sweatpea, ox-eye daisy, Klamathweed, teasel, orchard grass, and curly dock were all found in and around willow thickets.

Enhancement Potential

Remove and/or treat weeds with appropriate herbicides at mapped areas and check potential weed areas for new occurrences. Remove dead willow stems from areas with decadent stands. Consider planting stakes only in areas with appropriate conditions and protection from beavers.

Mountain Alder Thickets

Mountain Alder Thickets are found along the banks of the Truckee River and intergrade with willow thickets. Willow species are often a co-dominant in the shrub layer of Mountain Alder Thickets. Mountain alders prefer areas with larger substrate that allow water to move easily from the river into the adjacent soil. Mountain alders mainly spread vegetatively, and this is the primary means of reproduction in established stands. Mountain alders within the Study Area seem to have good regeneration and stands do not have many dead or decadent stems.
The understory species are mostly appropriate native wetland sedges and grasses, though poison hemlock, teasel, bull thistle, and Klamath weed can occur in Mountain Alder Thickets.

Enhancement Potential

Remove and/or treat weeds with appropriate herbicides at mapped areas and check potential weed areas for new occurrences.

Kentucky Bluegrass – Redtop – Creeping Bentgrass Meadows

There is limited habitat for meadow vegetation in the Study Area. Often Kentucky bluegrass represents a more degraded wet meadow where the depth to groundwater has dropped to more than a meter during the growing season. The largest (0.76 acre) area where Kentucky Bluegrass-Redtop-Creeping Bentgrass Meadow is mapped was most likely Nebraska Sedge Meadows before flow regulation and incision reduced connectivity to the Truckee River. Currently, the ecological condition of this meadow type is fair. There are areas of bare ground and potential for invasive weed species to establish. The other two small areas of this meadow type are transitional and likely represent a reduction in hydrologic function.

Enhancement Potential

Monitor this area for invasive/noxious weeds and remove as needed. A larger project that evaluates the potential for larger scale riparian restoration would be beneficial at the 0.76-acre area located near the Sierra Pet Clinic. Such a project, if it were to reconnect surface and ground water that would support wetland/riparian species, would likely convert this area to a Nebraska Sedge Meadow.

Nebraska Sedge Meadow

Nebraska Sedge Meadow is only mapped at two locations in the Study Area, downstream from Truckee Springs and the historic pond, and at the west end of the project on the south side of the river where an ephemeral tributary supports this vegetation alliance (see **Figure 7a** and **7b**). At both locations the ecological condition is fair to poor, this is because at both locations, surface and groundwater connection is marginal for this vegetation type. The exact factors affecting the decrease in hydrologic function have not been investigated, but it appears that climate change and past human impacts have affected these two areas. One population of bull thistle, a noxious weed, was mapped near the outflow of the historical pond.

Enhancement Potential

Hand-pull existing bull thistles. Monitor for weeds in the future. Consider restoration projects that would reconnect or enhance surface and groundwater hydrology at both locations.

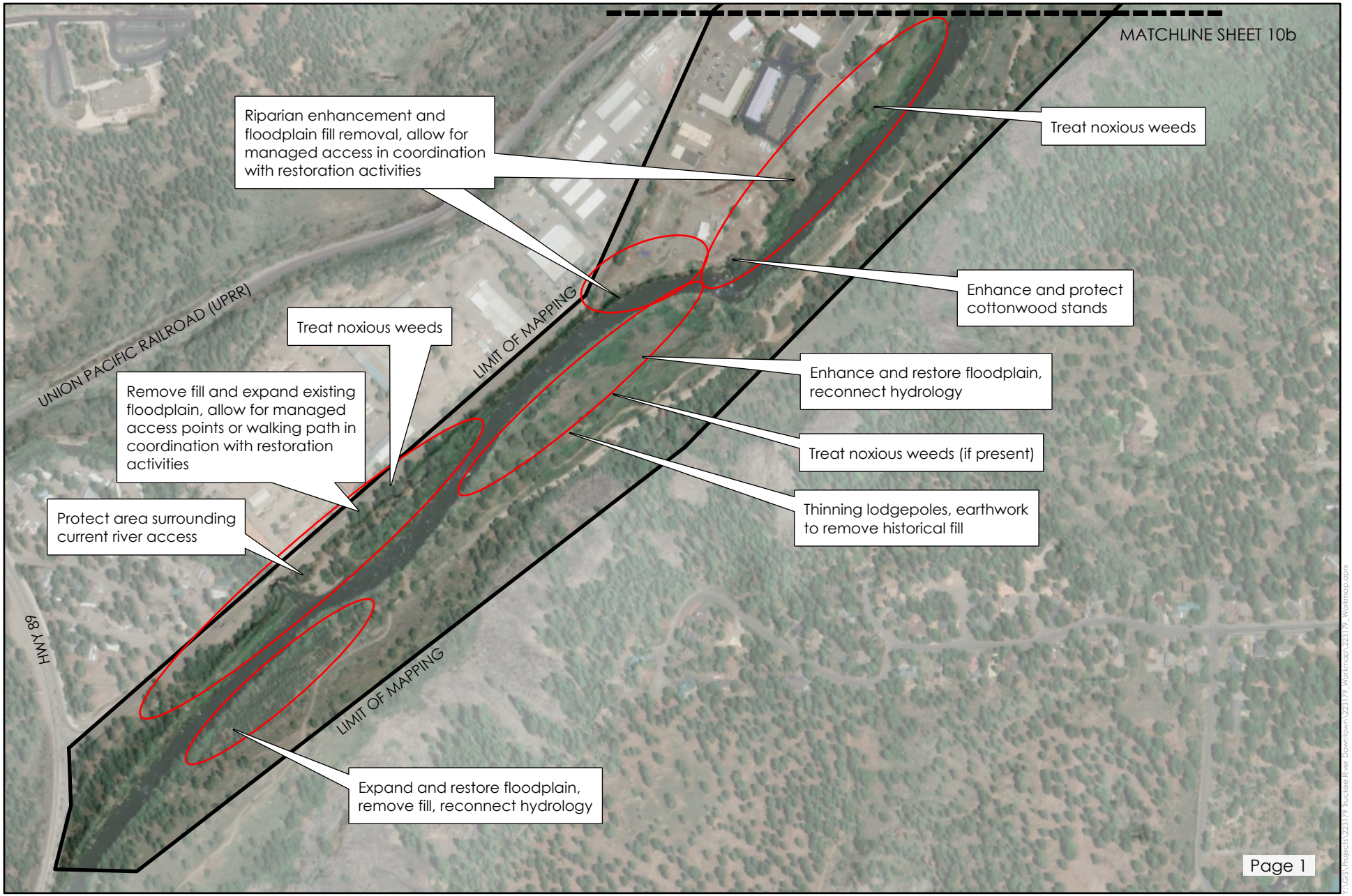
Potential Floodplain Restoration and Protection

The geomorphology and associated ecology of the Truckee River Downtown Corridor has been extensively disturbed due to past land uses and encroachment into floodplain areas. Geomorphic and disturbance mapping shown in **Figure 2** highlights areas where fill placement and disturbance has taken place within the Study Area and provides the basis for identifying where restoration activities may be most beneficial in offsetting the legacy impacts. **Figure 7** highlights some of the general locations where functional riparian communities exist and could be protected.

Restoration and protection opportunities could include the following types of actions, with the general locations of potential activities shown in **Figure 10**.

Remove fill from historical floodplain areas

Artificial fill placement has constricted the channel and eliminated floodplain functions. Portions of properties along West River Street and East River Street, and in some cases the roads themselves, have been built on this fill, in some places up to 15 feet high. Many exposed banks are now unstable and eroding, delivering sediment directly to the river. Removing fill to expose historical floodplain soils and seedbanks would allow for a more extensive and functional riparian corridor.



DATA SOURCES: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Maxar

Balance Hydrologics

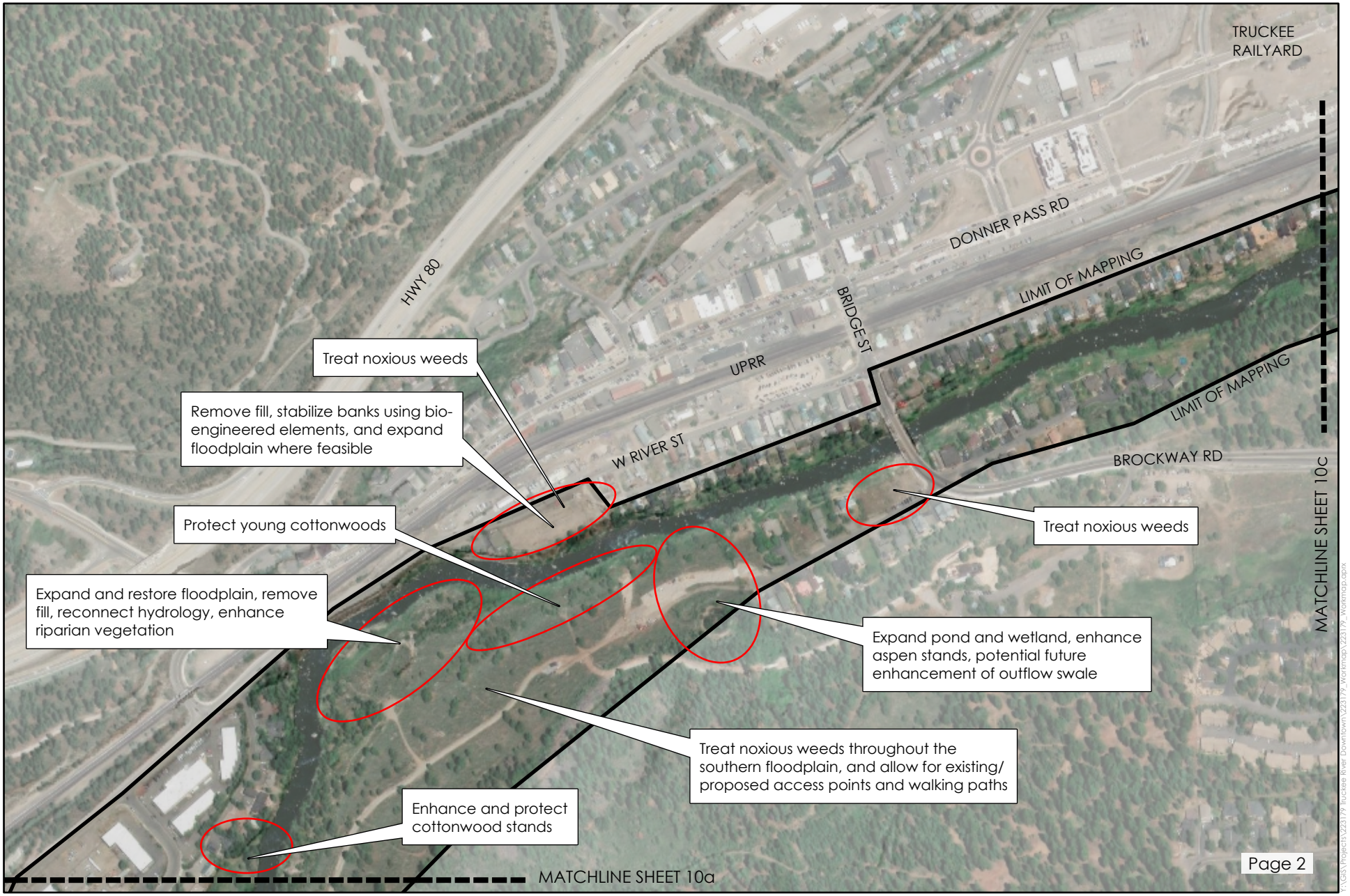
Ecological Enhancement Recommendations:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: SEPTEMBER 16, 2024 | PN: 223179 | Scale: 1:6,000

Figure 10a

Enhancement Potential
Truckee River Downtown
Placer and Nevada Counties, California



Balance Hydrologics

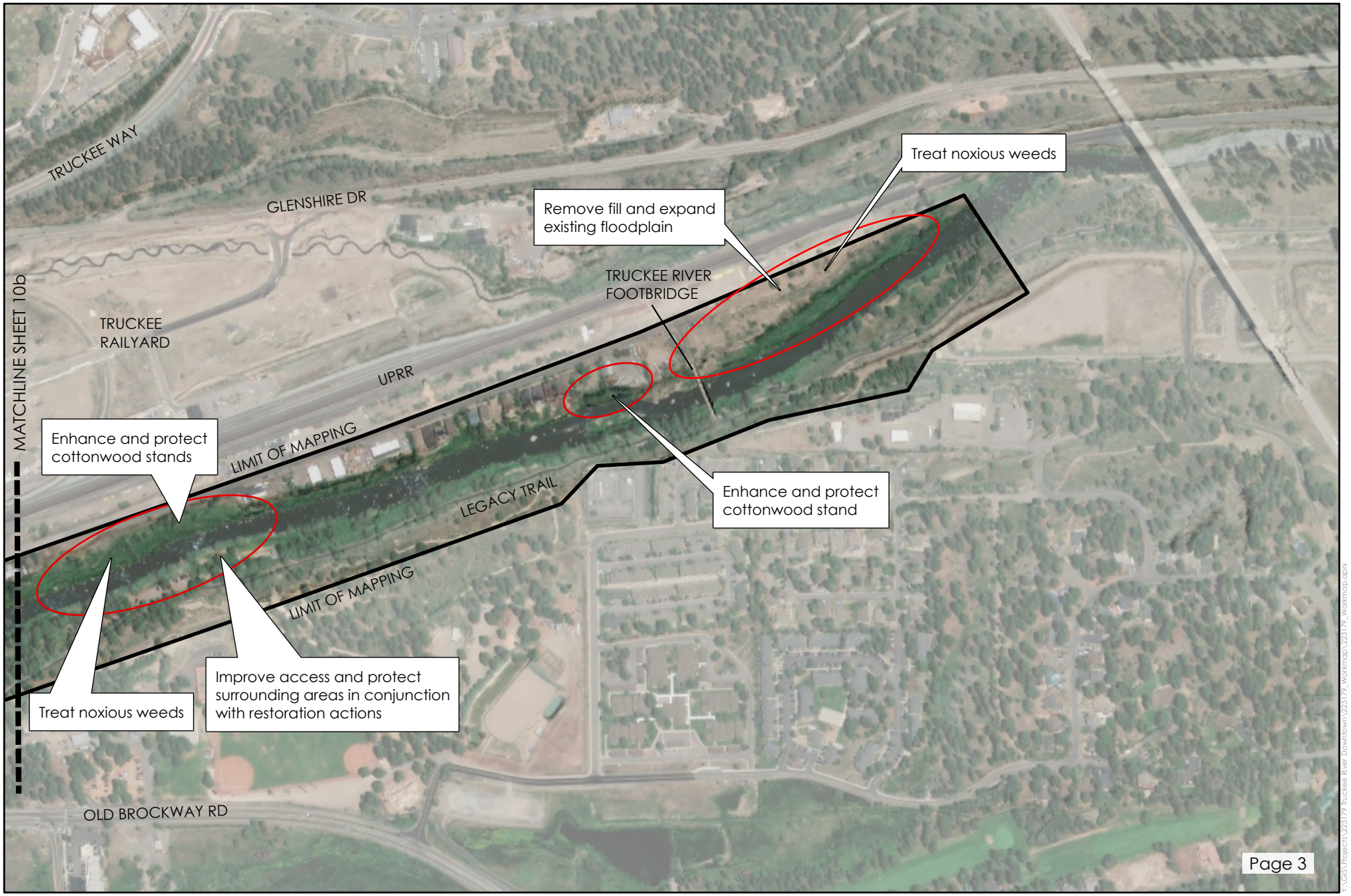
Ecological Enhancement Recommendations:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: SEPTEMBER 17, 2024 | PN: 223179 | Scale: 1:6,000

Figure 10b

Enhancement Potential
Truckee River Downtown
Placer and Nevada Counties, California



DATA SOURCES: Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Maxar

Balance Hydrologics

Ecological Enhancement Recommendations:
C.S. Ecological Surveys and Assessments

N 0 250 500 750 Feet

DATE: SEPTEMBER 04, 2024 | PN: 223179 | Scale: 1:6,000

Figure 10c

Enhancement Potential
Truckee River Downtown
Placer and Nevada Counties, California

Stabilize banks

Where it is infeasible to remove historical fill but streambanks are unstable and delivering fine sediment to the channel, bank stabilization should take place, and should consist of bio-engineered bank stabilization approaches, such as living cribwalls or other planted boulder and log structures. Bio-engineered approaches improve riparian and aquatic habitat and are often more effective than simple armoring, as they draw on the long-term root strength of trees and other vegetation, often combined with structural elements such as large boulders where infrastructure must be protected.

Enhance, expand, and restore moderately functional floodplains and riparian areas

Where the river corridor currently experiences overbank flooding but cottonwood recruitment and other floodplain processes are lacking, minor modifications could be made to improve these functions. Localized grading to lower high points and removing historical artifacts such as placed boulders or concrete would allow for more frequent inundation of side channels, reworking of sediment, and exposure of fresh surfaces to allow for recruitment and germination of the next generations of cottonwood and willows.

Manage access and protect sensitive riparian communities

The Truckee River Downtown Corridor is within a built environment and is a central defining feature for the Town and community. Restoring ecological processes and improving habitat and water quality here should not exclude public access to the river. Rather, public access can be incorporated into restoration actions with enhancement of stabilized access points and avoidance of sensitive communities and processes.

Using principles of "eco-revelatory design" in this context allows ecological processes to be highlighted, which encourages interaction with and education about these processes and promotes stewardship of the riparian corridor. This may include interpretive and educational signage but can also be achieved simply through the design itself. For example, restoration projects can prohibit access to certain sensitive areas like aspen and cottonwood stands by planting shrubby and thorny species. Large trees with rootwads can be felled with intact branches along streambanks to limit undesired trampling or erosion. Use of natural materials such as boulders and logs to create stable paths or steps to desirable locations such as grassy floodplains or gravel bar beaches acknowledges the sensitivity of these locations, with minimal disruption to the resource and limited need for hard or visually jarring features such as fences. This type of nature-based design has proven successful along the Truckee River as part of joint access control and floodplain enhancement efforts by Placer County, CalTrans, the Tahoe City PUD, and the

Truckee River Watershed Council. Eco-revelatory design principles can also allow for artistic expression, especially where more hardened features like fencing may be required.

Stormwater and River Monitoring

The Town's current stormwater management program includes monitoring of outfalls for nuisance runoff during dry conditions and turbidity measurement upstream and downstream of the Town limits, but no sampling of stormwater runoff from within the town limits is currently taking place. During the early 2010s the Town partnered with Placer County in carrying out the Truckee River Water Quality Monitoring Program (TRWQMP) but has since discontinued many of the elements of that program. Around the same time the Truckee River Watershed Council conducted a multi-year monitoring program consisting of sediment transport measurement, loading calculations, river bed conditions monitoring, and bioassessment to evaluate conditions under the Middle Truckee River TMDL.

Repeating past methods would provide consistency for trend detection and comparison to past conditions, and would consist of the following actions, in addition to the Town's ongoing stormwater management program:

- Sampling of stormwater at outfalls during runoff events
- Riverbed conditions monitoring and mapping of fine sediment deposition
- Bioassment and benthic macroinvertrate surveys
- Measurement of fine sediment transport and calculation of fine sediment loading from target subwatersheds within the town corridor
- Analysis of turbidity data being collected upstream and downstream of the Study Area

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