



OASIS VALLEY RECREATIONAL TRAILS MASTER PLAN



BEATTY, NV

Prepared by GRO Trails and Race Consulting



July 2016

About Trails –OV

Trails-OV is a subsidiary of STORM-OV (Saving Toads thru Off-road racing, Ranching and Mining in Oasis Valley), a long standing conservation minded group interested in balancing recreation and conservation.

STORM has a long term history of partnering with conservation agencies, including the BLM, as well as non-profits to enhance the local community and preserve the resources.

STORM-OV has now launched the Oasis Valley Recreation Enhancement Project, a plan to create a massive trails project focused on enjoyment recreation and events for mountain biking and trail running in the Oasis Valley area of Southern Nevada.

MISSION STATEMENT

TRAILS-OV seeks to provide a diverse mix of recreational opportunities and business endeavors that will enhance the quality of life, support health and well-being, and promote sustainable business and tourism throughout the county.

COOPERATION

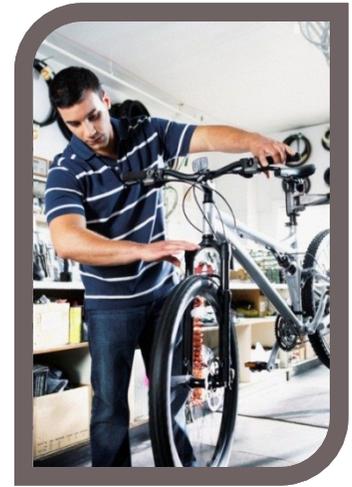
This plan is being produced in cooperation with the Bureau of Land Management Tonopah Field Office through the partnership set forth in The Memorandum of Understanding (BLM_NV_MOU_NV0600-2015-015) signed July 29, 2015.

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1. Introduction

Oasis Valley possesses the right combination of assets to position itself as the next big trail destination in the West. It is within 2 hours of Las Vegas, a major metropolitan area of nearly 2 million residences, within 8 hours of the greater Los Angeles area of 10 million, and lies on the main north/south transportation route in Nevada. Studies show that recreational trail users will travel up to 4 hours for a weekend visit and 8 to 10 hours for a major competitive event. Beatty has ample open space on nearby public lands. The town is surrounded by interesting terrain, with unique features and good soils to capture the interest of any trail user. The close proximity to Death Valley National Park is also a huge asset. With approximately 1 million visitors a year, Oasis Valley needs only to tap into those visitors. These assets have been proven to be key building blocks in a trails destination - as can be seen in Moab, Utah, St George, Utah, and Fruita, Colorado. These communities all saw economic impacts in the millions within 10 years after initial investment in trails.



Trails–OV has brought together business partners, concerned citizens and public officials to develop this comprehensive Trails and Tourism Master Plan for Oasis Valley. The Master Plan identifies routes and corridors where new non-motorized multi-use trails can be constructed that provide a unique recreational experience, as well as potential venues for competitive and commercial endeavors. In addition, the Master Plan identifies locations for hubs near the community to assure that trail users are engaged and connected to the town’s commercial center. The new business generated by a sustained income from tourism will diversify Beatty’s economic base and provide new opportunities of recreational based commercial businesses to thrive. Ancillary businesses, such as banks, grocery stores and new lodging facilities will likely follow.

A long term strategy was set forth in the Oasis Valley Conceptual Plan produced by the International Mountain Biking Association (IMBA) in March 2014. The master plan phase will build on the conceptual plan and will allow for Beatty to see a significant economic turn within 10 years. Experience has proven that a minimum of 100 miles and preferably upwards of 300 miles of recreation trail is optimal for creating a Trails Destination for mountain bikers, trail runners, rock climbers and hikers.

The goal of this Master Plan is to identify initial trail corridors and usable routes to submit to the BLM to be analyzed for designation as recreational trails. In addition, the Master Plan will set the frame work for construction of facilities, long term management of trails, signage, limits and stipulations for events and commercial permitting, and funding opportunities. By starting with a manageable plan, it will allow for analyses over the next several years to justify the viability of the mountain biking trail system expanding. This framework could be adopted for future trail proposals.

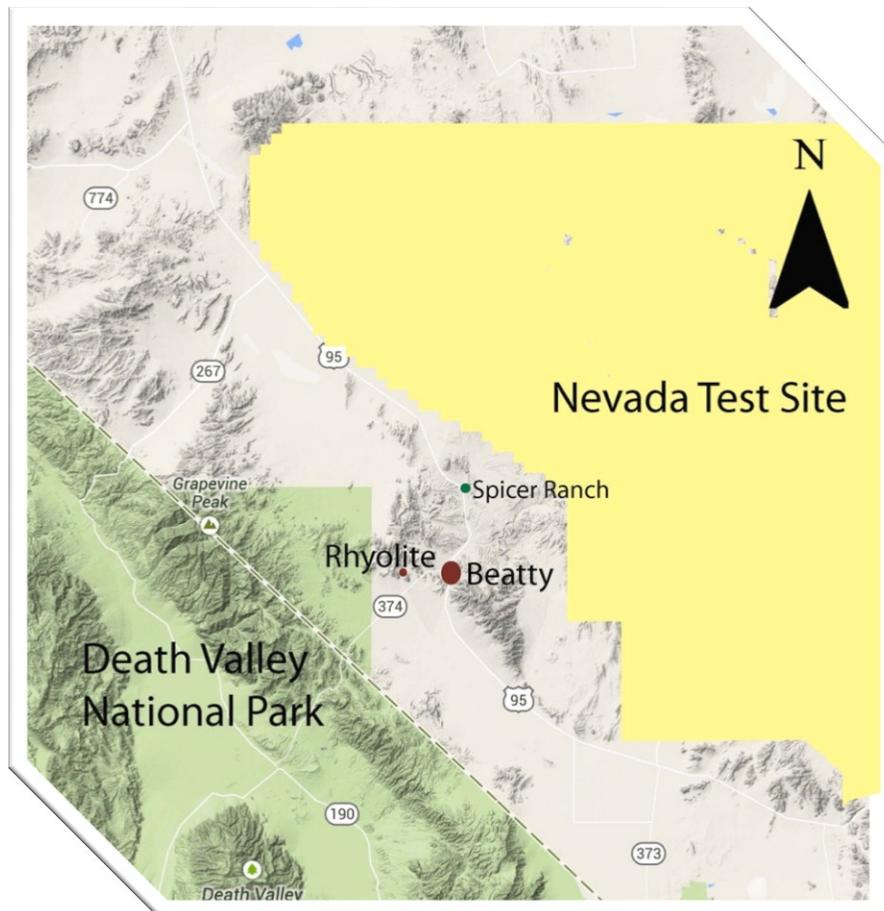
A. Location and Setting

i. Area Location

The project area is located in the unincorporated township of Beatty, in Nye County Nevada. Beatty is located about 90 miles North of Las Vegas on Hwy 95 and sits at an elevation of 3320 feet.

The Oasis Valley region includes the northwestern part of the Nevada Test Site and a contiguous area, of roughly equal size, west of the Test Site. This region extends from the southernmost edge of the springs of Oasis Valley, directly south of Beatty, Nevada, northeastward to Pahute Mesa. It is an up-gradient (up the groundwater flow path) recharge area that was the site of 85 underground nuclear tests between 1966 and 1991.

Figure 1.1 Vicinity Map



ii. Area Description

The major vegetation of the region includes Joshua Trees, Ball Cactus, and Creosote Bush.

Oasis Valley is abundant in wildlife. Local Conservation efforts have ensured continued healthy habitats for all species. Some of the local wildlife include: Coyotes, Cougars, Bob Cats, Kit Foxes, Burros, Wild Horses, Deer, Antelope, Big Horn Sheep, Badgers and Desert Skunks.

There are many types of Local Amphibians, including the famous “Armargosa Toad”. Reptiles in the area include species ranging from snakes, desert tortoises, and numerous different kinds of lizards. The Desert Tortoise is a listed species.

In addition, scorpions and venous spiders are present in the valley. The yearly Tarantula’s migration occurs in September.

Due to the many ponds, natural springs, trees, wetlands and open spaces around Beatty and the Oasis Valley, the National Audubon Society has named the area an *IBA (Important Bird Area)*. As a year-round habitat for resident birds (as well as a destination for nesting seasonal birds) the area regularly supports 21 species that have been identified as NV Partners in Flight Conservation priorities.

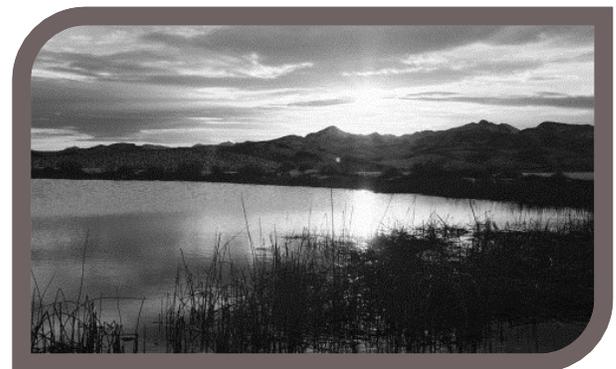


Collared Lizard

iii. Area History

The Paiutes and Shoshones populated the Great Basin for thousands of years. Evidence is found in the Petroglyphs and arrowhead shavings in areas where springs were abundant. As hunter gatherers, the Native Americans traveled between Death Valley, Beatty and the upper elevation of Goldfield and Tonopah.

Before Nevada was a State, the area of Southern



View of Natural Pond

Nevada was considered Arizona Territory. At that time the Beatty area was worked by the Mexican miners. Originally looking for Silver, they happened upon several veins of Gold. Using an arista and manmade irrigation devices, they mined in areas thought of as uninhabitable.

In August of 1904 Shorty Harris and Ed Cross happened across some free gold in what is now part of Death Valley, CA. By September mining was in full swing, dirt roads were filled with men, wagons, burros and even a few automobiles headed to the newest Gold Boom in Nevada. They brought their wives, children, brothers, sisters and parents. The door was open to enterprising individuals, and soon there were boarding houses, restaurants, mercantile, saloons, and Brothels.

Beatty was the center of all this industrious commotion. With three railroads coming into town it became the supply center for the Bullfrog Mining District. Rhyolite, Springdale, Crystal Springs, Bonanza, Bullfrog, Gold Center, Carrara, Pioneer, Mickeljohn, Tellerude, and many smaller camps depended on the supplies coming into Beatty.

Many of the mines were low grade ore or could no longer find a good vein of gold. By 1910 mines were closing, towns were abandoned and things looked rather bleak. By World War II there was little mining going on due to the War effort. In the town of Beatty, however, life continued on. Beatty survived because of an abundant water resource nearby. Over 100 years later, Beatty is still the only town left of the non-commercial mining boom in the Southwestern United States.

B. Current Conditions

i. Current Demographics

According to the Beatty Township Community profile, Beatty has a current population of approximately 1000 people. According to US Census data from 2012 -2014 about 60% of the population is male and 30% female. Beatty's permanent population is aging, with very few young families living in the area. Greater than 50% of the population is over 55 years old.

The majority of housing stock is temporary or modular housing (mobile homes), with a 40% vacancy rate. Median rent is \$528 dollars a month.

ii. Current Economy

The current economy of Beatty is suffering as traditional industries such as mining, and its ancillary businesses (brothels) cease to exist. Tourism, however, is on the rise, with more than 1,000,000 tourists traveling through to visit Death Valley and the Ghost town of Rhyolite. Visitor Use for Death Valley National Park according to The National Park Service (NPS) Visitor Statistics (<https://irma.nps.gov/Stats/Reports/Park/DEVA>) has increased significantly in the last 5 years from 984,775 visitors in 2010 to 1,154,843 in 2015.

According to US census data for Beatty from 2012-2014 about half of the population is part of the active work force, with a quarter of the work force working in the service industry. Many of the younger members of the community seek employment in the Las Vegas area looking for higher wages and full time employment.

C. Mountain Biking in Beatty

i. Spicer Ranch and Transvaal Trails

In January of 2015 seven miles of trail were planned and constructed on the private lands north of the Township known as the Spicer Ranch. Since the grand opening in May of 2015 the area has seen a steady increase in use.

Just east of the Spicer Ranch lies an area known as the Transvaal region. Mountain bikers quickly discovered the labyrinth of existing gravel roads and animal trails directly adjacent to the Ranch and began riding them to extend their outings, experience a greater variety of riding styles and access amazing view points on the ridgeline overlooking Beatty Wash.

In June of 2015, Trails-OV submitted a proposal to the BLM for signage of the most popular recreational trails in the Transvaal area due to safety concerns. The region is within the No-Fly-Zone for the military test site area and there was a potential for recreational riders to get disoriented and lost while out riding.

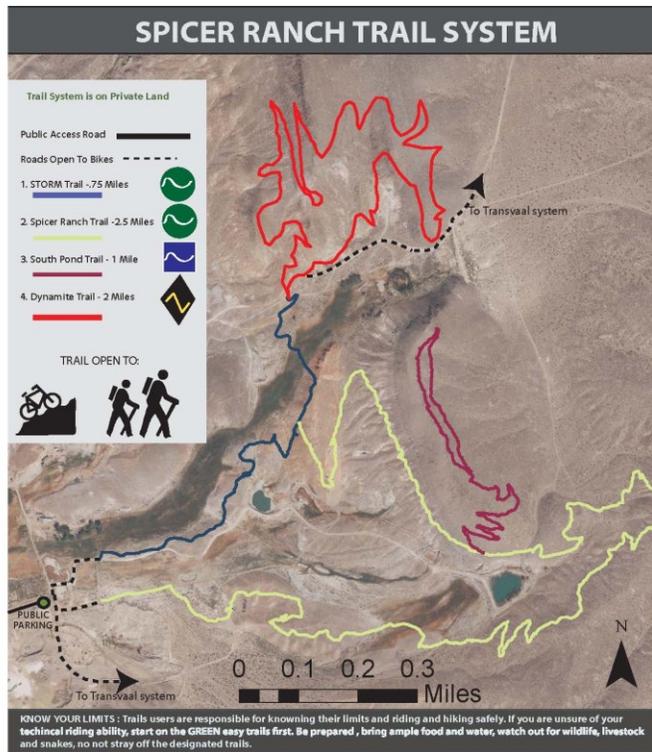
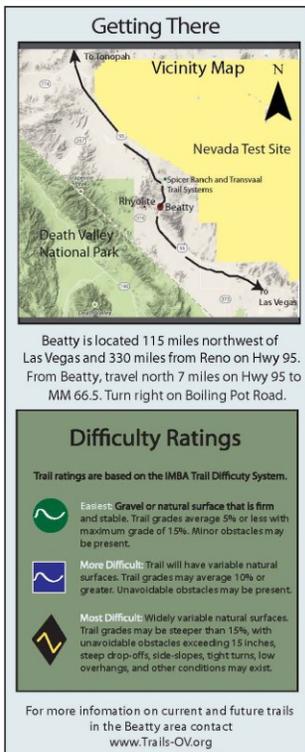
In December of 2015 the BLM signed the Right-Of Way (ROW) for signs and developed and MOU with Trails-OV for sign installation and maintenance. The signs were installed in January 2016.

The Spicer Ranch property now has a 30 car parking lot, camping facilities, restrooms, showers and other amenities for traveling mountain bikers. A sign located on Hwy 95 identifies the area as a *Mountain Bike Trail Head*.

It is estimated from log books and weekly counts that the trails are seeing 100+ user days in the peak riding months (Sept –June).

A brochure of the signed trails was developed by Trails –OV and is now distributed in the local retail outlets, Chamber of Commerce, and at the trailhead.

Figure 2 : Trail Brochure



ii. Current Events and Future Events

Spicer Ranch held its second annual Beatty Taco and Beer Mountain Bike Festival on May 4, 2016. The event saw over 200 visitors within a 3 day period that came and sampled the local trails and enjoyed the facilities at the Ranch.

There has been great interest in organized events coming to Beatty since the trails opened. The Ranch plans to host the Nevada State Championship Cyclocross race in January 2017. Many other groups have expressed interest in Grand Fondo (long gravel races) races and trail marathons on the BLM area trails east of the Ranch as well.



Image 1-1 Beatty Mountain Bike Festival 2015

iii. In the Media

Mountain biking in Beatty has captured the interest of the outside world. Over 10 articles have been published by independent news outlets over the past year. In addition, trails and trail descriptions are popping up on mapping sites such as Strava.com, Mountain Bike Project and Trail Forks.

[Nevada Magazine 2/2016 – Beatty Beacons](#)

[Cycling Utah Magazine 7/2015, Pages 32-33](#)

[Pahrump Valley Times 5/2015 – New Trails Get Rave Reviews](#)

[KNPR-Desert Companion Magazine 4/23/2015 – Build it and they will Bike](#)

[Pahrump Valley Times 4/24/2015 – Grand Opening Celebration and Festival](#)

[Pahrump Valley Times – 2/27/15 – Construction has started](#)

[Pahrump Valley Times-12/26/2014-Beatty bike trail feasibility study launched](#)

[Las Vegas Review Journal 12/7/2014/- Beatty could be the next biking hub](#)

[Singletracks-12/2/14-Massive MTB Trail System Coming to Southern Nevada](#)

2. Recreational Trails System



A. Purpose and Need

The proposed action has four purposes:

- 1) To provide a diverse mix of recreational opportunities and business endeavors that will enhance the quality of life, support health and well-being, and promote sustainable business and tourism throughout Oasis Valley and Nye County.
- 2) To provide a purpose built non-motorized recreational trails system in the Beatty Area.
- 3) To provide an alternative form of tourism for Beatty and Nye County.
- 4) To enhance the recreational opportunities for visitors within the Nye County, Tonopah Field Office BLM lands.

There are three reasons that the proposed action is needed:

- 1) To create an opportunity to diversify the Beatty economic base.
- 2) To create non-motorized trail opportunities that can be used by all levels of users.
- 3) To create a possible venue for non-motorized events

B. Project Area

The proposed routes would pass through BLM- Tonopah Field Office lands. The proposed routes connect to the town of Beatty and the Spicer Ranch.

Legal Description: T 12 S, R 46 E Sec , 1,2,11,12,15 / T 12 S, R 47 E, Sec 5, 6, 18, /T 11 S , R 46 E Sec 24, 25,26, 35, 36/ T 11 S , R 47 E Sec 1, 2, 3. 10, 11, 12, 13, 14, 15, 19, 20 ,24, , 28,29,30 31,32, 33 / T 11 S, R 47 E Sec 3, 4, 5, 6, 7, 8, 9,10, 11,17, 18 / T 10 S R 47 E Sec 34

C. Proposed Trail System

This plan proposes to develop a recreational trail system totaling 101 miles and containing distinct trail segments. The plan consists of:



All trails are proposed to be non-motorized unless prior motorized use was established. These routes would remain open to motorized travel. Motorized routes would also be recommended for horseback riding and the use of E-Bikes, a new form of motorized travel. (Section 2-F, Figure 2.10, Use Designations)

Table of Proposed Trails

Map ID	Trail_name	Meters	Miles	Route	Type
8	Indian Springs Road	1998.314965	1.2417	Existing Road	Maintained
19	Indian Springs Road	3807.452774	2.3658	Existing Road	Maintained
19	Indian Springs Road	1331.378428	0.8273	Existing Road	Maintained
49	Windmill Road	16285.8651	10.1195	Existing Road	Maintained
62	Indian Springs to Beatty	4570.537	2.84	Existing Road	Maintained
54	Horsehair Loop	707.376161	0.4395	Existing Road	Not Maintained
54	Horsehair Loop	408.910041	0.2541	Existing Road	Not Maintained
54	Horsehair Loop	579.463275	0.3601	Existing Road	Not Maintained
54	Horsehair Loop	1295.17	0.8048	Existing Road	Not Maintained
55	The Mane and Trail - A	3120.295436	1.9389	Existing Road	Not Maintained
4	Southpond Mountain - BLM-1	106.557772	0.0662	Existing Road	Two Track
5	Southpond Mountain - BLM-2	48.375217	0.0301	Existing Road	Two Track
38	Plutonium Loop	953.29184	0.5923	Existing Road	Two Track
45	Canteen Trail	1046.309175	0.6501	Existing Road	Two Track
48	Plutonium Ridge Cut-Off	98.009695	0.0609	Existing Road	Two Track
51	Beatty Wash Road - Lower	2683.016816	1.6671	Existing Road	Two Track
51	Beatty Wash Road - Lower	956.114804	0.5941	Existing Road	Two Track
52	Beatty Wash Road - Upper	5313.986651	3.302	Existing Road	Two Track
52	Beatty Wash Road - Upper	216.000338	0.1342	Existing Road	Two Track
54	Horsehair Loop	6334.424293	3.936	Existing Road	Two Track
54	Horsehair Loop	1674.558232	1.0405	Existing Road	Two Track
55	The Mane and Trail - A	123.700994	0.0769	Existing Road	Two Track
56	Palomino Way	746.150157	0.4636	Existing Road	Two Track
57	The Mane and Trail - B	3961.966862	2.4618	Existing Road	Two Track
		58367.22603	36.2675		

Map ID	Trail_name	Meters	Miles	Route	Type
2	Southgate Trail	1299.306496	0.8074	Existing Trail	Animal
6	Torrance Ranch	968.851618	0.602	Existing Trail	Animal
7	Transvaal Trail	587.21197	0.3649	Existing Trail	Animal
9	Stirrup Trail	24.38554	0.0152	Existing Trail	Animal
32	Spur Trail	601.497012	0.3738	Existing Trail	Animal
36	Dominatrix	6646.591	4.13	Existing Trail	Animal
37	Lariat Loop	2872.217385	1.7847	Existing Trail	Animal
37	Lariat Loop	2380.513881	1.4792	Existing Trail	Animal
37	Lariat Loop	328.360643	0.204	Existing Trail	Animal
38	Plutonium Loop	4698.178462	2.9193	Existing Trail	Animal
38	Plutonium Loop	1151.907863	0.7158	Existing Trail	Animal
38	Plutonium Loop	2235.161728	1.3889	Existing Trail	Animal
38	Plutonium Loop	2598.792586	1.6148	Existing Trail	Animal
38	Plutonium Loop	2749.736733	1.7086	Existing Trail	Animal
38	Plutonium Loop	330.549726	0.2054	Existing Trail	Animal
45	Canteen Trail	5817.017835	3.6145	Existing Trail	Animal
46	Junction Loop Trail	3027.09483	1.8809	Existing Trail	Animal
46	Junction Loop Trail	64.176111	0.0399	Existing Trail	Animal
46	Junction Loop Trail	1310.889572	0.8145	Existing Trail	Animal
47	Stirrup Trail	1051.78773	0.6535	Existing Trail	Animal
47	Stirrup Trail	1871.685388	1.163	Existing Trail	Animal
47	Stirrup Trail	565.324569	0.3513	Existing Trail	Animal
47	Stirrup Trail	153.94997	0.0957	Existing Trail	Animal
47	Stirrup Trail	156.100775	0.097	Existing Trail	Animal
53	Spur Trail - B	1272.928292	0.791	Existing Trail	Animal
54	Horsehair Loop	675.470504	0.4197	Existing Trail	Animal
58	Stirrup Trail - B	356.64389	0.2216	Existing Trail	Animal
60	Ridgeline Trail	4490.07	2.79	Existing Trail	Animal
50	Brads Screamer	1619.99158	1.0066	Existing Trail	Motocycle
1	Spicer Ranch Trail - BLM	250.656912	0.1558	Existing Trail	Mtb Trail
3	Storm Trail - BLM	128.637158	0.0799	Existing Trail	Mtb Trail
40	Dynamite Trail - BLM	41.121606	0.0256	Existing Trail	Mtb Trail
		52326.80937	32.5145		

Map ID	Trail_name	Meters	Miles	Route	Type
10	Beatty Loop	12274.33614	7.6269	Proposed Route	SingleTrack
11	Beatty Connector B	125.498008	0.078	Proposed Route	SingleTrack
11	Beatty Connector B	46.286187	0.0288	Proposed Route	SingleTrack
12	Beatty Connector A	199.414177	0.1239	Proposed Route	SingleTrack
12	Beatty Connector A	176.098886	0.1094	Proposed Route	SingleTrack
13	Beatty Connector C	24.73994	0.0154	Proposed Route	SingleTrack
15	Two Toads Trail	9018.019238	5.6035	Proposed Route	SingleTrack
15	Two Toads Trail	86.802766	0.0539	Proposed Route	SingleTrack
41	Two Toads Trail - A	421.654657	0.262	Proposed Route	SingleTrack
42	Two Toads Connect	121.471579	0.0755	Proposed Route	SingleTrack
17	Beauty Queen	2938.422658	1.8258	Proposed Route	SingleTrack
18	Burton Hill Trail	7371.525789	4.5804	Proposed Route	SingleTrack
18	Burton Hill Trail	630.391816	0.3917	Proposed Route	SingleTrack
18	Burton Hill Trail	119.329444	0.0741	Proposed Route	SingleTrack
20	Sober-Up	9547.581783	5.9326	Proposed Route	SingleTrack
21	Whiskey Run	7103.8397	4.4141	Proposed Route	SingleTrack
43	Southpond Mountain EX - new	1596.431801	0.992	Proposed Route	SingleTrack
		51801.84457	32.188		

Figure 2.1 Tables of Proposed Trails by Type

BEATTY TRAIL MASTER PLAN OVERVIEW MAP

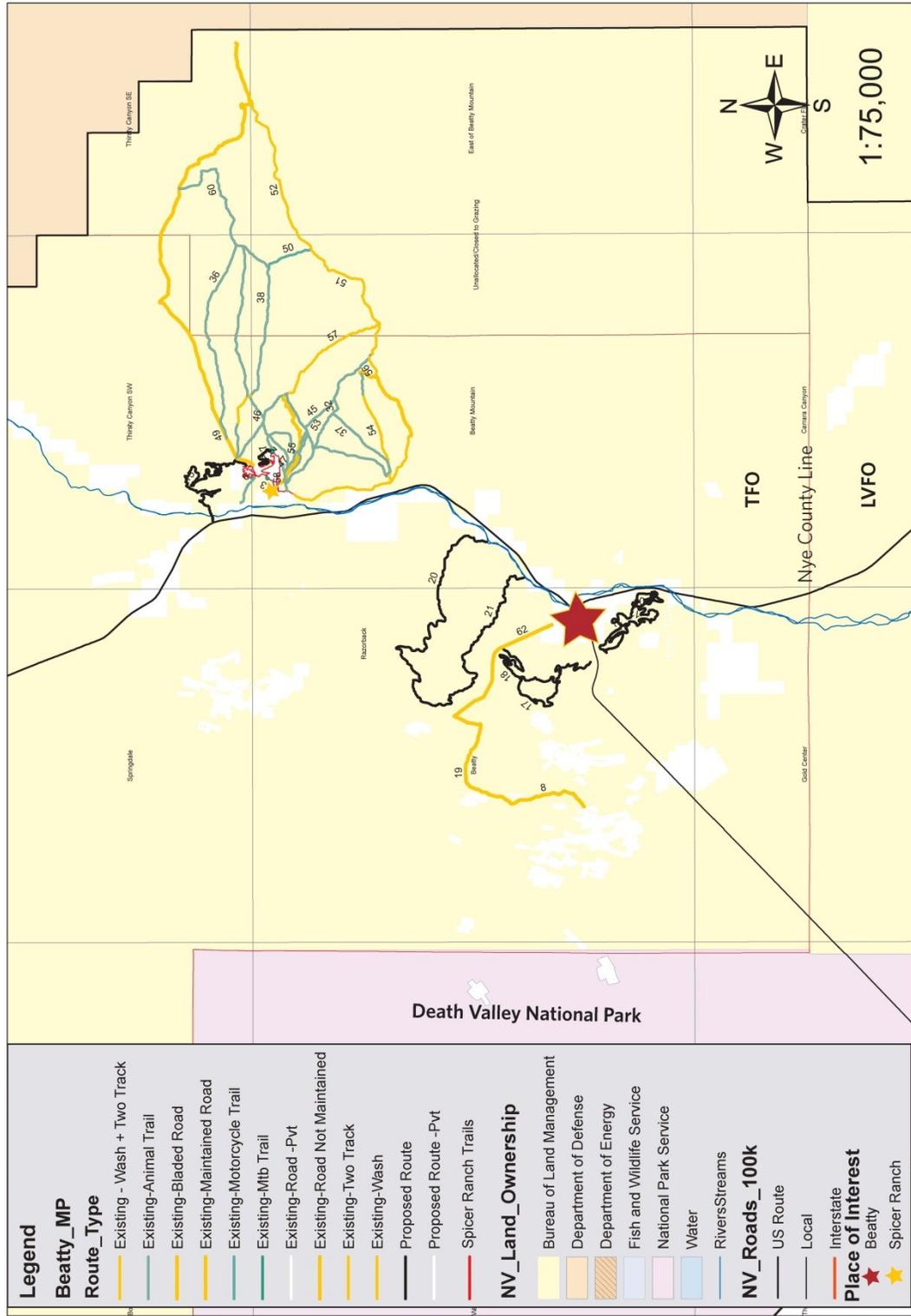


FIGURE 2.2 TRAIL MASTER PLAN OVERVIEW MAP

BEATTY TRAIL MASTER PLAN MAP - Existing Roads

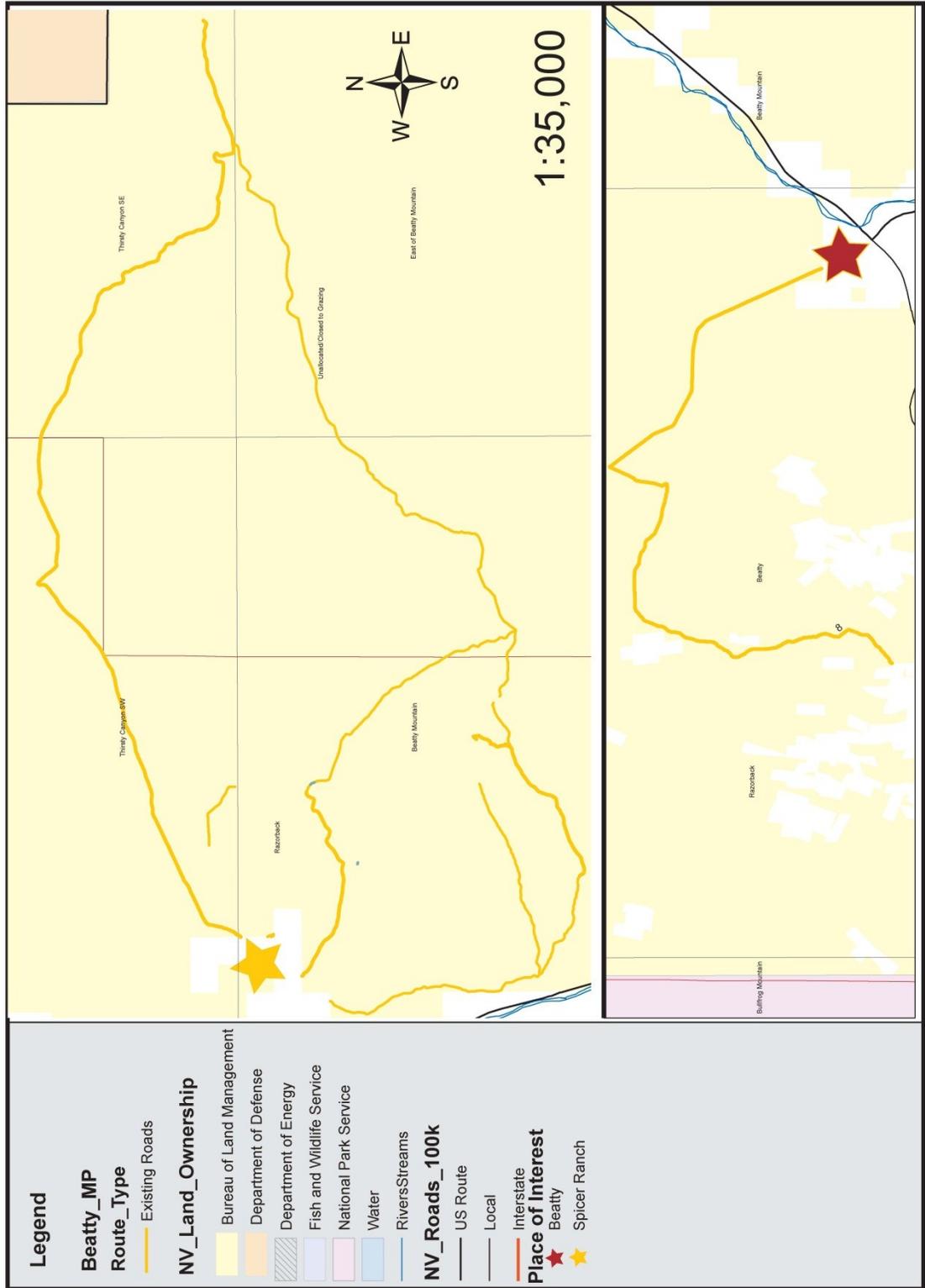


FIGURE 2.3 TRAIL MASTER PLAN - Existing Roads

BEATTY TRAIL MASTER PLAN MAP - Existing Trails

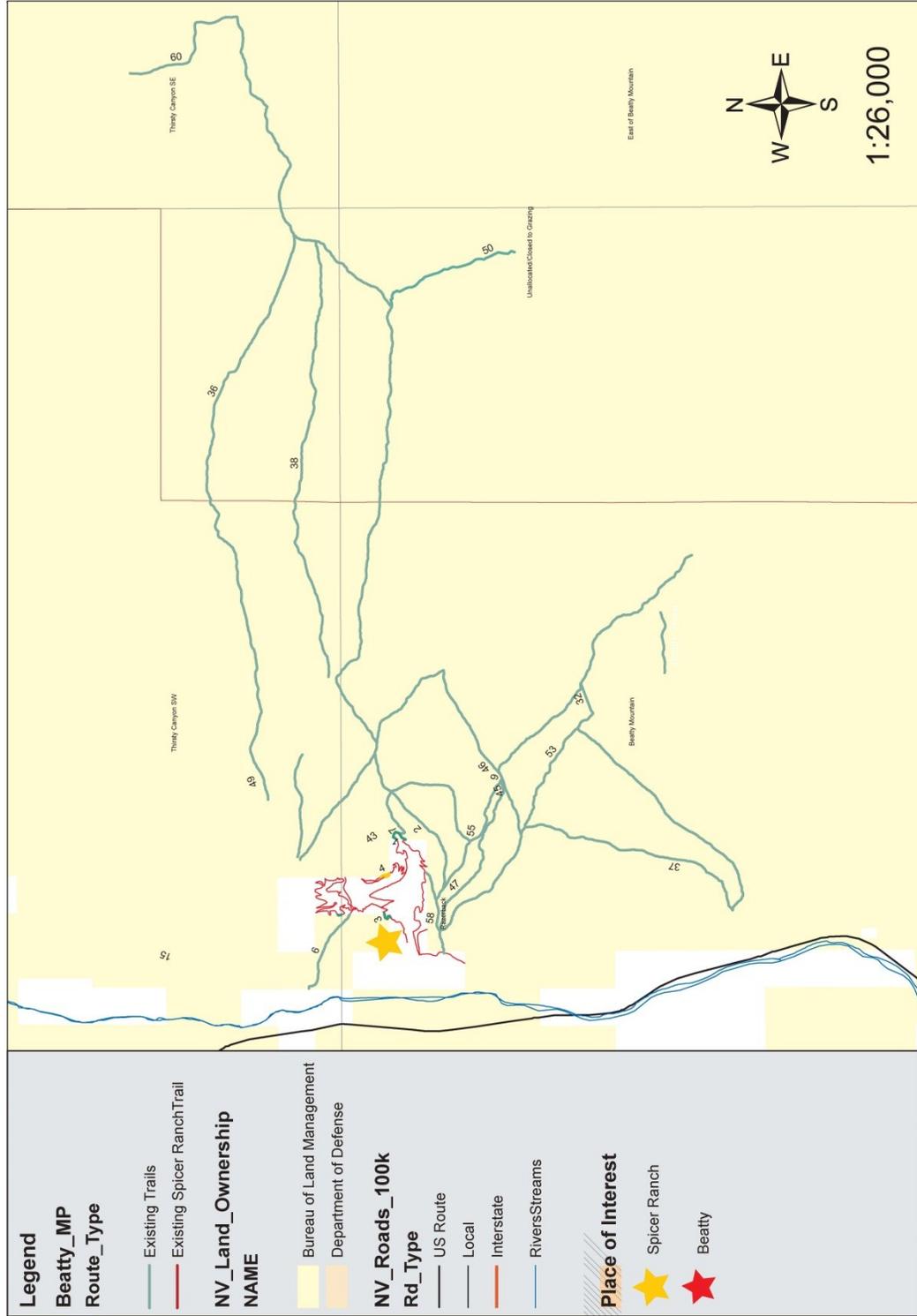


FIGURE 2.4 TRAIL MASTER PLAN - Existing Trails

BEATTY TRAIL MASTER PLAN MAP - Proposed New Trails

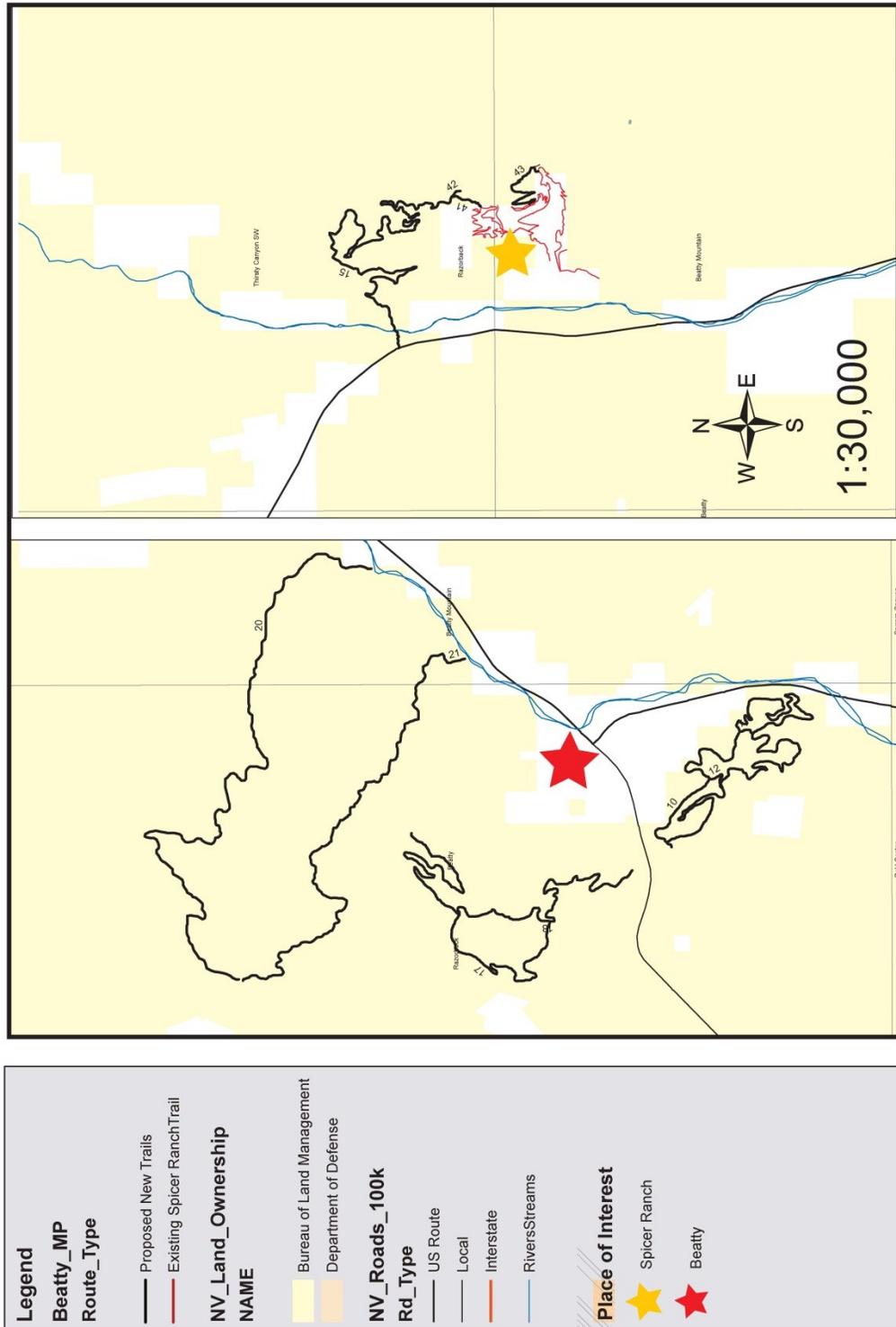


FIGURE 2.5 TRAIL MASTER PLAN - Proposed New Trails

i. Proposed Time Line

Upon approval, all existing routes would be signed for way-finding immediately. New trails would be flagged and built over a 3 year period.

D. Trail Ratings

Trails Management Ratings will help guide management activities including Use Designations, Construction and Maintenance, and Commercial and Competitive Use Capacities.

Figure 3.1 is a standard trail rating chart for recreation trails. The chart is used for understanding user experience, setting guidelines for construction width, and budgeting trail costs.

Specifications meet USFA Universal Access Guidelines for Outdoor Recreation and will inform those with disabilities seeking outdoor adventure of any limitations. Trails are not wheelchair accessible and do not meet ADA standards.

Trail Difficulty Rating System					
	Easiest White Circle 	Easy Green Circle 	More Difficult Blue Square 	Very Difficult Black Diamond 	Extremely Difficult Dbl. Black Diamond 
Trail Width	72" or more	36" or more	24" or more	12" or more	6" or more
Tread Surface	Hardened or surfaced	Firm and stable	Mostly stable with some variability	Widely variable	Widely variable and unpredictable
Average Trail Grade	Less than 5%	5% or less	10% or less	15% or less	20% or more
Maximum Trail Grade	Max 10%	Max 15%	Max 15% or greater	Max 15% or greater	Max 15% or greater
Natural Obstacles and Technical Trail Features (TTF)	None	Unavoidable obstacles 2" tall or less Avoidable obstacles may be present Unavoidable bridges 36" or wider	Unavoidable obstacles 8" tall or less Avoidable obstacles may be present Unavoidable bridges 24" or wider TTF's 2' high or less, width of deck is greater than 1/2 the height	Unavoidable obstacles 15" tall or less Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or wider TTF's 4' high or less, width of deck is less than 1/2 the height Short sections may exceed criteria	Unavoidable obstacles 15" tall or greater Avoidable obstacles may be present May include loose rocks Unavoidable bridges 24" or narrower TTF's 4' high or greater, width of deck is unpredictable Many sections may exceed criteria

Figure 2.7 Trail Ratings Standards

Trail_name	Trail Rating	Miles	Route
Beatty Wash Road - Lower	Green	2.2612	Existing Road
Beatty Wash Road - Upper	Blue	3.4362	Existing Road
Canteen Trail	Green	0.6501	Existing Road
Horsehair Loop	Green	6.835	Existing Road
Indian Springs Road	Green	4.4348	Existing Road
Indian Springs to Beatty	Green	2.84	Existing Road
Palomino Way	Green	0.4636	Existing Road
Plutonium Loop	Green	0.5923	Existing Road
Plutonium Ridge Cut-Off	Green	0.0609	Existing Road
Southpond Mountain - BLM-1	Blue	0.0662	Existing Road
Southpond Mountain - BLM-2	Blue	0.0301	Existing Road
The Mane and Trail - A & B	Green	4.4776	Existing Road
Windmill Road	Green	10.1195	Existing Road
36.2675			
Trail_name	Trail Rating	Miles	Route
Brads Screamer	Blue	1.0066	Existing Trail
Canteen Trail	Blue	3.6145	Existing Trail
Dominatrix	Blue	4.13	Existing Trail
Dynamite Trail - BLM	Blue	0.0256	Existing Trail
Horsehair Loop	Green	0.4197	Existing Trail
Junction Loop Trail	Green	2.7353	Existing Trail
Lariat Loop	Green/Blue	3.4679	Existing Trail
Plutonium Loop	Blue	8.5528	Existing Trail
Ridgeline Trail	Blue	2.79	Existing Trail
Southgate Trail	Blue	0.8074	Existing Trail
Spicer Ranch Trail - BLM	Green	0.1558	Existing Trail
Spur Trail /B	Green	1.1648	Existing Trail
Stirrup Trail	Green	2.3757	Existing Trail
Stirrup Trail - B	Green	0.2216	Existing Trail
Storm Trail - BLM	Green	0.0799	Existing Trail
Torrance Ranch	Green	0.602	Existing Trail
Transvaal Trail	Green	0.3649	Existing Trail
32.5145			
Trail_name		Miles	Route
Beatty Loop & Connectors	Blue/Black	7.9824	Proposed Route
Beauty Queen	Blue	1.8258	Proposed Route
Burton Hill Trail	Blue	5.0462	Proposed Route
Sober-Up	Blue	5.9326	Proposed Route
Southpond Mountain EX - new	Blue	0.992	Proposed Route
Two Toads Connect	Blue	0.0755	Proposed Route
Two Toads Trail	Black	5.9194	Proposed Route
Whiskey Run	Blue	4.4141	Proposed Route
32.188			

Figure 2.6: Trail Rating Table

E. User Experience

All the trails would be designated for non-motorized uses using the Preferred Use method of designation based on Benefits Based Management (BBM) criteria (Appendix C). Based on the Zone Benefits table (X: X) established using the Recreation Opportunity Spectrum (ROS) of area management, all the trails in the Beatty area will be either in the Rural Motorized or Backcountry recreation zones. The trail layout, width and grades have all been selected to optimize the experience of mountain bikers and trail runners' expectations in these zones. Further consideration had been given to the use and experience of the system for special events such as mountain bike races, Grand Fondo, Marathon trail running and Touring.



Figure 2.7 Benefits based on recreation type

i. Trail User Characteristics

Mountain Bikers

Beginning Cross-Country: These mountain bikers are casual cyclists who like gentle, relatively short trails with few challenges. As they improve their skill they will seek longer, more difficult trails. Rough, arduous or twisty sections satisfy the need for technical challenge and help control speed. Mountain bikers tend to stay on trails if the ride is fun.

Avid Cross-Country: Mountain bikers are experienced cyclists that are comfortable in the backcountry. They're typically self-sufficient, carrying tools, water, food, clothing and sometimes a first-aid kit. Avid riders seek trails that let them cover from 10-100 miles in search of solitude, nature and challenge. Desirable trails feature several miles of connecting loops with natural obstacles.

Technical / Trails Riders: Like challenges such as drop-offs, ledges, logs, elevated bridges, sharp exposure, dirt jumps, and seesaws. Some riders want technical features incorporated into their cross-country rides. Others prefer stand-alone experiences such

as in a skate park. On backcountry trails, technical features should blend with nature, flow with the trail and be well built.

Trail Runners: Although this group appreciates nature, they are usually out purely for the exercise. Their reasons for choosing to run on a natural surface include; safety from traffic, lower impact on joints, opportunity to exercise in solitude, and ability to achieve long distances. They enjoy connecting loops to add variety to their workouts. Most runners want several miles of rolling contours with occasional challenging sections. Runners are not prone to off-trail use. They instead prefer the compact surface of a well maintained trail so they can keep their head down and move through quickly. This group is not concerned normally with interpretive education or views. They are, however, usually experienced outdoorsman and tend to exhibit a high level of outdoor ethics.

Hikers: Are usually familiar with the outdoors and like a more strenuous walk. They can handle difficult terrain and steep grades depending on fitness and agility. They usually stay on trails if they are directed, but can be tempted to explore. Hikers enjoy interpretation, prefer a natural feature as a goal, and a direct trail. The typical hiker appreciates as much information about a trail ahead of their trip as they can get. Information such as distance, trail difficulty, technical nature, and elevation gain are all important. Many hikers also pair their outing with photography, so they enjoy achieving a high point with scenic views.

Other Considerations

Endurance Athletes and Racers: Some trail runners and mountain bikers like to push their limits. These people seek trail networks that are as much as one hundred miles long. A large network is more appealing than multiple laps of a short loop. They are goal oriented and seek competition.



Typical Mountain Bikers, Hikers, and Trail Runners

ii. Trail User Compatibility

Trail User Compatibility is a combination of personal encounters, trail design, and user expectation. The following chart shows the most compatible activities for a shared use on trails. However, exceptions may apply.

Activity	Walking	Trail Running	Hiking	Mountain Biking				Rock Climbing	Nature Watching	Horse Riding	Motorized		
				Novice	Cross-Country	Enduro	FR/DH				ORV	Motorcycle	4x4
Walking	x	x	x	x				x	x				
Trail Running	x	x	x	x	x			x	x		x		x
Hiking	x	x	x					x	x	x			
Mountain Biking													
Novice	x	x	x	x	x	x		x	x				
Cross-Country		x		x	x	x		x	x				
Enduro				x	x	x							
FR/DH						x	x						
Rock Climbing								x					
Nature Watching									x				
Horse Riding	x									x			
Motorized Recreation													
ORV		x		x	x				x		x		
Motorcycle					x					x		x	
4x4		x		x	x				x		x		x

Figure 2.8 User Compatibility Matrix

*ORV-Off Road Vehicle, FR-Free Ride, DH-Downhill, Enduro-All Mountain



F. Trail User Designations

Trail_name	Preferred Use	Allowed Uses	Restricted Uses	Route
Beatty Wash Road - Lower	4 x 4 Vehicles	ALL	None	Existing Road
Beatty Wash Road - Upper	4 x 4 Vehicles	ALL	None	Existing Road
Canteen Trail	4 x 4 Vehicles	ALL	None	Existing Road
Horsehair Loop	Horses	ALL	None	Existing Road
Indian Springs Road	4 x 4 Vehicles	ALL	None	Existing Road
Indian Springs to Beatty	4 x 4 Vehicles	ALL	None	Existing Road
Palomino Way	4 x 4 Vehicles	ALL	None	Existing Road
Plutonium Loop	4 x 4 Vehicles	ALL	None	Existing Road
Plutonium Ridge Cut-Off	Bikes	ALL	None	Existing Road
Southpond Mountain - BLM-1	Hiking	Hiking/Biking	Vehicle/Horses	Existing Road
Southpond Mountain - BLM-2	Hiking	Hiking/Biking	Vehicle/Horses	Existing Road
The Mane and Trail - A & B	Horses	ALL	None	Existing Road
Windmill Road	4 x 4 Vehicles	ALL	None	Existing Road

Trail_name	Preferred Use	Allowed Uses	Restricted Uses	Route
Brads Screamer	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Canteen Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Dominatrix	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Dynamite Trail - BLM	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Horsehair Loop	Horses	Horse/ Motorcycle	Bikes/ ATV	Existing Trail
Junction Loop Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Lariat Loop	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Plutonium Loop	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Ridgeline Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Southgate Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Spicer Ranch Trail - BLM	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Spur Trail /B	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Stirrup Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Stirrup Trail - B	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Storm Trail - BLM	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Torrance Ranch	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail
Transvaal Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Existing Trail

Trail_name	Miles	Route		
Beatty Loop & Connectors	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Beauty Queen	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Burton Hill Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Sober-Up	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Southpond Mountain EX - new	Hiking	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Two Toads Connect	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Two Toads Trail	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route
Whiskey Run	Mountain Bike	Bike/Hike/Run	Vehicle/Horses	Proposed Route

Figure 2.10 Use Designation Table

Further E-Bikes (Electric Powered Mountain Bikes) are considered a motorized vehicle will only be allowed on trails that allow other motorized vehicles.

3. Construction and Maintenance

This section will set the frame work for construction of facilities This framework could be adopted for future trail proposals with the Tonopah Field office.

A. Construction and Maintenance Right’s-of-Way (ROW)

Proposed trails have been designed to maintain sustainable grades and an enjoyable recreation experience. However changes in soil and rock may necessitate slight changes between design and construction. Figure 4.1 shows the necessary ROW for each type of trail during construction and for long term maintenance.

Trail Type		Trail Rating	Temporary Construction Easement Corridor	Permanent Maintenance ROW Corridor
Existing Roads	(including ATV)	N/A	N/A	Existing width
Existing Animal Trails		N/A	4'	4'
New Routes				
		Green	50'	12'
		Blue	50'	10'
		Black	50'	8'
		Double Black	50'	8'

Figure 3.1 ROW Widths

- No construction for recreational trail use will occur on existing roads
- Final Trail ROW’s would include the trail tread, travel corridor, plus 4 ‘on either side of the center line (OC) for possible maintenance reroutes or TTFs (alternative lines) to be developed. (see Figure 2.4)

B. Construction Standards

Trails shall not exceed those specified per figure 3.1 for each trails rating.

i. Corridor Width

Trail Type	Trail Rating	Trail Use	Trail Corridor	Tread Width
Existing Road (Including ATV)	N/A	ALL	Existing width	Existing Width
Existing Animal Trails	N/A	ALL	3'	Existing Width
New Routes	Green	Bike	5'	24"-42"
		Horse	10'	48"-60"
	Blue	Bike	4'	24"-30"
		Horse	6'	36"-48"
	Black	Bike	3'-4'	18"-30"
	Double Black	Bike	2 ^{1/2} '-4'	18"-24"

ii. Sustainable Trail Construction

- a. Trails rated intermediate to Extreme could include TTF's (technical trail features).
- b. Trails will be constructed using the "Guidelines for Sustainable Trails" and "Best Practices techniques" as set forth by American Trails.org.
<http://www.americantrails.org/resources/trailbuilding/index.html>
- c. Other resources for Best Practices:
 - i. Desert Trails Design Manual <http://swtrailsolutions.com/wp-content/uploads/2015/10/Desert-Design-Manual-Sm.pdf>
 - ii. Whistler Trail Standards. Although a mountain bike trail standard manual, the techniques for environmental sustainability are proven for any hand built trail.
http://www.mbta.ca/assets/pdfs/trail_standards_first_edition.pdf
 - iii. Introduction to Basic Trail Maintenance, California State Parks Training Guide. Frank Padillia Jr. and Kurt Lohiet, 1999
 - iv. Trail Management: Plans, Projects, People. BLM NTC course module 8300-17
 - v. Trail Solutions: IMBA's Guide to Building Sweet Singletrack. International Mountain Bicycling Association, 2004

iii. Standard Construction Terms

Standard Trail Features

1. Partial Bench Cut: Refers to an excavated cross slope. Used on hill sides with a gradual cross slope to help.
2. Full Bench Cut: Refers to excavating a very steep cross slope. Never toss excess material down slope. Haul out or disperse on the tread.
3. Side Slope Gradient: Cross slope.
4. Climbing Turns: used for bike and horses with a control point for moderate grade changes.
5. Switch backs: used for steep grade changes only when terrain or land boundaries dictate. These are preferred for hikers. Avoid stacking switchbacks one on top of the other.
6. Tread: The actual size of the dirt foot print.
7. Outslope: Refers to the down slope part of the tread that helps to shed water from the trail.



8. Trail Corridor: the space around a person so that they can move comfortably along the trail without impediments. Minimum clear width:

- Bikes: 4' wide, 8' high
- Horses: 6' wide, 12' high
- Hikers: 2' wide. 7' high

9. Control Devices

- Rock Lining: Rocks should NEVER be used to line a trail to control use or define the trail. Rocks which are placed on the down slope of a trail can inhibit proper trail drainage and lead to trail tread erosion.
- Obstacles: Obstacles may be placed in the tread or alongside to control speeds and increase technical challenge.

10. Drainage

- Rolling Grade Dips: should be used in all erosion control situations.
- Water Bars: This erosion control device should NEVER be used as a drainage device on SCRR trails. They are unsustainable in a desert environment.
- Check Dams: Should NEVER be used on trails but can be used to rehabilitate fall line trails with steep grades.

11. Layout and Design

- Reconnaissance: understanding the full landscape before the flagging process occurs.
- Flag Line: The proposed trail route.
- Control Point: minor feature in the landscape of interest to bring the trail to or around.
- Node: Major connecting point in a trail system. Usually a major intersection of point of interest.
- Contour: The landscape line that a trail should follow.

12. Construction Qualifications

- Training and experience: All trail workers should have a minimum course in general trail construction and maintenance. Construction should be supervised by a trail expert with experience on non-motorized hand-built trails.
- Trail should be laid out by a landscape architect or other design professional to assure sustainability of each route.

“The best trail systems strike a balance between protecting resources and providing recreation. A well-balanced contour trail system takes people into nature while safeguarding the environment. Techniques for design, construction, and maintenance constantly evolve, but the goal is always the same: Build trails that are sustainable and appealing.” IMBA 2004

C. Maintenance Actions

Trail maintenance will be performed by Trails-OV as trail stewards and volunteers as set forth in a MOU or CMA and as needed based on the baseline set forth in the monitoring plan (Section 4.B).

Maintenance techniques would be based on best practices for trail maintenance as set for by IMBA, American Trails, and BLM NTC trail management protocol.

Maintenance techniques use the same sustainable principles that would be followed for trail construction.

D. Signage Plan

i. Sign Types

The following types of signage could be used to convey rules, regulations, and trail information to users.

- Kiosk –
 - Provides area map, ethics, rules and regulations and education information in text and picture format.
 - Locate at trail heads. (not part of this master plan)
- Trail Signs –
 - Provides trail name, mileage, allowed uses, difficulty rating.
 - Locate at the start of a new trail or trail junction.
- Assurance Signs -
 - Place at minor junctions.
 - Place at animal trail crossings.
 - Provide trail name and system name.
 - Locate near a possible spur trails to keep users on a designated route.
 - Locate on stretches of trail longer than ½ mile
 - As spur trails begin to rehabilitate, assurance signs can be reduced or eliminated to reduce sign clutter.
- Regulatory Signs –
 - Reinforce rules or etiquette found on kiosk sign.
 - Used as a strong control measure - examples:
 - No Motorized Vehicles on Trail
 - No Travel Beyond this Point
 - Stay on Designated Trails
 - One way travel
 - Located at gates or trail ends.
- Rehabilitation Signs –

- Located on scars that are in the process of recovery.
- Provide information to stay off a section of land.
- Can be reduced or eliminated as scars heal.

ii. Sign Design

This page shows the standard sign decals for difficulty ratings, users, and direction symbol and the appropriate arrangement.

Signs are made of Poly flex material in BLM Brown. All standard catalog decals are BLM approved standard signs.

- Trail sign posts are 52-83” tall and 3.25 inches wide. Decals are reflective standard 3 x 3.
- Assurance and Rehabilitation signs are 27inches tall and 3.25 inches wide.
- These can be purchased though Rock Art Signs or Carsonite.

TRAIL SIGNS



System Logo
 Difficulty Rating
 Trail Length
 Recommended Users
 Direction
 Trail Name
 Designation if one
 Land Manager

ASSURANCE SIGNS



System Logo (example)
 Difficulty Rating
 (Direction if needed)
 Trail Name
 Land Manager (example)

From SGFO BLM Trail Sign Standards Manual

REHABILITATION SIGNS



System Logo (example)
 Please stay off directive

REGULATORY SIGNS



4. Trail Management

Trails could be managed jointly between the BLM and Trails-OV. Upon approval of this masterplan and approved environmental documents, an MOU or CMA could be developed for the long term management of the trails.

A. Trail Rules and Etiquette

Established rules and etiquette could be posted at trailheads and included on published trail maps and Trails-OV website.

i. Rules

1. Only approved designated uses will be allowed on trails as found in figure 2.10

ii. Etiquette (Rules of the trail published by the International Mountain Bicycling Association)

1. **Ride Open Trails:** Respect trail and road closures — ask a land manager for clarification if you are uncertain about the status of a trail. Do not trespass on private land. Obtain permits or other authorization as required. Be aware that bicycles are not permitted in areas protected as state or federal Wilderness.
2. **Leave No Trace:** Be sensitive to the dirt beneath you. Wet and muddy trails are more vulnerable to damage than dry ones. When the trail is soft, consider other riding options. This also means staying on existing trails and not creating new ones. Don't cut switchbacks. Be sure to pack out at least as much as you pack in.
3. **Control Your Bicycle:** Inattention for even a moment could put yourself and others at risk. Obey all bicycle speed regulations and recommendations, and ride within your limits.
4. **Yield Appropriately:** Do your utmost to let your fellow trail users know you're coming — a friendly greeting or bell ring are good methods. Try to anticipate other trail users as you ride around corners. *Bicyclists should yield to other non-motorized trail users, unless the trail is clearly signed for bike-preferred travel. Bicyclists traveling downhill should yield to ones headed uphill, unless the trail is clearly signed for one-way or downhill-only traffic or in cases where it would be more dangerous for a downhill rider to stop due to speed or obstacles.* In general, strive to make each pass a safe and courteous one.
5. **Never Scare Animals:** Animals are easily startled by an unannounced approach, a sudden movement or a loud noise. Give animals enough room and time to adjust to you. When passing horses, use special care and follow directions from the horseback riders (ask if uncertain). Running cattle and disturbing wildlife are serious offenses.
6. **Plan Ahead:** Know your equipment, your ability and the area in which you are riding and prepare accordingly. Strive to be self-sufficient: keep your equipment in good repair and carry necessary supplies for changes in weather or other conditions. Always wear a helmet and appropriate safety gear.

B. Monitoring

As part of a BLM recreation program, routine monitoring of recreation facilities should be conducted. In the absence of a full recreation staff, TRAIL –OV could provide volunteer monitoring services and report findings to the BLM.

- a) Types of Monitoring
 - i) **User Days:** The most basic type of monitoring. Counting user days will help land managers know how many people are using a trail. This data can then be translated into management decisions for events or seasonal closure. The data can also be used to project economic benefits to the area.
 - (1) **Track users at trailhead registers or electronic trail counters**
 - ii) **User Impacts:** This type of monitoring will be most needed on the “existing animal trails”, since they were not designed specifically for recreation use. Impacts might include erosion, trail cutting, downed signs, or other safety concerns.
 - (1) **Schedule yearly monitoring of trails after heavy use periods or significant weather episodes.**
 - iii) **Use Experiences:** Periodic research can be conducted to assess if the recreation facilities are meeting the needs of the users.
 - (1) Engage Universities to do on site studies
 - (2) Conduction periodic on-line surveys.
- b) Actions: This is a list of possible actions that might be adopted if adverse conditions are found during monitoring.
 - i) Types of Restrictions based on monitoring
 - (1) Increase signage
 - (2) Increase volunteer or LEO patrols
 - (3) Change allowed users groups
 - (4) Designate trails as directions only
 - (5) Establish seasonal Closures
 - (6) Develop new trails to disburse use
 - (7) Close or rehab spur trails
 - (8) Close Trails

C. User Safety

- a. Always display the length and difficulty of trail at trailheads, on trail signs and in brochures so users can be prepared and find the experience that is right for their skill level.
- b. Post “Standard” mountain bike and outdoor safety principals at trailheads and brochures.
 - i. Stay hydrated
 - ii. Bring plenty of high energy food
 - iii. Know your limits

- iv. Control your speed
 - v. Carry a first aid kit
 - vi. Closest Clinic location
 - vii. Call 911
- c. Schedule occasional volunteer “Mountain Bike Patrols” by trails first responders on high capacity days.

D. Special Recreation Permits

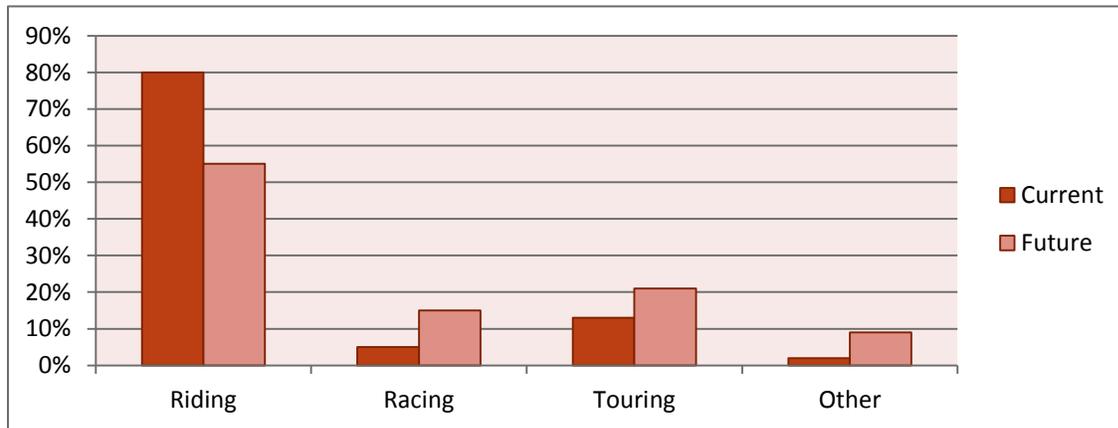
The issuance of a Special Recreation Permit (SRP) is required for any commercial, competitive, or large group activity.

- Per (43 U.S.C. 1201; 43 U.S.C. 1701; 16 U.S.C. 460L-6(a); and 43 CFR 2930) Standard Stipulations for all activities will apply
- Per this NEPA document, additional stipulations may be established by trail or region.
- Per 43 CFR § 2392.26 (a)-(g) All SRP applications must be received a minimum of 180 days prior to the event date using Form 2930-1 (January 2014) available on-line in a fillable application or from the TFO.

http://www.blm.gov/nm/st/en/prog/recreation/special_recreation.html

i. Projected Use Demand

It is projected that as more trails are established the demand for commercial and competitive use will increase over the next 10 years. Figure 4.3 shows how commercial and competitive use will likely comprise 50% of all yearly trail use on the Beatty area trails by 2027.



Riding= casual riding with friends, Racing =Organized events, Touring =guide led rides, Other =hiking and trail running

Figure 4.3 Projected Demands

Further, it is projected that the largest segment of commercial use will come from outfitters and guides who will lead large groups on single or multiple day outings.

ii. Commercial Use and Limits

Setting limits on the number of commercial permits that can be issued on any day will help assure the trail carrying capacity is not exceeded and that user expectation will remain satisfied for the general public.

All trails will be available for commercial use such as guided tours, training clinics, or large group gatherings with the following limitations:

- Maximum Group Size- 20: Groups larger than 20 should have separate guides and space rides at least 30 minutes apart.
- Maximum use per day: No more than 5 commercial tours should be done on a single trail in a given day with the following exceptions –
 - On roads or ATV trails wider than 4'

iii. Competitive Use and Limits

All trails will be available for competitive use events with participant limits set based on the trail management rating and the trail tread width. This will assure minimized trail damage, trail braiding, and participant injury.

Type of Event		Gravel Road	Green Single Track	Blue Single Track	Black Single Track	Double Black Single Track
Point to point						
	Running	No limit	2000	2000	500	100
	Biking	No Limit	2000	2000	500	100
Lap Race						
	Running	5000	1000	600	250	n/a
	Biking	5000	1000	600	250	n/a

* In a point to point race, participants only race any portion of the course 1 time. These could include Grand Fondo’s, cross country or marathon races, Enduros, Hill climbs, or Down Hill races.

*In a lap race participants will race over the same course multiple times. Examples are cyclocross races, 6, 12 or 24 hours races, or short course cross country races such as NICA (National Interscholastic Cycling Association) events.

*Other race formats may be desired and would have to be evaluated on a case by case basis

- Competitive events should be held with exclusive use for the safety of the racers and general public. Permittee should be required to maintain a closed course.
- Large point to point events can control impacts by having wave starting times
- Limits may increase after years 1 and 5 upon a successfully executed event.



Example of large trail events.

5. Budget and Funding

A. Budget

The projected expenses for design and construction of the proposed trail system do not include unknown site specific improvements such as cattle grates, maps, or maintenance.

The budget also does not include the costs to produce this master planning or the environmental documents and studies.

Table 5.1 was produced using the following cost estimates:

- Signage \$100 per mile
- Existing trails - \$300 per mile

New Construction (Flag line and construction)

- Green Trails - \$3300 per mile
- Blue Trails - \$5500 per mile
- Black trails -\$6700 per mile

Images of trail building, signs, and cattle grates



Figure 5.1 – Trail Building Budget by trail type

Trail_name	Trail Rating	Miles	Route	Cost	Notes
Beatty Wash Road - Lower	Green	2.2612	Existing Road	\$ 226.12	#1
Beatty Wash Road - Upper	Blue	3.4362	Existing Road	\$ 343.62	#1
Canteen Trail	Green	0.6501	Existing Road	\$ -	#2
Horsehair Loop	Green	6.835	Existing Road	\$ 683.50	#1
Indian Springs Road	Green	4.4348	Existing Road	\$ 443.48	#1
Indian Springs to Beatty	Green	2.84	Existing Road	\$ 284.00	#1
Palomino Way	Green	0.4636	Existing Road	\$ 46.36	#1
Plutonium Loop	Green	0.5923	Existing Road	\$ -	#2
Plutonium Ridge Cut-Off	Green	0.0609	Existing Road	\$ -	#2
Southpond Mountain - BLM-1	Blue	0.0662	Existing Road	\$ -	#2
Southpond Mountain - BLM-2	Blue	0.0301	Existing Road	\$ -	#2
The Mane and Trail - A & B	Green	4.4776	Existing Road	\$ 447.76	#1
Windmill Road	Green	10.1195	Existing Road	\$ -	#2
36.2675				\$2,474.84	
Trail_name	Trail Rating	Miles	Route	Cost	Notes
Brads Screamer	Blue	1.0066	Existing Trail	\$ 402.64	#3
Canteen Trail	Blue	3.6145	Existing Trail	\$ -	#2
Dominatrix	Blue	4.13	Existing Trail	\$ 1,652.00	#3
Dynamite Trail - BLM	Blue	0.0256	Existing Trail	\$ -	#2
Horsehair Loop	Green	0.4197	Existing Trail	\$ 167.88	#3
Junction Loop Trail	Green	2.7353	Existing Trail	\$ -	#2
Lariat Loop	Green/Blue	3.4679	Existing Trail	\$ 1,387.16	#3
Plutonium Loop	Blue	8.5528	Existing Trail	\$ -	#2
Ridgeline Trail	Blue	2.79	Existing Trail	\$ -	#2
Southgate Trail	Blue	0.8074	Existing Trail	\$ 322.96	#3
Spicer Ranch Trail - BLM	Green	0.1558	Existing Trail	\$ -	#2
Spur Trail /B	Green	1.1648	Existing Trail	\$ -	#2
Stirrup Trail	Green	2.3757	Existing Trail	\$ -	#2
Stirrup Trail - B	Green	0.2216	Existing Trail	\$ -	#2
Storm Trail - BLM	Green	0.0799	Existing Trail	\$ -	#2
Torrance Ranch	Green	0.602	Existing Trail	\$ 230.00	#3
Transvaal Trail	Green	0.3649	Existing Trail	\$ 145.96	#3
32.5145				\$4,309	
Trail_name		Miles	Route		
Beatty Loop & Connectors	Blue/Black	7.9824	Proposed Route	\$ 49,491.00	#4
Beauty Queen	Blue	1.8258	Proposed Route	\$ 10,041.90	#4
Burton Hill Trail	Blue	5.0462	Proposed Route	\$ 27,754.10	#4
Sober-Up	Blue	5.9326	Proposed Route	\$ 32,629.30	#4
Southpond Mountain EX - new	Blue	0.992	Proposed Route	\$ 5,456.00	#4
Two Toads Connect	Blue	0.0755	Proposed Route	\$ 415.25	#4
Two Toads Trail	Black	5.9194	Proposed Route	\$ 39,659.98	#4
Whiskey Run	Blue	4.4141	Proposed Route	\$ 24,277.55	#4
32.188				\$189,725	
Total Project Cost				\$196,508.52	

1. Cost is for trail signage only
2. Previously Approved for Signage, no improvements necessary
3. Inventory route for maintenance, clear loose rocks, and signage
4. Flag line, archeological review, construction, and signage

B. Funding

i. Cooperative Agreements and MOU's

Cooperative agreements may be entered into as a tool that can be used by the Bureau of Land Management to share funding and reduce accounting and procurement costs. Agreements will be drafted for each stage of implementation and long-term maintenance

ii. Volunteers

Volunteers, including the AmeriCorp teams, will be welcomed and needed through all stages of development. All volunteers working for Trails -OV should be under a Federal BLM Volunteer Agreement [Form 11 14-10](#) (January 2001) before doing work on Public Lands.

AmeriCorps is a federally subsidized program that provides young volunteers to a community for a period of 4-10 weeks. Communities typically must provide adequate housing and other support service for the teams.

The American Conservation Experience or ACE is another program that can provide volunteer labor grants for trail construction. Both of these services are commonly used for trail projects in the west.

iii. Donations

Trails-OV has already received \$150,000 in donations from private donors, trail users, and members of the Beatty community to offset the costs of planning, environmental clearances. In addition, Trails-OV has secured an additional \$85,000 toward the trails and trails head infrastructure on the Spice Ranch. There is a donation box set up at the Spicer Ranch trail head to receive donations from trail riders. Trails-OV also receives additional donations during festival events held twice yearly.

See a full list of donors: <http://trails-ov.org/partners/>

It is anticipated Trails-OV will continue to raise a portion of the required funds from donations.

iv. Grant Programs

There are many grant programs that can help with the cost of trail building. Major grant programs and their weblinks are listed here for reference.

Americorp : <http://www.nationalservice.gov/build-your-capacity/grants>

Bikes Belong: <http://www.peopleforbikes.org/pages/community-grants>

Nevada State Recreational Trails Program: <http://parks.nv.gov/trails/>

Powerbar INC DIRT Grants <http://www.americantrails.org/resources/funding/DIRTfund.html>

IMBA : <https://www.imba.com/resources-grants/imba-small-grants-program>

6. Adaptive Management

A. Adaptive Management

Adaptive management means that this plan acknowledges that the world changes; new proposals for land uses come in, technology changes, and recreation use changes. Land Managers and partners should have the flexibility to adjust trail alignments as needed to deal with a host of issue.

BLM Trail ROW's would have first priority in the case of future multi-use applications and requests.

Possible actions in the case of conflict

- -Reroute trail sections around new use
- -Relocate trail at new use expense
- -Find alternative location for new proposed use

B. Future Phasing

The goal of this Master Plan is to identify initial trail corridors and usable routes to submit to the BLM to be analyzed for designation as recreational trails. In addition, the Master Plan will set the frame work for construction of facilities, long term management of trails, signage, limits and stipulations for events and commercial permitting, and funding opportunities. By starting with this manageable plan, it will allow for analysis over the next several years to justify the viability of the mountain biking trail system expanding. This framework could be adopted for future trail proposals.

The ultimate goal is to have 300 miles or more in trails and a system of trails and existing roads to be used for events.

VISION for the FUTURE



To become a model of joint federal and community efforts in establishing a recreational trail system that encourages appreciation of historical and ecological values while building a new economic future for the region.

All paths lead nowhere, so it is important to choose a path that has heart. CARLOS CASTANEDA,
THE TEACHINGS OF Don Juan, 1969

Appendix A: Summary of Planning and Public Outreach

Public Meetings Summaries

November 11, 2014 Beatty Town Meeting

<http://trails-ov.org/2014/05/31/how-to-make-beatty-a-recreation-destination/>

December 16, 2014 First Scoping Meeting and Field tour

<http://trails-ov.org/2014/12/08/public-invited-to-first-scoping-meeting/>

<http://trails-ov.org/2014/12/16/12-16-field-study-agenda/>

<http://trails-ov.org/2014/09/16/ov-launches-trail-project/>

December 14, 2015 Outreach meeting with Nevada Partners

<http://trails-ov.org/2016/01/31/stake-holder-meeting-december-14-2015/>

Letters of Support

Trails- OV has received several letters of support from municipal, environmental, other government agencies and major industry leaders for this project. Complete copies of each letter can be found on the official project website <http://trails-ov.org/partners/>

- Town of Beatty
- Barrick Gold Mines
- The Nature Conservancy
- Valley Electric

You can also follow the support from the public on the trail facebook page

<https://www.facebook.com/TrailsOV/>

Once an official EA number and ENB number are assigned to the project by the BLM, the public will be asked to also provide formal comment.

BLM –MOU's

Memorandum of Understanding Between BLM and Trails-OV

BLM –NV-MOU-NVB0600-2015-015 for Beatty Trail System

Read the full document <http://trails-ov.org/wp-content/uploads/2015/07/Blm-Memorandum-of-Understanding-scanned-signed-7-29-15.pdf>

BLM-NV-MOU-NVB0600-2016-001 for Public Safety Signage

Read the full document <http://trails-ov.org/2016/01/23/blm-approves-trail-signage-plan/>

Appendix B: Acronyms and Definitions

Acronyms

ADA – Americans with Disabilities Act

ATV – All-Terrain Vehicle

BLM – Bureau of Land Management

BBM – Benefits Based Management

CMA – Cooperative Management Agreement

DWR – Division of Wildlife Resources

EA- Environmental Assessment

ENB – Environmental Bulletin Board

KOP – Key Observation Point

LNT – Leave No Trace

MOU- Memorandum of Understanding

NPS – National Park Service

OHV – Off-Highway Vehicle

R&PP – Recreation and Public Purposes Act

ROS – Recreation Opportunity Spectrum

RMP – Resource Management Plan

SPR – Special Recreation Permit

USGS – United States Geologic Survey

VRM – Visual Resource Management

Definitions

Vehicle – refers to motorized vehicles including cars, trucks, ATVs, and motorcycles.

Non-Motorized User – refers to human powered wheeled devices, foot travel, or pack animal use.

Appendix C: Benefits Based Management

Carrying Capacity

The concept of carrying capacity as it relates to recreational settings is important to consider as part of the planning process. The concept originally advocated that it is possible to distinguish minimum, maximum, and optimum capacity numbers for an area. This tendency to set limits or create a “magic number” focuses management and design decisions on quantitative attributes and negates the qualitative ones. However, there is a difference between density and crowding. This idea suggests that instead of allowing for “maximum capacity”, a more complex balance of psychological attributes related to experience, expectations, and the physical environment should be met.

Social carrying capacity is not static. It can change over time as user populations, expectations, or preferences change. The tolerance for crowding in relation to quality of experience varies among individuals but in general is much larger for those anticipating an urban experience than for persons seeking wilderness solitude. Conversely, it should be anticipated that as an area matures, gains an identity, and becomes accessible, that its densities will also increase. Planning, design, and management should therefore respond to these anticipated larger numbers and future desired conditions and not develop or promote an experience that will soon cause conflict management problems.

In addition, because people do have different experience preferences and many times design and management strategies can be different for different behaviors, planning should identify management zones that can respond to these anticipated expectations. The conceptual framework behind land-based zoning prompts planners to inventory every acre of land for opportunities based on five indicator criteria to the setting: remoteness, size of the area, evidence of humans or proximity to urbanization, anticipated user densities, and the amount and noticeability of managerial regimentation or control (Buist and Hoots 1982).

User Group Expectations

Historically, recreation has been defined as human behavior of participation in a designated activity at a particular site or location. Examples are camping at a particular site and driving on a specific scenic highway. Thus, recreation was considered a human behavior in the same sense as spelling or sleeping. Little managerial attention was directed to why such a behavior was chosen or how it positively and negatively impacted the recreationist. Recently, this orientation has changed. Known as “Benefits- Based-Management” (BBM), this idea focuses management on optimizing personal beneficial outcomes (Cordell 1999). For outdoor recreation, this broader array of beneficial outcomes includes:

- Nature-based spiritual renewal and wellness
- Psychological attachment to special places
- Appreciation of early American landscapes
- Use of heritage and historic resources not only for better understanding of the evolution of a culture or subculture, but also for maintenance of particular ethnic identities
- Strategically programming leisure services as a social intervention or change agent for a desired behavioral outcome
- Through tourism help stabilize the economy of a local community

To succeed at BBM a leisure policy planner must: 1) understand what benefits are associated with an activity that is provided; 2) decide what benefits opportunities will be provided; 3) articulate why particular benefits opportunities were chosen; and 4) understand how to plan, design, and manage a setting to deliver those opportunities (Cordell, 1999).

Conflict arises when members of one group perceive that the behavior of a second group interferes with their ability to achieve desired experience goals. Compatible uses may be categorized as passive or active. Mountain biking or hiking may be compatible with passive activities such as picnicking, but not with bird watching.

Furthermore, there are two types of user categories within a specified activity: specialists (associate themselves with the sport, intense skill, custom equipment, choose an area for reputation or challenge) and generalists (first timers or beginning skill level, more often participating because of scenic value of place or social values).

Preferences may differ and conflict may occur within any specific activity (i.e. hiking, mountain biking) because user group goals and experience expectations may be different. In addition, persons involved in high intensity activities desire fewer amenities and demand a greater degree of solitude. Conflict and management problems occur when these differences are not recognized. Separating or limiting uses is one way to reduce conflicts in a recreation area.

Zoning Trails – Preferred Use

The trend for trail management over the last 20 years for the Bureau of Land Management, the National Forest Service, and many municipalities has been “multiple-use.” This was true unless a user group was eliminated either by area designation, i.e. wilderness, or terrain. This was true, as well, because management practices focused on regions rather than trails, and on resources rather than human experience. On many public lands use numbers were low, trails were user created, and conflict encounters were rare. As use increased and trails were named and mapped, this process has created human conflict and increased resource damage. Trails advocates moved out and began creating even more trails as the goals and experience that the original trails were designed for were not supported by management practices. However, today these lands and

resources are at the edge the urban interface for many gateway communities and the trend for trails management is shifting from a “Multiple-use” focus to one of “Preferred use.”

This idea considers the landscape terrain, soils, and other environmental conditions along with the desired experience of various users, makes an up-front design decision about trail designation to balance use and conflict, and establishes goals and objectives by which these trails will be managed. The outcome of the process may create several “single use” trails rather than one multiple-use trail. It also aims at balancing novice trails with expert trails to achieve a higher level of user satisfaction and to avoid the “sanitation” of trails to accommodate increased use.

With a stacked loop system, the first 4-5 miles might be easy terrain and wide enough for passing or double wide travel. This may lead to a second loop that is longer, narrower and offers additional challenge. One spur off this trail may be just for equestrians, and lead to a particular water hole or scenic overlook; another spur might be just for mountain bikers and have technical terrain over rock obstacles; and a third spur may lead down into a steep canyon and be only for hikers and climbers. Then each of these groups would join back up for a joint return trip during the last two miles of the journey. The Inter-connection system is similar, but aims to get all groups out to a single point or overlook via an out-and-back trail. The spurs and loops take off from various points on the stem and return to the stem. Both systems would allow for users to customize their outing to accommodate personal desired experience outcome and skill level.

ZONE BENEFITS	Community	Personal	Household	Economic	Environnemental
Zone 1 Urban-Recreation <i>None in Plan</i>	1. Enjoying a walkable community 2. Feeling like the community is a special place 3. Celebrating cultural heritage and educating others about the past 4. Preserving traditional landscape views 5. Linking change and growth	1. Enjoying getting needed physical exercise 2. Improved skills for outdoor enjoyment with others	1. Reduced trips by automobile 2. Safer neighborhood environment 3. Larger zone for youth to explore 4. Relaxing with family and friends	1. Increased property values 2. Increased tourism 3. Increased tax revenues 4. Maintenance of community 5. Distinctive recreation-tourism niche 6. Increased desire to live or retire	1. Improved maintenance of physical facilities 2. Greater retention of community distinction 3. Reduced human impacts of unplanned trails, trampling, and litter 4. Greater protection of fish, wildlife, and water quality

ZONE BENEFITS	Community	Personal	Household	Economic	Environnemental
<p>Zone 2</p> <p><i>Rural Motorized</i></p> <p><i>Areas around Beatty and Spicer Ranch</i></p>	<p>1. Feeling good about how visitors are being managed</p>	<p>1. Enlarge sense of personal accountability for acting responsibly on public lands</p>	<p>1. Greater family bonding</p>	<p>1.Support of local retail</p>	<p>1. Reduced human impacts of unplanned trails, trampling, and litter</p>
<p>Zone 3</p> <p>0 Acres</p> <p><i>Urban Protection</i></p> <p><i>None in Plan</i></p>	<p>1. Celebrating cultural heritage and educating others about the past</p> <p>2. Preserving traditional landscape views</p> <p>3. Feeling good about how visitors are being managed</p> <p>4. Feeling good about how natural resources are being protected</p>	<p>1. An improved stewardship ethic towards adjoining lands</p> <p>2. Improved understanding of community dependence and impact on public lands</p> <p>3. Enjoying access to hands on learning</p> <p>4. Contemplating man’s relationship with the land</p>	<p>1. Enjoy teaching others about the area</p> <p>2. Heightened sense of satisfaction with our community</p> <p>3. Greater household awareness of and appreciation for our cultural heritage and diversity</p> <p>4. Less juvenile delinquency</p>	<p>1. Increased property values</p> <p>2. Increased tourism</p> <p>3. Increased tax revenues</p> <p>4. Maintenance of community distinctive recreation-tourism niche</p>	<p>1. Greater retention of community distinction</p> <p>2. Reduced looting & vandalism of historic/prehistoric sites</p> <p>3. Greater protection of area historic structures and archeological sites</p> <p>4. Reduced human impacts of unplanned trails, trampling, and litter</p> <p>5. Improved care for community aesthetics</p>
<p>Zone 4</p> <p><i>Backcountry Recreation</i></p> <p><i>Remote Areas of Transvaal/Beatty Wash and the Silica Mine</i></p>	<p>1. Nurturing spiritual values and growth</p> <p>2. Knowing this attraction is near the community</p>	<p>1. Shaping one’s own spiritual values</p> <p>2. Developing a great understanding of the outdoors</p> <p>3. Contemplating man’s relationship with the land</p>	<p>1. Enlarged sense of community dependency on public lands</p>	<p>1. Increased property values</p> <p>2. Increased tourism</p> <p>3. Support local retail/outfitters</p> <p>4. Diversify economic base</p> <p>5. Increased desire to live or retire</p>	<p>1. Maintenance of distinctive recreation setting character</p> <p>2. Reduced human impacts of unplanned trails, trampling, and litter</p>
<p>Zone 5</p> <p>0 Acres</p> <p><i>Backcountry Protection Wilderness</i></p> <p><i>None in Plan</i></p>	<p>1. Feeling good about how visitors are being managed</p> <p>2. Feeling good about how natural resources are being protected</p>	<p>1. Testing endurance</p> <p>2. Gaining self confidence</p> <p>3. Getting away from town</p> <p>4. Savoring the sights and sounds of the land</p> <p>5. Exploring alone</p>	<p>1. Adopting environmental ethics as family values</p> <p>2. Exploring the wonderment of nature together.</p>	<p>1. Increased tourism</p> <p>2. Support local retail/outfitters</p> <p>3. Diversify economic base</p>	<p>1. Conservation of sustainable ecosystem</p> <p>2. Reduced human impacts of unplanned trails, trampling, and litter</p>