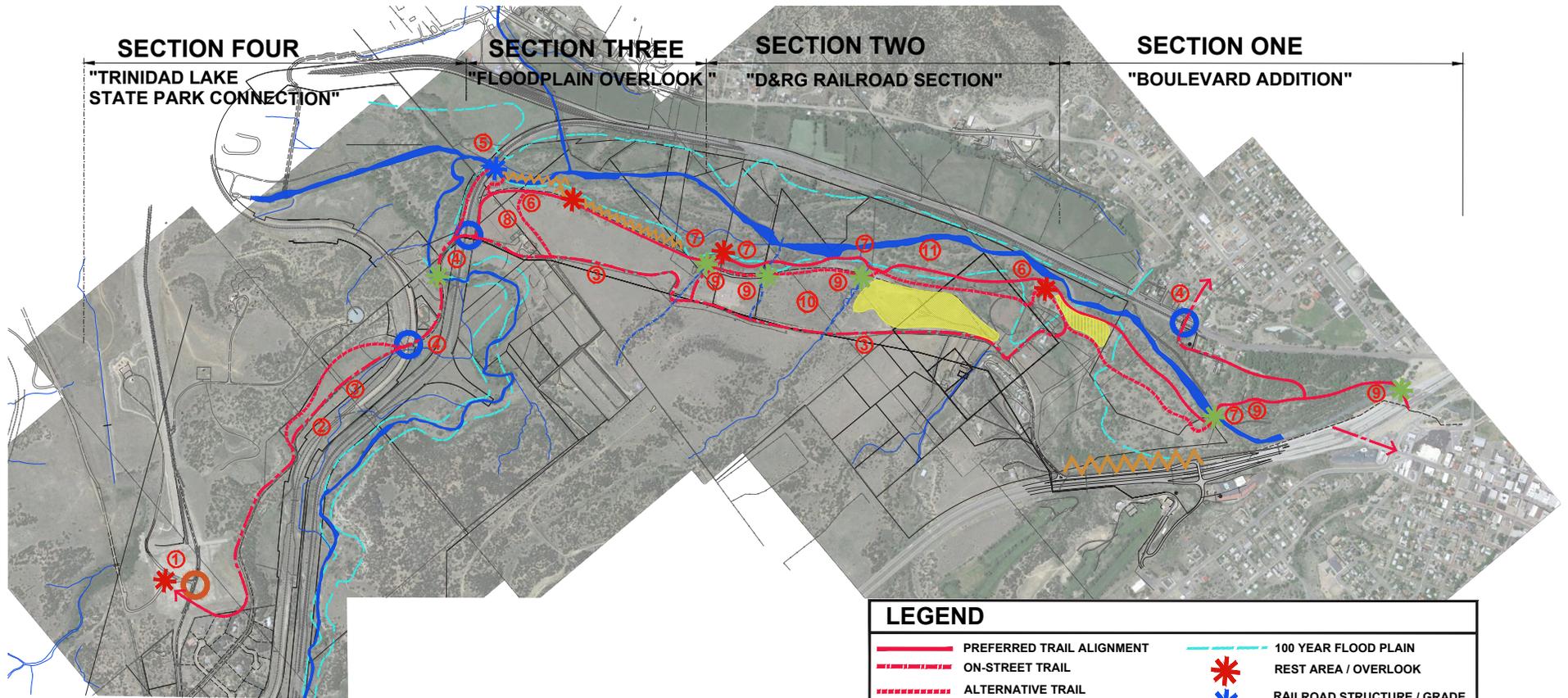




APPENDIX A

Plan Layout and Ownership Maps
Cross Sections
Cost Estimates
Environmental Review, Old Sopris Trail Corridor Project, Trinidad Colorado

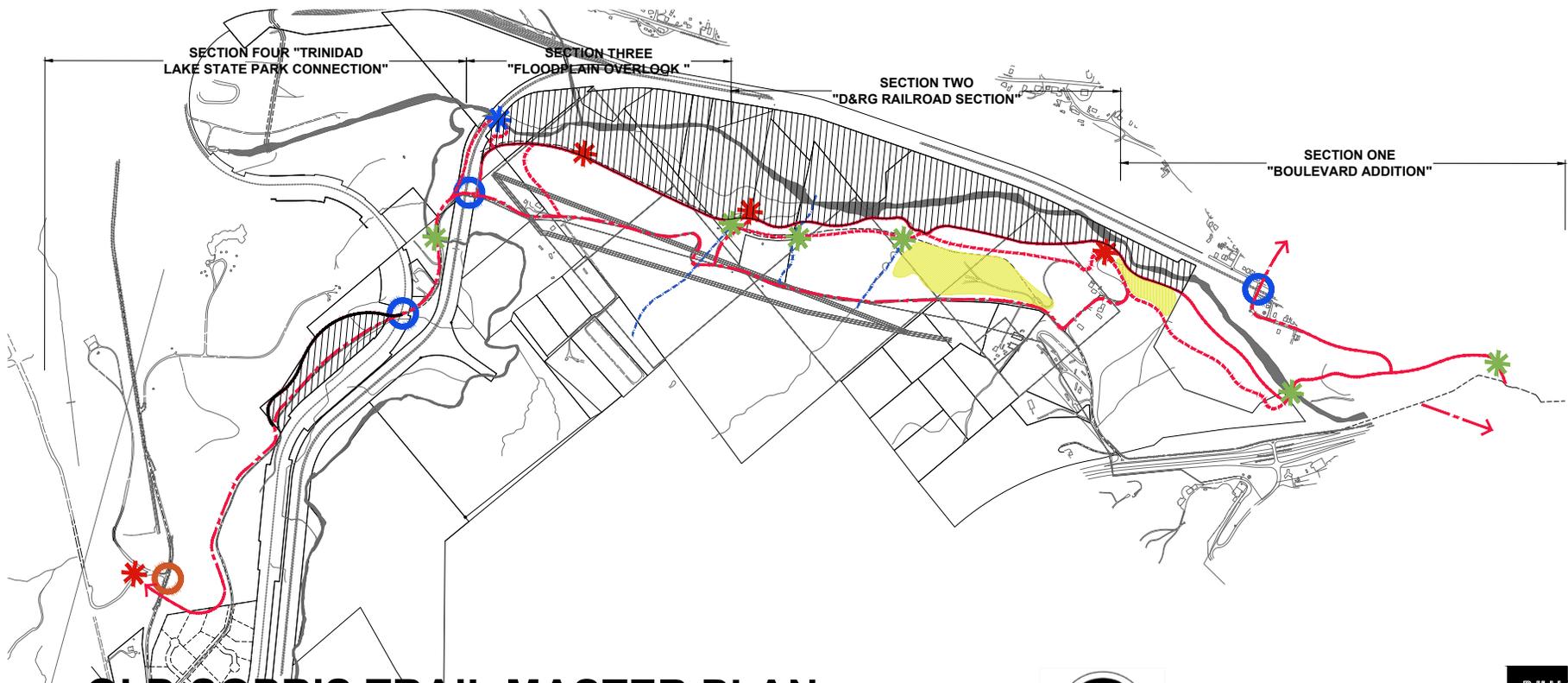


LEGEND			
	PREFERRED TRAIL ALIGNMENT		100 YEAR FLOOD PLAN
	ON-STREET TRAIL		REST AREA / OVERLOOK
	ALTERNATIVE TRAIL ALIGNMENT		RAILROAD STRUCTURE / GRADE SEPARATED STRUCTURE
	AT GRADE CROSSING		BRIDGE STRUCTURE / STRUCTURAL CROSSING
	AT GRADE RAILROAD CROSSING		OWNERSHIP
			WATER
			RAIL LINE

OLD SOPRIS TRAIL MASTER PLAN

MAP 1





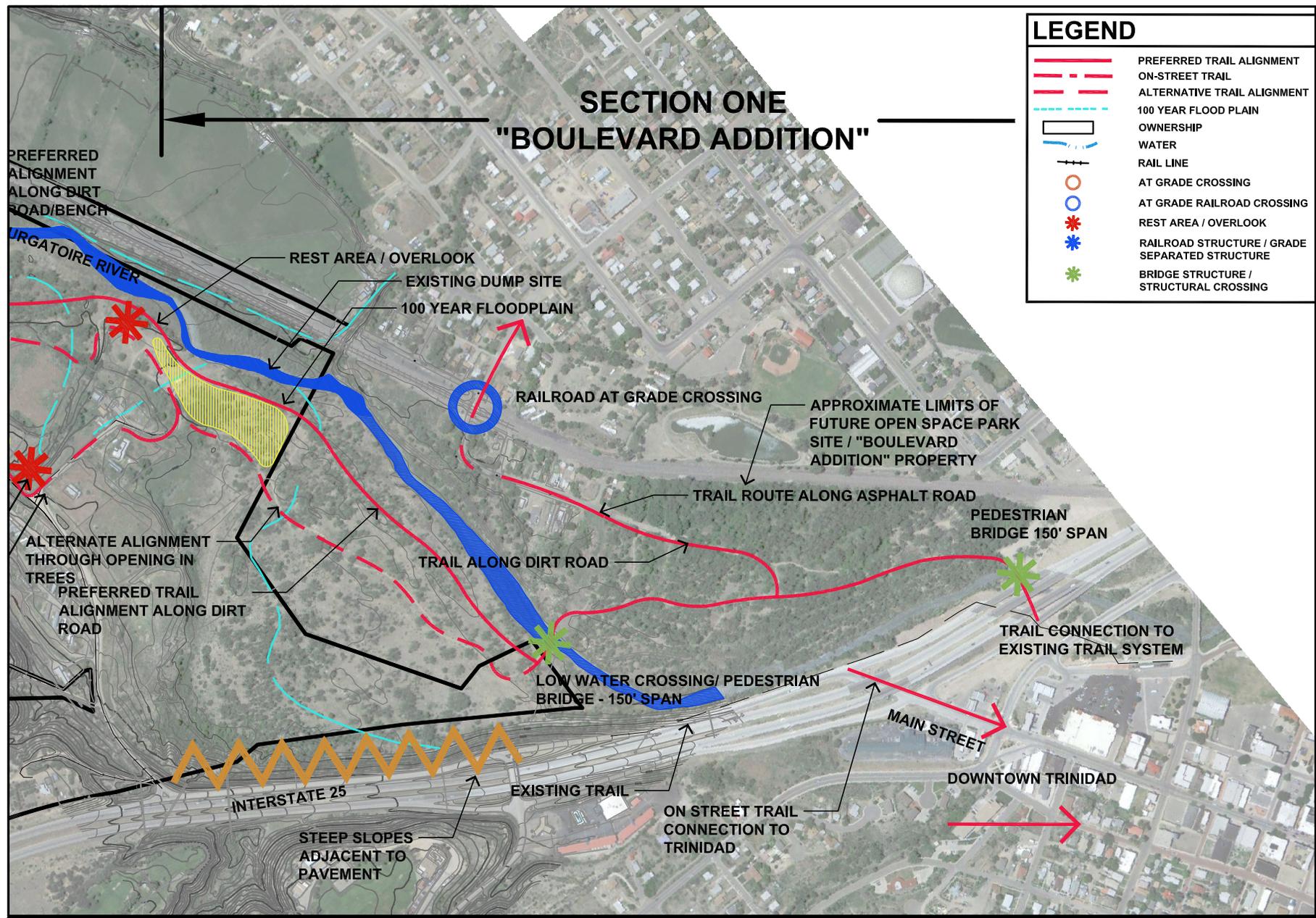
OLD SOPRIS TRAIL MASTER PLAN

MAP 8



SECTION ONE "BOULEVARD ADDITION"

LEGEND	
	PREFERRED TRAIL ALIGNMENT
	ON-STREET TRAIL
	ALTERNATIVE TRAIL ALIGNMENT
	100 YEAR FLOOD PLAIN
	OWNERSHIP
	WATER
	RAIL LINE
	AT GRADE CROSSING
	AT GRADE RAILROAD CROSSING
	REST AREA / OVERLOOK
	RAILROAD STRUCTURE / GRADE SEPARATED STRUCTURE
	BRIDGE STRUCTURE / STRUCTURAL CROSSING



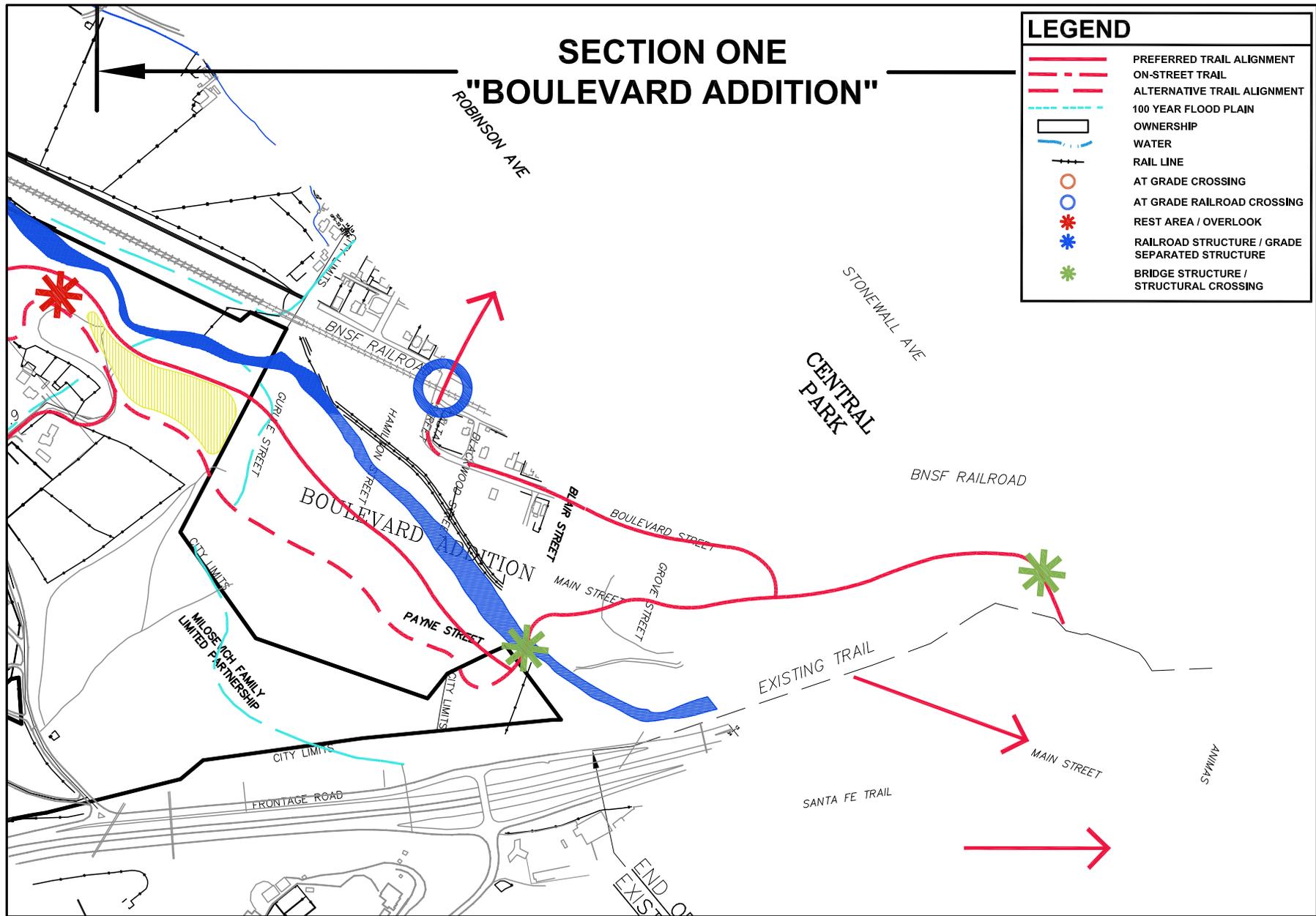
Old Sopris Trail Master Plan

MAP 2 - Section One

NOT TO SCALE NORTH

SECTION ONE "BOULEVARD ADDITION"

LEGEND	
	PREFERRED TRAIL ALIGNMENT
	ON-STREET TRAIL
	ALTERNATIVE TRAIL ALIGNMENT
	100 YEAR FLOOD PLAIN
	OWNERSHIP
	WATER
	RAIL LINE
	AT GRADE CROSSING
	AT GRADE RAILROAD CROSSING
	REST AREA / OVERLOOK
	RAILROAD STRUCTURE / GRADE SEPARATED STRUCTURE
	BRIDGE STRUCTURE / STRUCTURAL CROSSING

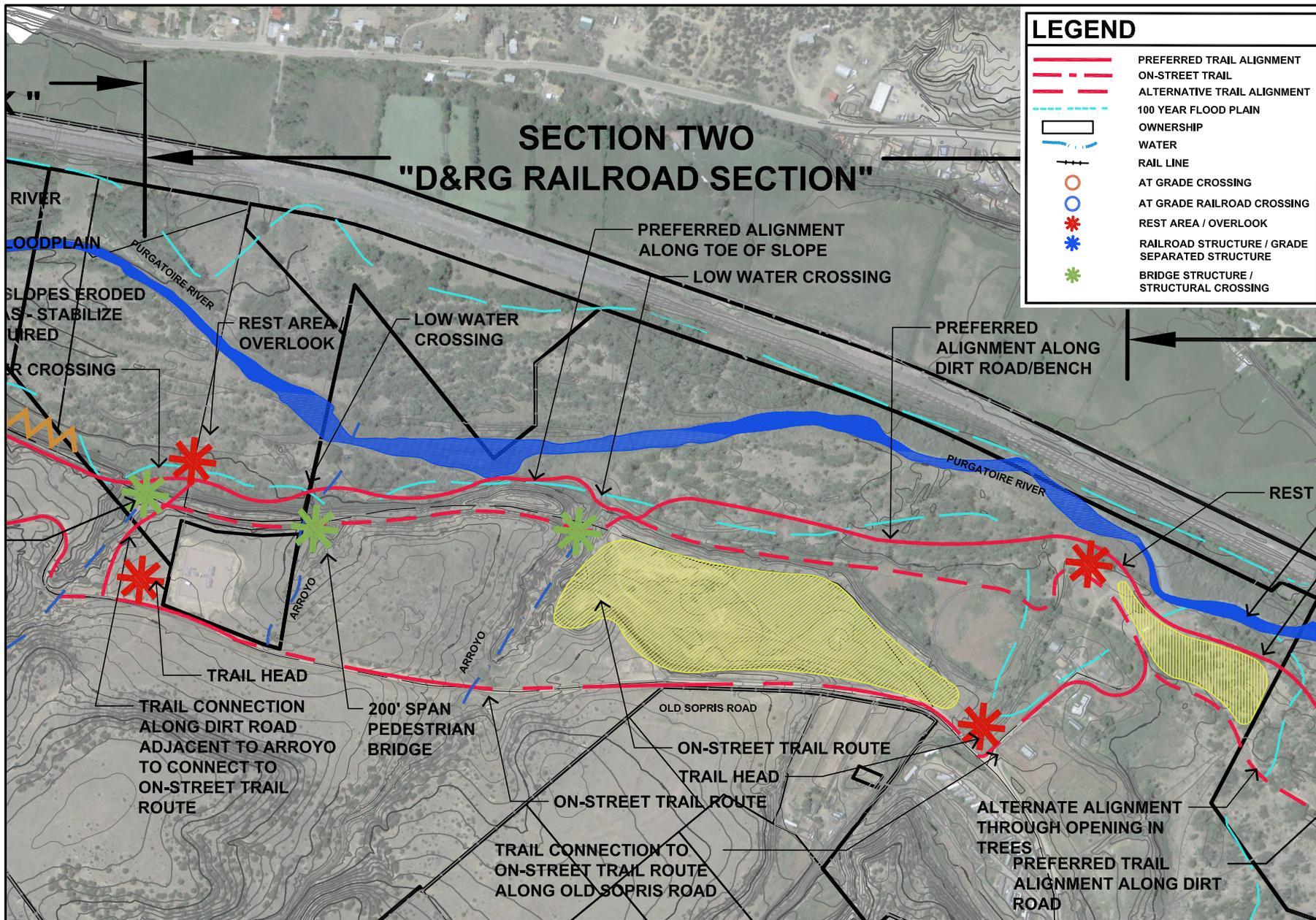


Old Sopris Trail Master Plan

Map 9 Section One

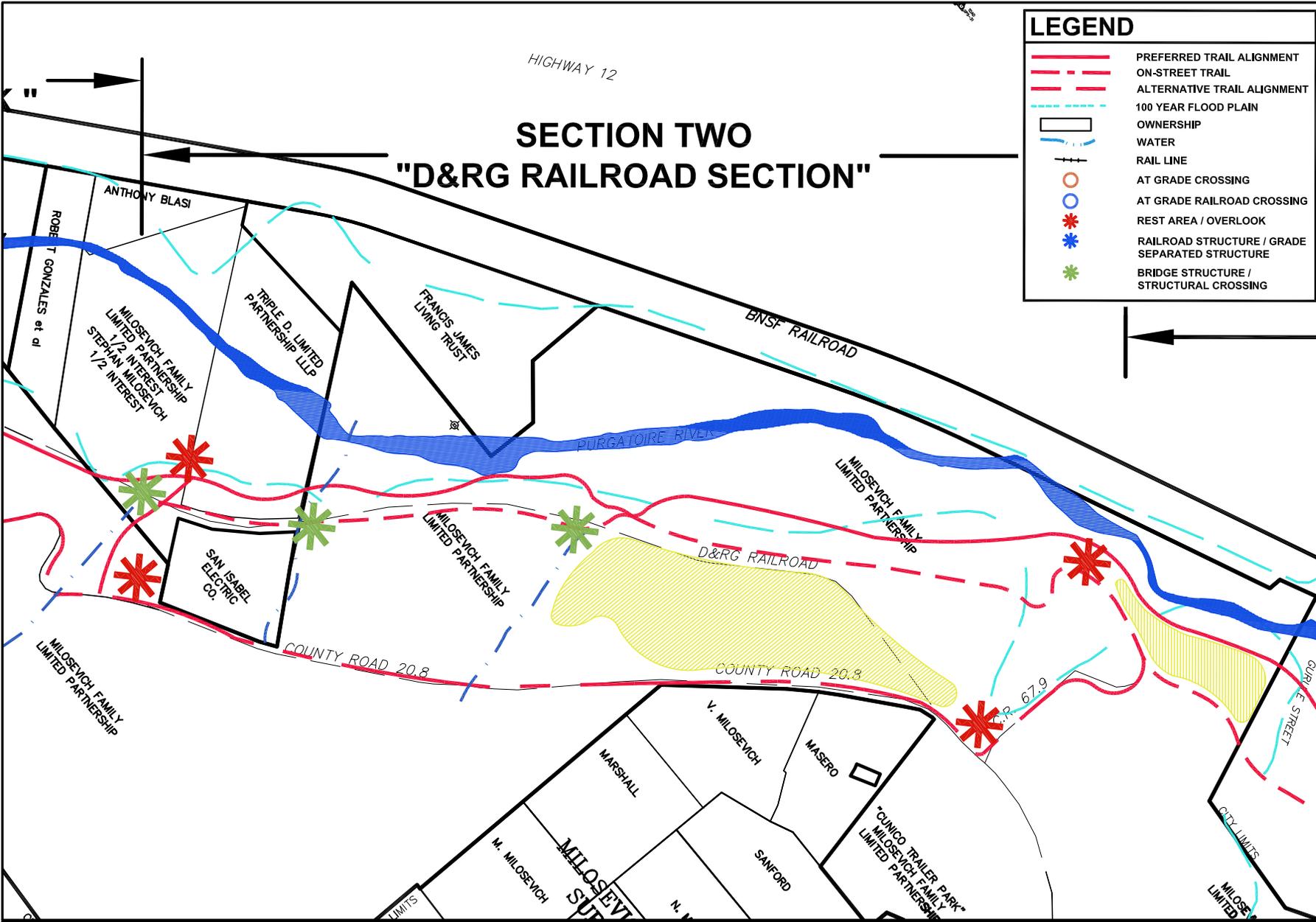


NOT TO SCALE NORTH



SECTION TWO "D&RG RAILROAD SECTION"

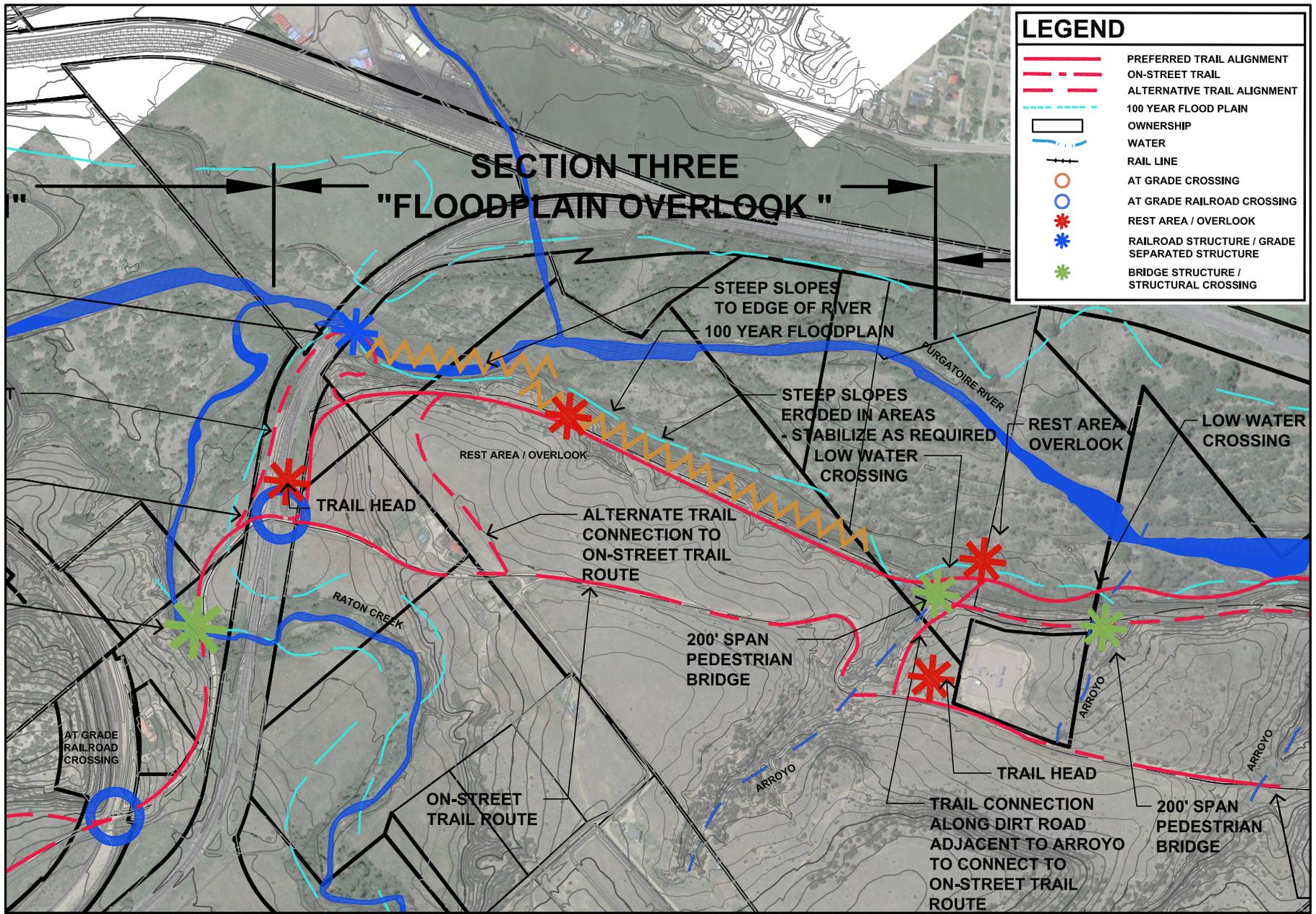
LEGEND	
	PREFERRED TRAIL ALIGNMENT
	ON-STREET TRAIL
	ALTERNATIVE TRAIL ALIGNMENT
	100 YEAR FLOOD PLAIN
	OWNERSHIP
	WATER
	RAIL LINE
	AT GRADE CROSSING
	AT GRADE RAILROAD CROSSING
	REST AREA / OVERLOOK
	RAILROAD STRUCTURE / GRADE SEPARATED STRUCTURE
	BRIDGE STRUCTURE / STRUCTURAL CROSSING

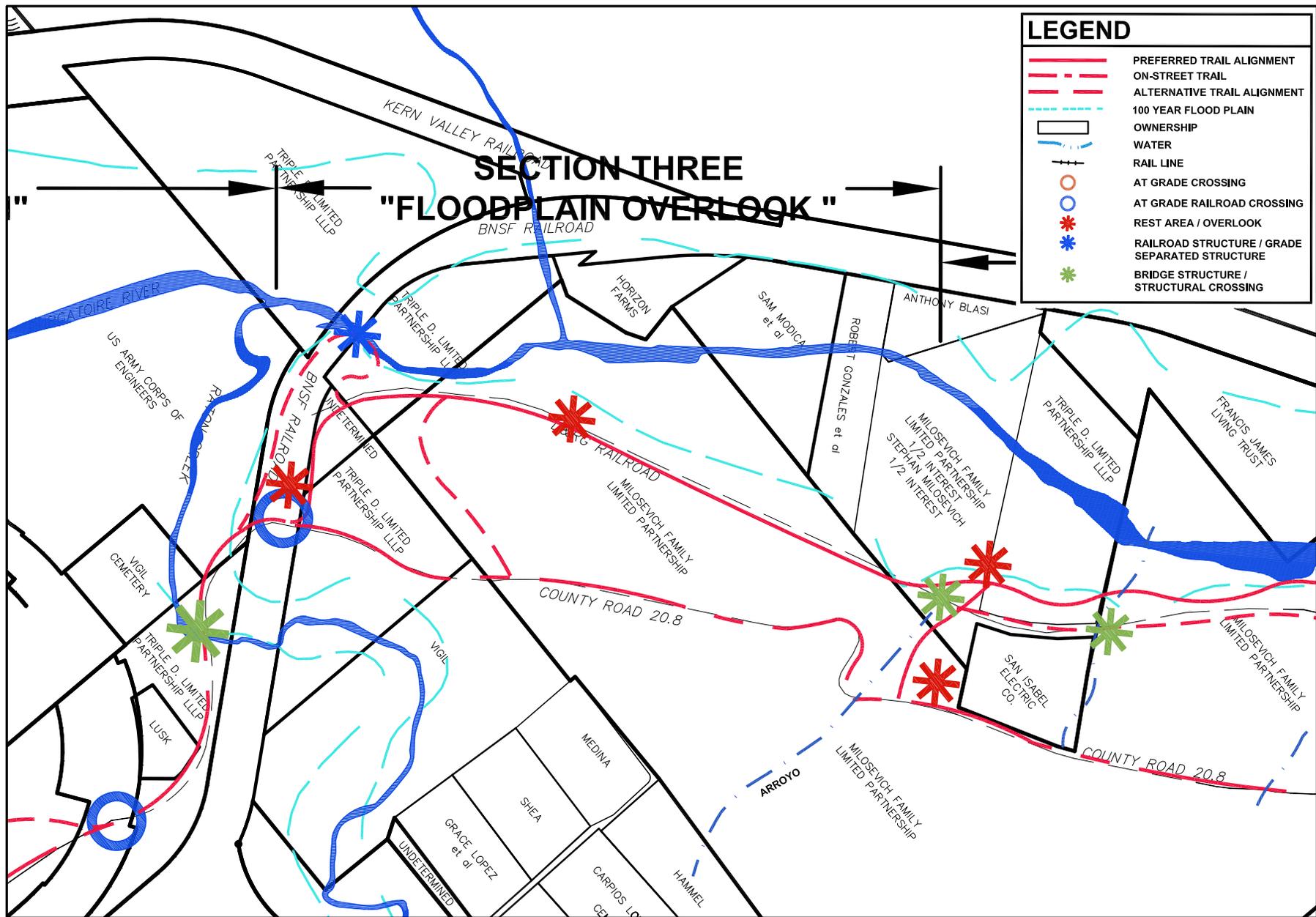


Old Sopris Trail Master Plan

Map 10 Section Two

NOT TO SCALE NORTH





Old Sopris Trail Master Plan

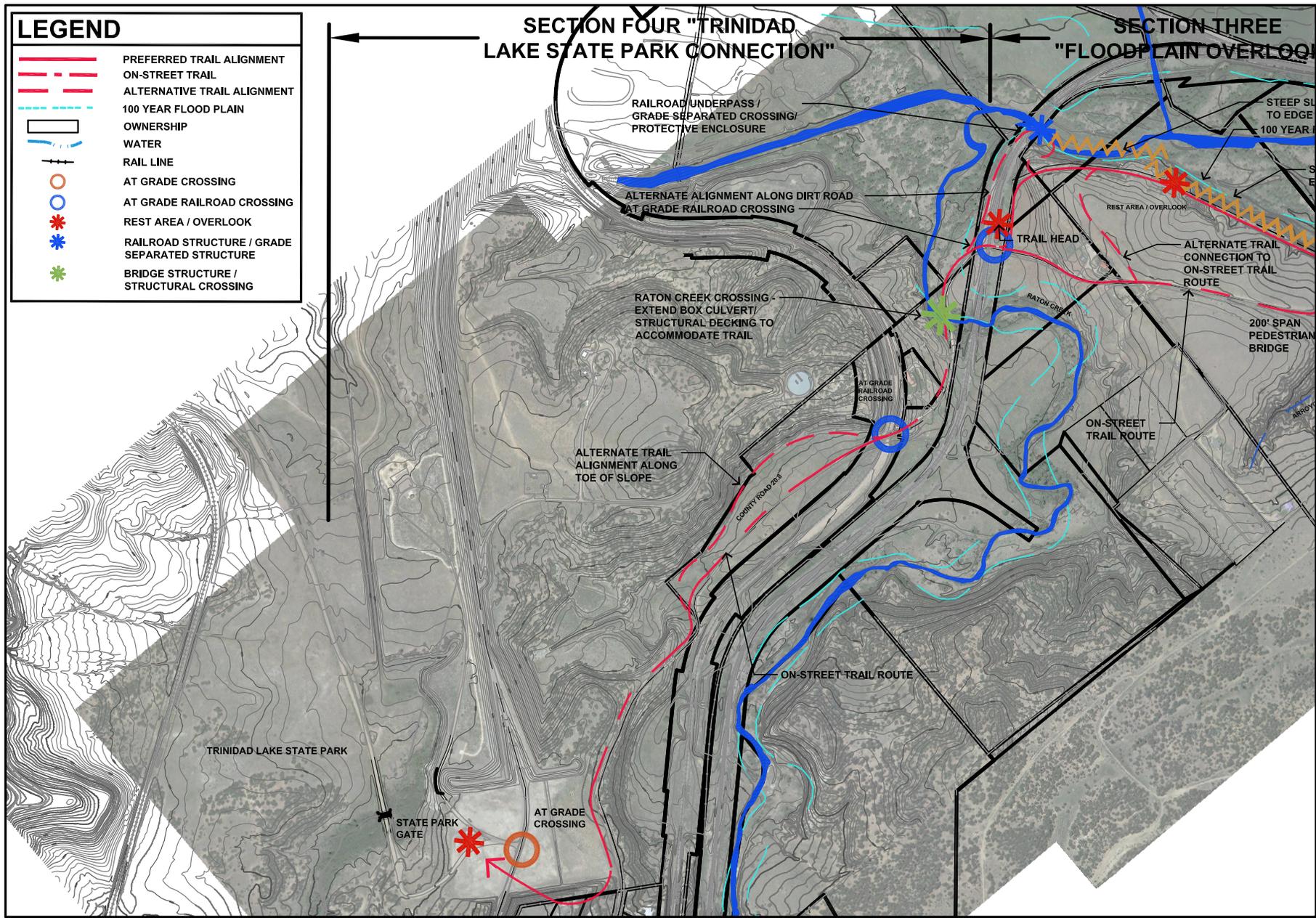
Map 11 Section Three



NOT TO SCALE NORTH

LEGEND

- PREFERRED TRAIL ALIGNMENT
- - - ON-STREET TRAIL
- · - · - ALTERNATIVE TRAIL ALIGNMENT
- - - 100 YEAR FLOOD PLAIN
- OWNERSHIP
- WATER
- + + + RAIL LINE
- AT GRADE CROSSING
- AT GRADE RAILROAD CROSSING
- * REST AREA / OVERLOOK
- * RAILROAD STRUCTURE / GRADE SEPARATED STRUCTURE
- * BRIDGE STRUCTURE / STRUCTURAL CROSSING

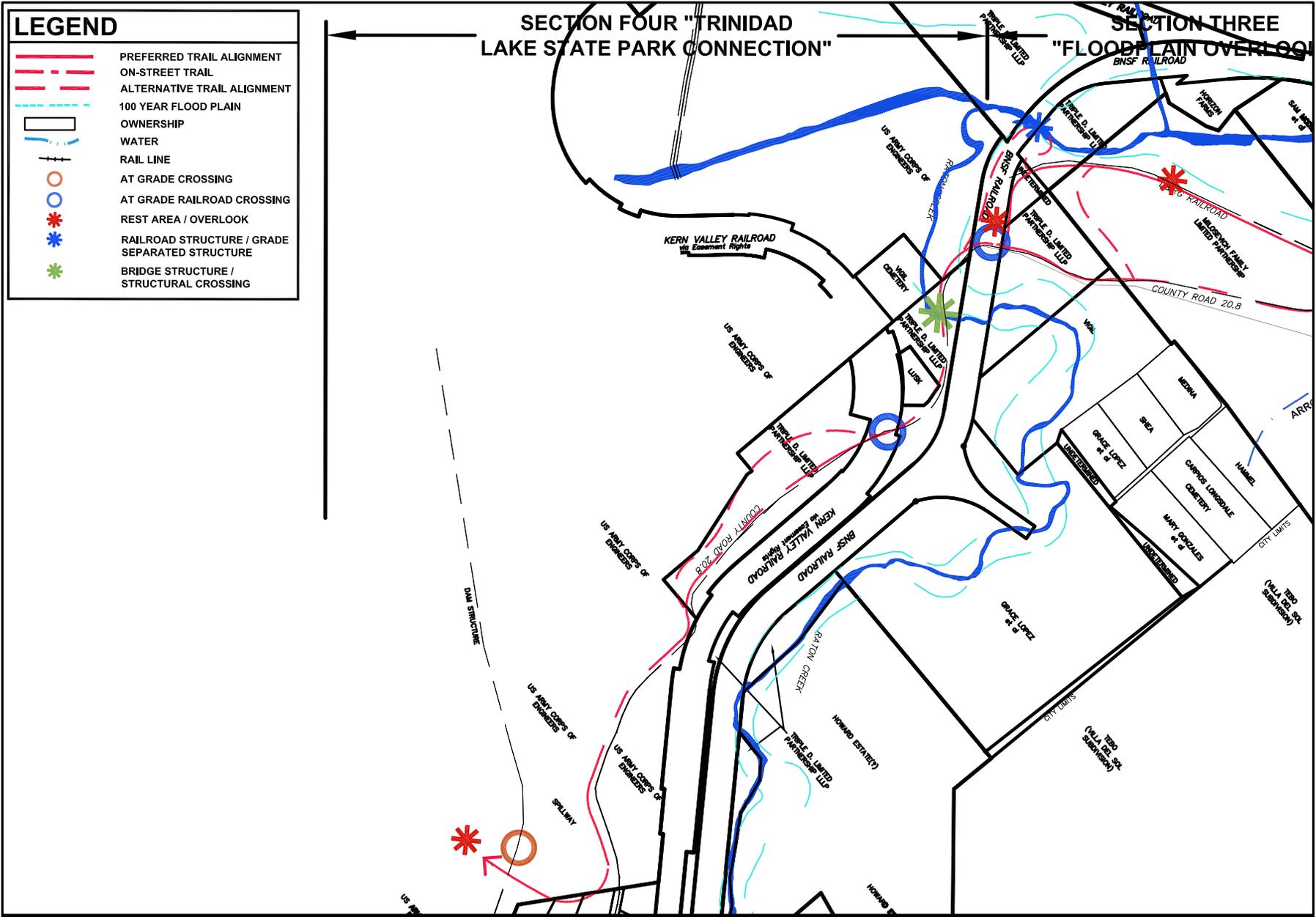


Old Sopris Trail Master Plan

MAP 5 - Section Four



NOT TO SCALE NORTH

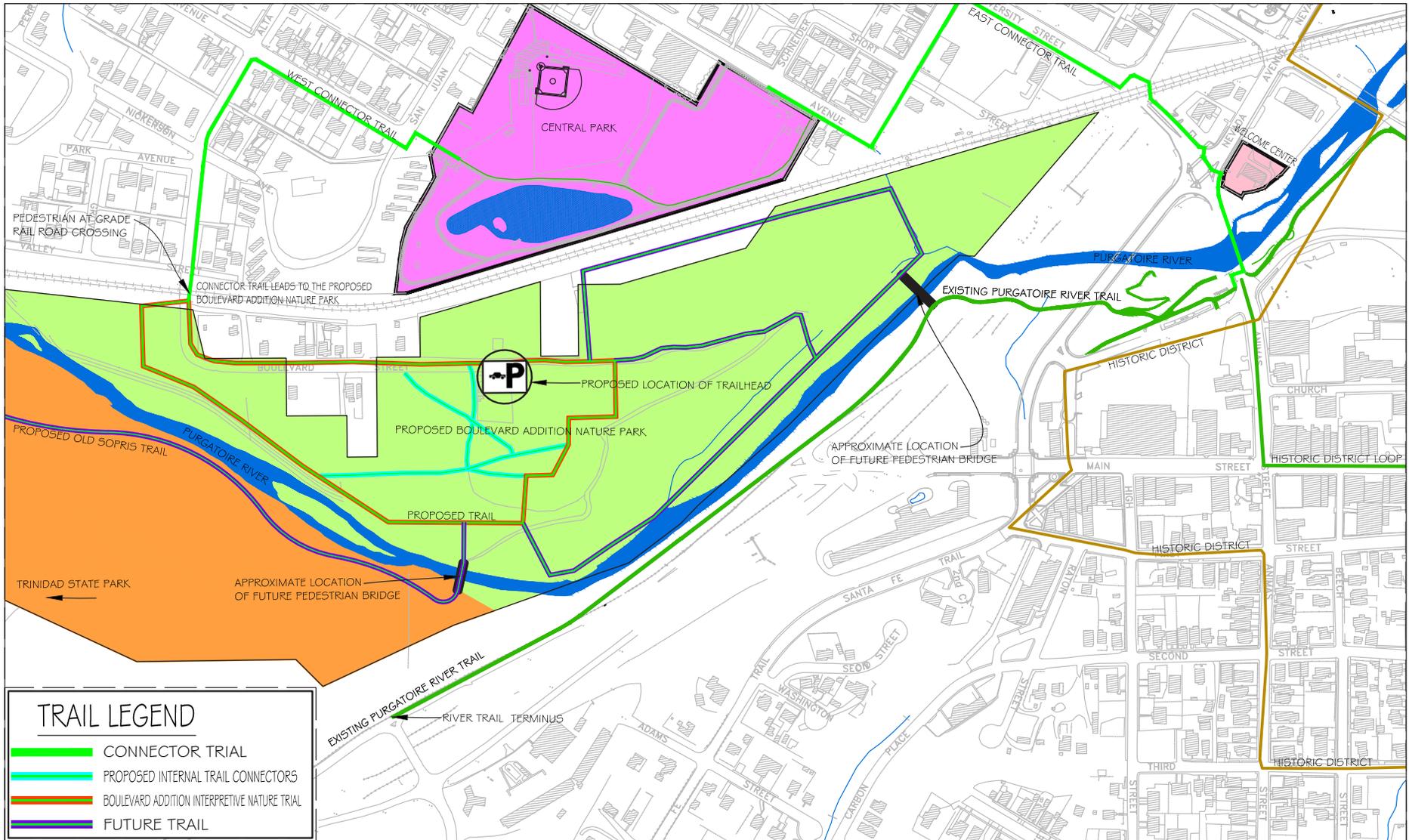


Old Sopris Trail Master Plan

Map 12 Section Four

NOT TO SCALE NORTH





TRAIL LEGEND	
	CONNECTOR TRIAL
	PROPOSED INTERNAL TRAIL CONNECTORS
	BOULEVARD ADDITION INTERPRETIVE NATURE TRIAL
	FUTURE TRIAL

Computer File Information	
Creation Date: 2/24/2011	Initials: JMJ
Last Modification Date: 9/9/2013	Initials: JMJ
Full Path: H:\ENGINEERING\PROJECTS\GRANTMAPS\PATHS2PARKS	
Drawing File Name: Grant_Map_1.dwg	
Acad Ver. 2014	Scale: 1"=300' Units: FEET

Sheet Revisions	



City of Trinidad
 135 N. Animas
 Trinidad, Co 81082
 (719)-846-9843

As Constructed	
No Revisions:	
Revised:	
Void:	

CONCEPT 2 PATHS TO PARKS	
Designer: JMJ	Structure Numbers:
Detailer: JMJ	
Sheet Subset:	Subset Sheets:

Project No./Code	
Map 6	
Sheet Number of	

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**OLD SOPRIS TRAIL
TRINIDAD, COLORADO**

9-Jul-13
DHM Design

Conceptual Master Plan- Estimate of Probable Costs

SECTION ONE - BOULEVARD ADDITION

DESCRIPTION	SIZE	QTY	UNIT	UNIT COST	TOTAL
Demolition					
Erosion Control (log fence, etc.)		5,015	LF	\$2.50	\$12,538.25
Clear and grub existing vegetation		3.80	AC	\$1,500.00	\$5,700.00
Tree Protection		1	LS	\$500.00	\$500.00
Remove Existing overgrown suckers/trees/shrubs		1	LS	\$1,000.00	\$1,000.00
Site Preparation/ Grading					
Site Grading		1	LS	\$50,000.00	\$50,000.00
Revegetation/ Seeding		3.80	AC	\$2,000.00	\$7,600.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	55,485	SF	\$2.00	\$110,970.20
Trail Striping		1	LS	\$1,000.00	\$1,000.00
Low Water Crossing		150	LF	\$600.00	\$90,000.00
Pedestrian Bridge		150	LF	\$1,200.00	\$180,000.00
Rest Area/Overlook		1	EA	\$2,000.00	\$2,000.00
Connector Trails		1	LS	\$80,000.00	\$80,000.00
Signage/ Gates					
Wayfinding Signage		1	LS	\$1,500.00	\$1,500.00
Safety/ Regulatory Signage		1	LS	\$2,000.00	\$2,000.00
Trail Gates		2	EA	\$3,500.00	\$7,000.00
Bear Proof Trash		3	EA	\$750.00	\$2,250.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		110,664	SF	\$0.10	\$11,066.35
Trailhead					
Parking Lot (10 Cars)		1		\$30,000.00	\$30,000.00
Vaulted Restroom		1		\$30,000.00	\$30,000.00
Wayfinding/Signage Kiosk Structure		1		\$15,000.00	\$15,000.00
SUBTOTAL					\$640,124.80
20% unaccounted for items					\$128,024.96
Mobilization/ General Conditions (5%)		1	LS	\$32,006.24	\$32,006.24
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$6,401.25	\$6,401.25
Minor Contract Revisions (10%)		1	LS	\$64,012.48	\$64,012.48
SECTION ONE TOTAL					\$875,569.73

SECTION ONE - BOULEVARD ADDITION

ALTERNATE ALIGNMENT ADDITION					
Demolition					
Erosion Control (log fence, etc.)		2,327	LF	\$2.50	\$5,816.75
Clear and grub existing vegetation		1.60	AC	\$1,500.00	\$2,400.00
Site Preparation/ Grading					
Revegetation/ Seeding		1.60	AC	\$2,000.00	\$3,200.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	23,579	SF	\$2.00	\$47,157.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		47,160	SF	\$0.10	\$4,716.00
SUBTOTAL					\$63,289.75
20% unaccounted for items					\$12,657.95
Mobilization/ General Conditions (5%)		1	LS	\$3,164.49	\$3,164.49
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$632.90	\$632.90
Minor Contract Revisions (10%)		1	LS	\$6,328.98	\$6,328.98
TOTAL ADDITION					\$69,618.73
DEDUCTION					
Demolition					
Erosion Control (log fence, etc.)		2,352	LF	\$2.50	\$5,879.25
Clear and grub existing vegetation		1.60	AC	\$1,500.00	\$2,400.00
Site Preparation/ Grading					
Revegetation/ Seeding		1.60	AC	\$2,000.00	\$3,200.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	23,645	SF	\$2.00	\$47,290.40
Landscaping/ Amenities					
Non-Irrigated Native Seed		46,968	SF	\$0.10	\$4,696.84
SUBTOTAL					\$63,466.49
20% unaccounted for items					\$12,693.30
Mobilization/ General Conditions (5%)		1	LS	\$3,173.32	\$3,173.32
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$634.66	\$634.66
Minor Contract Revisions (10%)		1	LS	\$6,346.65	\$6,346.65
TOTAL DEDUCTION					\$69,813.14
ALTERNATE ALIGNMENT TOTAL					\$194.41
SECTION ONE INCLUDING ALTERNATE TOTAL					\$875,764.14

Figure 1

**OLD SOPRIS TRAIL
TRINIDAD, COLORADO**

28-Jun-13
DHM Design

Conceptual Master Plan- Estimate of Probable Costs

SECTION TWO - D & RG RAILROAD SECTION

DESCRIPTION	SIZE	QTY	UNIT	UNIT COST	TOTAL
Demolition					
Erosion Control (log fence, etc.)		4,300	LF	\$2.50	\$10,750.50
Clear and grub existing vegetation		3.10	AC	\$1,500.00	\$4,650.00
Tree Protection		1	LS	\$500.00	\$500.00
Remove Existing overgrown suckers/trees/shrubs		1	LS	\$3,000.00	\$3,000.00
Site Preparation/ Grading					
Site Grading		1	LS	\$50,000.00	\$50,000.00
Revegetation/ Seeding		3.10	AC	\$2,000.00	\$6,200.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	45,423	SF	\$2.00	\$90,845.80
Low Water Crossing		300	LF	\$600.00	\$180,000.00
Rest Area/Overlook		1	EA	\$2,000.00	\$2,000.00
Signage/ Gates					
Wayfinding Signage		1	LS	\$1,500.00	\$1,500.00
Safety/ Regulatory Signage		1	LS	\$1,000.00	\$1,000.00
Trail Gates		1	EA	\$3,500.00	\$3,500.00
Bear Proof Trash		3	EA	\$750.00	\$2,250.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		90,464	SF	\$0.10	\$9,046.40
Trailhead					
Parking Lot (10 Cars)		1		\$30,000.00	\$30,000.00
Vaulted Restroom		1		\$30,000.00	\$30,000.00
Wayfinding/Signage Kiosk Structure		1		\$15,000.00	\$15,000.00
SUBTOTAL					\$440,242.70
20% unaccounted for items					\$88,048.54
Mobilization/ General Conditions (5%)		1	LS	\$22,012.14	\$22,012.14
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$4,402.43	\$4,402.43
Minor Contract Revisions (10%)		1	LS	\$44,024.27	\$44,024.27
SECTION TWO TOTAL					\$603,730.07

SECTION TWO - D & RG RAILROAD SECTION

ALTERNATE ALIGNMENT ADDITION					
Demolition					
Erosion Control (log fence, etc.)		4,275	LF	\$2.50	\$10,686.50
Clear and grub existing vegetation		2.90	AC	\$1,500.00	\$4,350.00
Site Preparation/ Grading					
Revegetation/ Seeding		2.90	AC	\$2,000.00	\$5,800.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	42,677	SF	\$2.00	\$85,354.40
Pedestrian Bridge		700	LF	\$1,200.00	\$840,000.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		85,358	SF	\$0.10	\$8,535.82
SUBTOTAL					\$954,726.72
20% unaccounted for items					\$190,945.34
Mobilization/ General Conditions (5%)		1	LS	\$47,736.34	\$47,736.34
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$9,547.27	\$9,547.27
Minor Contract Revisions (10%)		1	LS	\$95,472.67	\$95,472.67
TOTAL ADDITION					\$1,050,199.39
DEDUCTION					
Demolition					
Erosion Control (log fence, etc.)		4,300	LF	\$2.50	\$10,750.50
Clear and grub existing vegetation		3.00	AC	\$1,500.00	\$4,500.00
Site Preparation/ Grading					
Revegetation/ Seeding		3.00	AC	\$2,000.00	\$6,000.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	44,032	SF	\$2.00	\$88,063.20
Low Water Crossing		300	LF	\$600.00	\$180,000.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		87,681	SF	\$0.10	\$8,768.13
SUBTOTAL					\$298,081.83
20% unaccounted for items					\$59,616.37
Mobilization/ General Conditions (5%)		1	LS	\$14,904.09	\$14,904.09
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$2,980.82	\$2,980.82
Minor Contract Revisions (10%)		1	LS	\$29,808.18	\$29,808.18
TOTAL DEDUCTION					\$327,890.01
ALTERNATE ALIGNMENT TOTAL					\$722,309.38
SECTION TWO INCLUDING ALTERNATE TOTAL					\$1,326,039.45

Figure 2

**OLD SOPRIS TRAIL
TRINIDAD, COLORADO**

28-Jun-13
DHM Design

Conceptual Master Plan- Estimate of Probable Costs

SECTION THREE - FLOODPLAIN OVERLOOK

DESCRIPTION	SIZE	QTY	UNIT	UNIT COST	TOTAL
Demolition					
Erosion Control (LOG fence, etc.)		3,301	LF	\$2.50	\$8,253.50
Clear and grub existing vegetation		2.50	AC	\$1,500.00	\$3,750.00
Tree Protection		1	LS	\$500.00	\$500.00
Remove Existing overgrown suckers/trees/shrubs		1	LS	\$2,000.00	\$2,000.00
Site Preparation/ Grading					
Site Grading		1	LS	\$50,000.00	\$50,000.00
Revegetation/ Seeding		2.50	AC	\$2,000.00	\$5,000.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	36,702	SF	\$2.00	\$73,404.60
Rest Area/Overlook		1	EA	\$2,000.00	\$2,000.00
Signage/ Gates					
Wayfinding Signage		1	LS	\$1,500.00	\$1,500.00
Safety/ Regulatory Signage		1	LS	\$1,500.00	\$1,500.00
Trail Gates		1	EA	\$3,500.00	\$3,500.00
Bear Proof Trash		3	EA	\$750.00	\$2,250.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		73,409	SF	\$0.10	\$7,340.89
Trailhead					
Parking Lot (10 Cars)		1		\$30,000.00	\$30,000.00
Vaulted Restroom		1		\$30,000.00	\$30,000.00
Wayfinding/Signage Kiosk Structure		1		\$15,000.00	\$15,000.00
SUBTOTAL					\$235,998.99
20% unaccounted for items					\$47,199.80
Mobilization/ General Conditions (5%)		1	LS	\$11,799.95	\$11,799.95
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$2,359.99	\$2,359.99
Minor Contract Revisions (10%)		1	LS	\$23,599.90	\$23,599.90
SECTION THREE TOTAL					\$325,958.63

SECTION THREE - FLOODPLAIN OVERLOOK

**ALTERNATE ALIGNMENT RAILROAD UNDERPASS
ADDITION**

Demolition					
Erosion Control (log fence, etc.)		1,060	LF	\$2.50	\$2,649.25
Clear and grub existing vegetation		1.30	AC	\$1,500.00	\$1,950.00
Site Preparation/ Grading					
Site Grading		1	LS	\$50,000.00	\$50,000.00
Revegetation/ Seeding		1.30	AC	\$2,000.00	\$2,600.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	19,242	SF	\$2.00	\$38,483.40
Railroad Underpass Structure		200	LF	\$1,500.00	\$300,000.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		37,671	SF	\$0.10	\$3,767.08
SUBTOTAL					\$399,449.73
20% unaccounted for items					\$79,889.95
Mobilization/ General Conditions (5%)		1	LS	\$19,972.49	\$19,972.49
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$3,994.50	\$3,994.50
Minor Contract Revisions (10%)		1	LS	\$39,944.97	\$39,944.97
TOTAL ADDITION					\$548,251.63
DEDUCTION					
Demolition					
Erosion Control (log fence, etc.)		619	LF	\$2.50	\$1,547.50
Clear and grub existing vegetation		0.40	AC	\$1,500.00	\$600.00
Site Preparation/ Grading					
Revegetation/ Seeding		0.40	AC	\$2,000.00	\$800.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	6,463	SF	\$2.00	\$12,925.20
Signage/ Gates					
Safety/ Regulatory Signage		1	LS	\$1,000.00	\$1,000.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		12,411	SF	\$0.10	\$1,241.14
SUBTOTAL					\$18,113.84
20% unaccounted for items					\$3,622.77
Mobilization/ General Conditions (5%)		1	LS	\$905.69	\$905.69
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$181.14	\$181.14
Minor Contract Revisions (10%)		1	LS	\$1,811.38	\$1,811.38
TOTAL DEDUCTION					\$19,925.22

Figure 3

**OLD SOPRIS TRAIL
TRINIDAD, COLORADO**

Conceptual Master Plan- Estimate of Probable Costs

28-Jun-13
DHM Design

SECTION FOUR - TRINIDAD LAKE STATE PARK CONNECTION

DESCRIPTION	SIZE	QTY	UNIT	UNIT COST	TOTAL
Demolition					
Erosion Control (silt fence, etc.)		2,386	LF	\$2.50	\$5,965.25
Clear and grub existing vegetation		1.50	AC	\$1,500.00	\$2,250.00
Tree Protection		1	LS	\$500.00	\$500.00
Remove Existing overgrown suckers/trees/shrubs		1	LS	\$500.00	\$500.00
Remove Miscellaneous Structures		1	LS	\$1,000.00	\$1,000.00
Site Preparation/ Grading					
Site Grading		1	LS	\$50,000.00	\$50,000.00
Revegetation/ Seeding		1.50	AC	\$2,000.00	\$3,000.00
Trail Surface/ Hardscape					
Crusher Fines over fabric/ Trail	6" depth	25,175	SF	\$2.00	\$50,350.60
Rest Area/Overlook		1	EA	\$2,000.00	\$2,000.00
Creek Crossing		200	LF	\$1,200.00	\$240,000.00
CO Road 18.3 Crossing		1	LS	\$2,500.00	\$2,500.00
Signage/ Gates					
Wayfinding Signage		1	LS	\$1,500.00	\$1,500.00
Safety/ Regulatory Signage		1	LS	\$3,000.00	\$3,000.00
Bear Proof Trash		3	EA	\$750.00	\$2,250.00
Landscaping/ Amenities					
Non-Irrigated Native Seed		40,418	SF	\$0.10	\$4,041.80
Trailhead					
Parking Lot (10 Cars)		1		\$30,000.00	\$30,000.00
Vaulted Restroom		1		\$30,000.00	\$30,000.00
Wayfinding/Signage Kiosk Structure		1		\$15,000.00	\$15,000.00
			SUBTOTAL		\$443,857.65
			20% unaccounted for items		\$88,771.53
Mobilization/ General Conditions (5%)		1	LS	\$22,192.88	\$22,192.88
Traffic Control		1	LS	\$0.00	\$0.00
Construction Surveying		1	LS	\$5,000.00	\$5,000.00
Performance/ Materials Bond (1%)		1	LS	\$4,438.58	\$4,438.58
Minor Contract Revisions (10%)		1	LS	\$44,385.77	\$44,385.77
SECTION FOUR TOTAL					\$608,646.40

Figure 4

Old Sopris Trail Land Acquisition Preliminary Budget

Item	Cost
Land Acquisition +/-150 acres @ \$5500/acre (6 owners)	\$825,000
Appraisal	\$5,000
ESA	\$10,000
Surveys	\$12,000
Mineral Statements	\$2,000
Legal Services	\$4,000
Closing Costs	\$4,000
Subtotal	\$862,000
15% Contingency	\$129,300
TOTAL	\$991,300

Figure 5

MEMORANDUM

TO: Chris Hopkins, JR Engineering, LLC

FROM: Scott Severs, Wildlife Biologist; Susan Nordstrom, Landscape Architect

DATE: April 23, 2013

SUBJECT: Environmental Review, Old Sopris Trail Corridor Project, Trinidad Colorado

This report summarizes the desktop review and site visit of the proposed trail corridor for the City of Trinidad Old Sopris Trail Corridor Project. The site visit was conducted on March 13, 2013 during which the entire proposed trail alignment was walked. The purpose of the study was to identify potential natural resource issues for integration in the design and development of the trail. This summary includes: a brief description of the ecological and geophysical setting of the site; identification and descriptions of the plant communities and conditions; descriptions of wildlife habitat; a discussion of environmental conditions such as wetlands, special ecological features, habitat for Special Status wildlife species, or raptor nests that could potentially influence trail design and/or construction; a list of Federal and State environmental regulations and permits that could potentially be required for the project; and recommendations.

Geophysical and Ecological Setting

The trail corridor encompasses a rural stretch of the Purgatory River located downstream of the spillway at Trinidad Lake, that flows northeast into the City of Trinidad at Interstate 25. The length of the corridor is approximately 3.5 miles. The river has a broad floodplain (nearly 0.33 mile) with banks rising up to nearly 80 feet above the floodplain in places. The active drainage channel is narrow. The elevation ranges from 6,309 feet on the west to 6,009 feet on the east end.

The trail corridor lies within two ecological systems of the southern Rocky Mountains: the lower montane riparian woodland and shrubland, and the foothills shrubland ecoregions (Colorado Natural Heritage Project [CNHP]. 2005. Ecological Systems of Colorado. Available: http://www.cnhp.colostate.edu/projects/eco_systems/. Accessed April 2013.). The climate of the lower montane riparian woodland and shrubland is characterized by cold winters and hot summers. Soils range from alluvial deposits of sand, clay, silt, and cobble to fine-textured organic material. Annual and periodic flood events influence the growth of riparian vegetation. The climate of the foothills shrubland ecosystem is generally warm and dry, with freezes and drought influencing conifer growth. Soils range from coarse stony and sandy loams to clays.

Plant Communities and Conditions

Two plant communities dominate the project area: cottonwood riparian and pinyon-juniper woodland.

The cottonwood riparian community occurs as an almost continuous gallery forest along the floodplain of the Purgatory River. Dominant species include the native plains cottonwood and box elder and non-native Russian olive and Siberian elm. Scattered patches of narrow-leaf willow, broadleaf cattail, bluejoint reedgrass, and introduced meadow foxtail occur throughout. According to the Regional Wetland Plant List (Lichvar, R.W. 2012. The National Wetland Plant List. ERDC/CRREL TR-12-11. Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, accessed at http://rsgisias.crrel.usace.army.mil/NWPL/doc/plant_lists/Regions/pdf/GP_2012v1.pdf), the bluejoint reedgrass, meadow foxtail, and narrow-leaf willow are designated as FACW. This indicates that these species are very likely to occur in wetlands.

Pinyon-juniper woodland communities can be found along the upper banks of the project. Dominant species include one-seed juniper, pinyon pine, rabbitbrush, alderleaf mountain mahogany, and Gambel oak. Rabbitbrush and juniper extend down into the floodplain in places.

Habitat conditions are variable throughout the project. Invasive plants such as kochia, cheat grass, Russian thistle, and smooth brome occur in patches, but are not widespread. Some Russian olive control has occurred, with mixed results. In general the riparian habitat quality is good in the Boulevard addition (section one on the DHM sketches), deteriorates quickly in the D&RS railroad section (section two), and improves again in sections three and four. A dump at the west end of section one and gravel pit in section two have contributed to some large pockets of invasive plants including kochia, cheat grass, Russian thistle, and smooth brome. A network of off-road vehicle and social trails is common in sections one and two.

Wildlife Habitat

The project lies within the overall ranges of American elk, mule deer, white-tailed deer, black bear, and wild turkey (Natural Diversity Information Source [NDIS] 2009. MapIt! Colorado Internet Mapping Application. Available at: <http://ndis.nrel.colostate.edu/maps>. Accessed April 2013). NDIS data indicate the presence of severe winter range for American elk, and summer concentration and human conflict areas for black bear. Riparian habitats are attractive areas for many bird species including raptors (i.e., birds of prey) and songbirds. Species expected to nest in the project area include, but are not limited to: red-tailed hawk, Cooper's hawk, northern flicker, Cassin's kingbird, western wood-pewee, yellow warbler, and Bullock's oriole. Pinyon-juniper habitat along the upper banks may host western scrub-jay, rock wren, and juniper titmouse.

Potential Regulatory Issues

Wetlands. The Purgatory River, its tributaries, and associated wetlands are under the jurisdiction of the U.S. Army Corps of Engineers, Albuquerque District (Corps). Vegetation and features consistent with wetlands were observed during the site visit. Therefore, avoidance and minimization of impacts to wetlands will need to be considered in trail design. A formal wetland delineation for this size of project site would be labor-intensive and costly. To help guide analysis of trail alignment alternatives at the conceptual level, the National Wetlands Inventory (NWI) provides locational information for areas that are likely to be defined as wetlands. Walsh has queried the NWI, and provided it as a layer to your base mapping (included in the email with this memo as a .dwg file). The information is only available in pdf format, and not as a Cad or GIS file. It was converted to a jpg and aligned with the base map drawing. (U.S. Fish and Wildlife Service, National Wetland Inventory [2010] Classification of Wetlands and Deepwater Habitats of the United States, Available at: <http://www.fws.gov/wetlands/Data/index.html>)

It is advisable to locate the trail to avoid the lines and polygons shown on the NWI map to the extent possible. Once a preferred trail alignment is determined, Walsh (under a separate task order) would be able to view the trail location in relation to wetlands, and determine if an on-site wetland delineation will be needed. In this case, the wetland delineation would be targeted to just the few areas of potential wetland disturbance. A permanent impact would be defined as a fill into the wetland and in this case, would typically include features such as trail base material and bridge foundation structures. The areas of permanent wetland impact would be calculated only where previous disturbance had not occurred. Therefore, placement of the trail on existing roads and trails will help reduce wetland impacts.

A Clean Water Act Section 404 Nationwide Permit will be required if permanent wetland impacts exceed 0.1 acre. Typically, compensatory mitigation would also be required for any impacts that exceed 0.1 acre. If the area of permanent impacts is greater than 0.5 acre, an Individual Permit, including compensatory mitigation, is required. The Individual Permit application process is lengthier and more complicated than the Nationwide Permit process.

Floodplain Permitting. Placement of fill within the floodplain of the Purgatory River may require a Floodplain Development Permit. Such permitting is typically required to demonstrate proposed project conditions will not result in an increase to existing regulatory 100-year water surface elevations. If mapped, regulatory water surface elevations are provided on FEMA flood insurance maps.

In general, permitting may be enforced at the City or County level, depending upon the project location and whether or not the community participates in FEMA's National Flood Insurance Program (NFIP).

Once a preferred trail alignment and configuration of any structures within the floodplain is determined, Walsh (under a separate task order) would be able to determine what floodplain permitting would be necessary. Walsh would also be able complete any required hydraulic modeling and permit applications in support of the project.

Threatened and Endangered Species. A desktop review of species protected under the Endangered Species Act (ESA) and the State of Colorado for Las Animas County was conducted (CPW. 2011. Species of Concern. Available at: <http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/Pages/SpeciesOfConcern1.aspx>. Accessed April 2013; U.S. Fish and Wildlife Service [USFWS]. 2013. IPaC - Information, Planning, and Conservation System. Available at: <http://ecos.fws.gov/ipac/wizard/trustResourceList!prepare.action>. Accessed April 2013). During the site visit, potential habitat for all potentially-occurring listed species was evaluated. No habitat occurs in the project site for any ESA-listed plant or wildlife species.

State Wildlife Species of Special Concern (non-statutory) that might occur in the project area include: flathead chub, northern leopard frog, triploid checkered whiptail, and Texas horned lizard. The chub and the frog might be associated with the river and wetlands, whereas the whiptail and the toad might occur in areas of the upper banks in areas of pinyon-juniper and bare ground. There are no regulatory requirements associated with the State Species of Special Concern. Best Management Practices (BMPs) for habitat preservation are listed below in the recommendations.

All birds and active nests are protected by the Migratory Bird Treaty Act of 1918 (MBTA). Although no raptor nests were observed during the site walk (which did not occur during the nesting season), Colorado Parks and Wildlife (CPW) has recommended buffer distances for protections of active nests. The raptor species most likely to occur in this area would be red-tailed hawk and Swainson's hawk. Recommended buffer distances (i.e., space between trail construction activity and the nest) are 0.33 mile and 0.25 mile, respectively.

The table below summarizes applicable Federal and State regulations.



Federal and State Regulations that May Apply to the Old Sopris Trail Corridor

<i>Regulation</i>	<i>Permit</i>	<i>Finding</i>	<i>Recommendation</i>
Clean Water Act, Section 104	Nationwide Permit and compensatory mitigation required for permanent impacts 0.1 to 0.5 acre. Individual Permit and compensatory mitigation required for permanent impacts >0.5 acre.	The project area contains Waters of the U.S., over which the Corps has jurisdiction. Presence of wetlands is highly likely.	Conduct wetland delineation once locations of impact are determined.
ESA	N/A	No habitat for listed plant and wildlife species was observed.	No further action is necessary.
MBTA	N/A	Protected species are present	For any construction occurring between April and July, conduct nest sweep surveys immediately prior to construction, to ensure that no nests are destroyed during construction. If active raptor nests are found, adhering to CPW buffers is recommended.
Floodplain	Floodplain Development Permit	Regulatory water surface elevations may be enforced depending upon City or County participation in NFIP	Determine regulatory requirements, preferred trail alignment, and configuration of any fill within the floodplain.

Recommendations and BMPs

- Work with CPW to minimize disturbance to foraging black bears during trail construction.
- Develop a black bear/human conflict management plan for the trail.
- Develop a weed management plan for trail construction and reclaim all areas disturbed by trail construction with native vegetation.
- Minimize the removal of native vegetation. Salvage and replace, where possible.
- Conduct nest sweep surveys for nesting birds to prevent violations of the MBTA immediately prior to any trail construction if it occurs during the nesting season (April – July).

