LA TIERRA TRAILS

TRAILS MASTER PLAN

MASTER PLAN + DESIGN GUIDELINES

produced for the City of Santa Fe

design office . Wilson & Company, Inc. . Donald Hays Trail Contractor, Inc.

AUGUST 2011

LA TIERRA TRAILS

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PLANNING TEAM

Wilson & Company, Civil Engineering
Mario Infante-Juarez
Tyler Ashton
James Lopez

Design Office, Planning, Public Facilitation
Claudia Meyer Horn
Emily Oaksford

Donald Hays Trail Contractor, Inc., Trail Surveyor
Donald Hays
Susan Harris

CITY OF SANTA FE

Robert Romero, City Manager

Public Works Department
Isaac Pino, Director
Eric Martinez, Division Director, Roadway & Trails Engineering Division
Leroy Pacheco, Project Manager, Engineer, Roadway & Trails Engineering Division
Bob Siqueiros, BTAC Coordinator

Parks Department
Fabian Chavez, Director
Barbara Lopez, Special Events Administrator

Santa Fe Metropolitan Planning Organization
Keith Wilson, Senior Planner
Tim Rogers, Pedestrian + Bicycling Consultant

Land Use Department
Matt O'Reilly, Director
Tamara Baer, Planning Manager
Wendy Blackwell, Technical Review Division Director

City Attorney's Office
Kelley Brennan
Judith Amer
Ed Vigil

Sangre de Cristo Water Department
Bryan Snyder, Director
Michael Gonzales
Donnie Salazar

Martin Valdez, Engineering Department
David Rasch, Department of Historic Preservation
Captain Anthony Robbins, Police Department
Fire Marshal Angelo Ortega, Fire Department

COUNTY OF SANTA FE

Colleen Baker, Program Manager, Open Space & Trails Department
Beth Mills, Planner, Open Space & Trails Department
Andrew Jandacek, Transportation Planner, Land Use Department

OTHER AGENCIES

New Mexico Department of Transportation
Phil Gallegos, Deputy District 5 Engineer
Will Montoyas, District 5 Engineer
Anne McLaughlin, Strategic Planning Bureau Chief, Mid-Region MPO
Gweneth Duncan, Environmental Analyst, Human & Natural Resources

Santa Fe National Forest
Miles Standish, Recreation Staff
Jennifer Sublett, Volunteer Coordinator

Army Corps of Engineers
William Oberle, Regulatory Division

CITY COUNCIL + OVERSEEING COMMITTEE

Mayor of Santa Fe
David Coss

Santa Fe City Council
Patti Bushee, District 1
Chris Calvert , District 1
Rosemary Romero, District 2
Rebecca Wurzburger, District 2, Mayor Pro Tem
Miguel Chavez, District 3
Carmichael Dominguez, District 3
Matthew E. Ortiz, District 4
Ronald S. Trujillo, District 4

Bicycle and Trails Advisory Committee
Councilor Patti Bushee, District 1
Gretchen Grogan
Frank Herdman
John Longworth
Alicia Martinez
Lisa Miles
James Ronald Pacheco
Tomas Rivera
Shelley Robinson

OTHER COMMITTEES + COMMISSIONS

Archaeological Review Committee
Finance Committee
Parks and Open Space Advisory Commission
Public Works CIP & Land Use Committee

SANTA FE SCHOOL BOARD OF EDUCATION

Bobbie Gutierrez, Superintendent

Steven J. Carrillo, Member, District 1
Glenn Wikle, Vice-President, District 2
Barbara Gudwin, President, District 3
Linda Trujillo, Secretary, District 4
Frank Montano, Member, District 5

Kristy Janda Wagner, Chief Operations Officer
Justin Snyder, Property Manager

STAKEHOLDERS AND INTEREST GROUPS

Santa Fe Estates
Dave Gurule, Property Manager

Unity Church of Santa Fe
Brendalyn Batchelor
Sparo Vigil
Bob Young

Interest Groups
Back Country Horsemen of New Mexico
Bill Neuwirth, Ecologist
La Ti Dogs
La Tierra Torture Race
Northern New Mexico Horsemen's Association
Pedal Queens
Santa Fe Conservation Trust
Santa Fe Fat Tire Society
Santa Fe Trails Alliance

FOCUS GROUP MEMBERS

Hikers / Dog-walkers
Margaret Alexander
Bill Burleson
Bruce Cunningham
Natalie Cunningham
Jarrett Cowden
Cynthia Fischer
Kurt Fischer
Lois Goodman
Frank Herdman
Arabelle Luckhardt
Arvid Lundy
Milan Zeman

Equestrians
Alison Amann
Lynn Bjorklund
Joyce Davis
Howard Gershon
Carolyn Hansen
Trish Hug
Lonnie Seidl
Margaret Henkels
Gus Jolley
Lynda Larsen
Nick Martinez
Jennifer Sublett
Miles Standish
Betsy Walker
Irene Webb

BMX / Freeride Bikers
Robert Baca
Duke Bradley
Michael Bishop
Daniel Coriz
Derek Dorame
Garret Gatlin
Shawn Hadlock
Josh Morris
Ed Strang
Rich Strang
Daniel Vandygriff
Joe Vandygriff
Andres Velasco
Jason Wright

Mountain Bikers
Brent Bonwell
Tom Buscher
John Connell
Cat Downing
Andrew Erdman
Tony Ferarr
Gerardo Garcia
Louie Gonzales
Gretchen Grogan
Shari Heier
Frank Herdman
Andrew Hubbard
Jennifer Hubbard
Dan Knobeloch
Mickey Fong
Daniel Gresham
Gary Johnson
Charlie O'Leary
Lily O'Leary
Arvid Lundy
Preston Martin
Mary McIntosh
Ginny Olcott
Trish Parker
RJ Ponchione
Kate Prusack
Dominique Revelle
Grayson Schaffer
Chris Sheehan
Janine Sieja
Jennifer Steketee
Rich Strang
Dave Stanton
Bob Ward
Andrew Wright
Steven Yore

Motocross / ATV Riders
Paul Adams
Chris Carlisle
Daniel Chavez
Salomon Chavez
Salvador Chavez
Daniel Coriz
Brendan Crumm
Geoffery Crumm
Naomi Engelman
Donald Ergstrom
Gene Hayas
Scott Lee
Rudy Levick
David Lutz
Abel Maez
Manny Morales
Mike Mueller
Patrick Ortiz
Jerome Pacheco
Jon Pacheco
Russell Pack
Johnny Rodriguez
Andres Sanchez
Randy Tapia

MEETING LOCATIONS

Public Involvement Meetings
Gonzalez Elementary School
Santa Fe Community Convention Center
Unity Church of Santa Fe

Focus Group Meetings
REI
Santa Fe Public Library
Whole Foods

EXECUTIVE SUMMARY

The La Tierra Trails offers a unique addition to the City of Santa Fe's already diverse and sought-after outdoor recreational opportunities. Located on ca. 1,500 acres of public land within the city limits and only three miles from the downtown plaza, the 25+ miles of recreational trails allows for a wide diversity of trail users ranging from hiker/dog-walker/trail-runner, mountain biker, equestrian, to BMX/freerider. With expansive views of the city and surrounding mountain ranges, the trails showcase the landscape and eco-region of Santa Fe's foothills.

Once located in what was considered the far limits of town, the La Tierra Trails property is now surrounded by urban and suburban development that has occurred over the last 20-30 years. Although always an open space area, the property itself, however, is not a pristine, untouched wilderness area. There has been a long history of use for illegal camping, trash dumping, firearms use, and off-road vehicle recreation. Over time, roads and trails were created to form a tangled network of paths across the land.

The La Tierra Trails Master Plan formalizes the largely existing 25+ miles of trails into a cohesive trail system with three distinct technical areas and establishes a framework for site improvements and stewardship of the trails. The plan also provides a location for the first legitimate ATV/MX park within the City limits. With the exception of this ATV/MX Park, the entire area will be off limits to motorized vehicles.

The La Tierra Trails Master Plan carefully considers both existing recreational users of the site and the existing network of paths to result in a trail system that benefits all groups and makes best use of what is already there. With the input and cooperation of existing trail users, this plan reflects best efforts to minimize conflicts and maximize the recreational enjoyment of the trails in a safe and clear manner.

The plan proposes Design Guidelines to help guide all future projects within the wilderness trails and open space area in order to uphold the Master Plan's vision of a sustainable, thriving ecosystem and recreation space. The Design Guidelines include guidelines and standards for all trail types, technical park areas, special use areas, and trailheads. A signage plan, included within the Design Guidelines complements the improved trail system by making it safe and navigable to both first-time visitors and daily users of the trails.

Stewardship and maintenance recommendations outline a series of best practices to facilitate volunteer involvement and ensure the longevity of this recreational asset.

The City of Santa Fe values open space and recreation areas and understands the importance of the La Tierra Trails. Together with the other extensive trail systems within the Santa Fe region: the Dale Ball Trails, the Cerrillos Hills State Park, and the Pecos Wilderness Area, the La Tierra Trails provides residents and visitors of Santa Fe a valued outdoor recreational area.

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INTRODUCTION

Located on 1,500 acres of City-owned land in the Northwest Quadrant of Santa Fe just three miles from the Plaza and close to many Santa Fe residents, the La Tierra Trails provides trails and areas for a diverse group of recreational trail users. Five distinct user groups (hiker/trail runner, mountain biker, equestrian, BMX/dirt jumper, ATV/MX rider) currently share this area.

As part of a thorough analysis of existing conditions of the site, data was gathered both for the existing physical conditions of the site as well as social conditions. Information was gathered on items such as land ownership, utilities, soils, land use, zoning, slopes, drainageways, etc. Digital mapping as well as on-the-ground surveying of existing trails offered insight to how the existing trails are used and their condition. A survey of perimeter access and fencing highlighted existing access and connections to the wilderness area.

A public process was conducted to gather information on existing user groups, use areas, interests, and desires. Focus meetings with user groups helped outline issues and conflicts with the existing system.

The La Tierra Trails Master Plan evaluates this information and carefully considers both existing recreational users of the site and the existing network of paths to result in a trail system that benefits all groups and makes best use of what is already there.

A. PROJECT HISTORY

PROJECT LOCATION

The La Tierra Trails area is located on a ca 1,500 acre portion of the Northwest Quadrant land in the northwestern corner of the city limits bounded by NM-599 to the south. The north and west boundaries of the site are along the City-County border, and the eastern edge is bounded by Santa Fe Estates - city-owned land that is privately-leased for residential development. (See *Figure I-1: Site Location Map*).

The most southern trailhead for the La Tierra Trails lies three miles from the downtown Santa Fe Plaza, 1.5 miles from the Santa Fe River Trail, and 2 miles from the Santa Fe Rail Trail.

HISTORY OF THE LAND

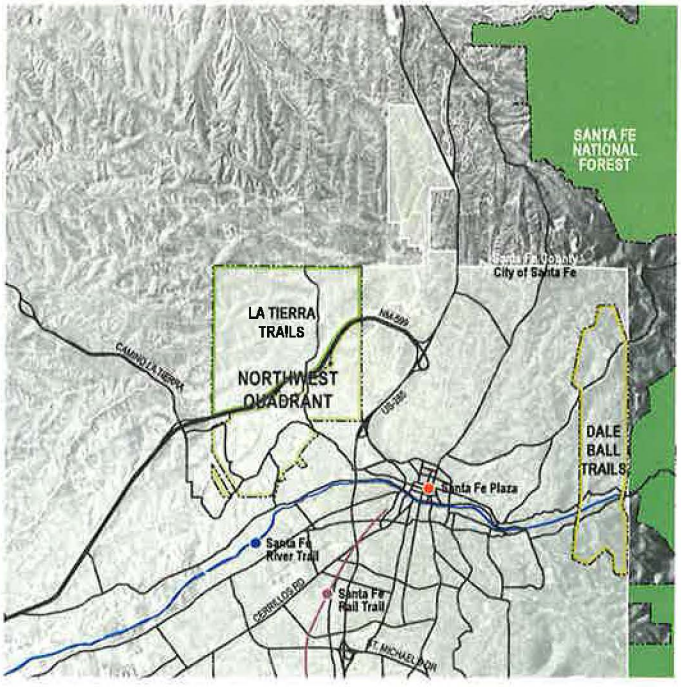
From the outset, the Northwest Quadrant land has held a place of special cultural and historical significance to Santa Fe, with its rich history and succession of occupants and owners stretching back nearly 10,000 years.

Archeological finds indicate the land was a place of settlement for early Pueblo Indians. Hundreds of years later, Spain's King Philip V included it as part of the original Santa Fe Land Grant in the early 1700's and earmarked the land for common pasture land and water.

The land transitioned from Spanish to Mexican rule in 1824 and became part of the United States in 1848. At the turn of the 19th century, land in the Northwest Quadrant not held as private property was confirmed as public land in a series of legal rulings. The land, which encompasses approximately 2,770 acres, has always been a valued asset marked by its scenic terrain, natural beauty, proximity to the city center, and its status as public land.

In the 1990's the Santa Fe Relief Route, or NM-599 was constructed through this property, bisecting the land and providing a connection between I-25 south of town and NM 84/285 north of town.

Figure I-1: Site Location Map



PROJECT HISTORY

Over time, a network of utility corridors, roads, and social trails were established on the area known as the La Tierra Trails by a variety of users. Existing recreational trail users of the La Tierra Trails include hikers, mountain bikers, BMX / freeride bikers, ATV / MX riders, and equestrian riders. While hikers, bikers, and equestrian riders use some or most of the recreational trails, the BMX / freeride bikers and ATV / MX riders have focused areas they have improved over the years with tracks and jumps requiring technical riding skills.

For years the site served as a location for illegal dumping of trash, homeless camps, and an archery range. Certain conflicts arose between the various trail users, and private landowners with land adjacent or internal to the open space area were concerned about access, safety, and preserving this open space asset.

To address some of these issues and determine the best approach towards managing this important land asset, the City took formal steps toward planning this area. On April 30, 2008 the Santa Fe City Council approved ordinance 2008-22 authorizing this issuance of general obligation bonds, some of which was designated for the Northwest Quadrant Open Space / Trails as outlined in the City's 2008 Parks Bond Implementation Plan. To initiate the planning process, the city contracted with Wilson & Company, Inc. to prepare a comprehensive summary report and develop a priority plan for trails development in the Northwest Quadrant.

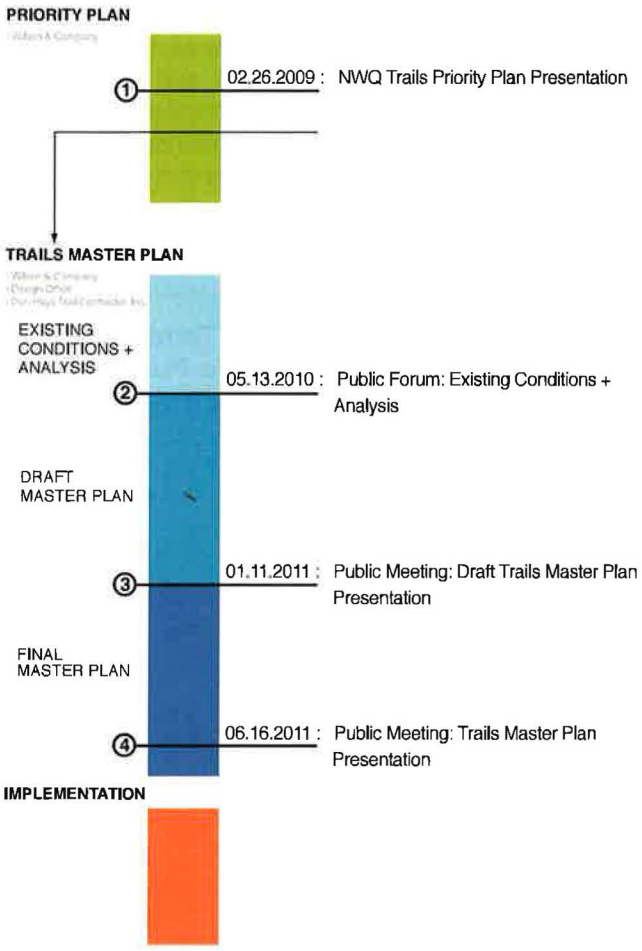
Following stakeholder interviews and a public meeting, in May 2009 a final version of the Northwest Quadrant Trails priority plan was presented by Wilson & Company to the Bicycle and Trails Advisory Committee (BTAC). The document identified five top priorities for the Northwest Quadrant with respect to trails development.

May 2009 Northwest Quadrant Trails Priority Plan (Wilson & Company)

Northwest Quadrant Trails Priority Plan

1. Develop a NWQ Trails Master Plan
2. Implement Access Control Measures to protect the land
3. Provide for Trail Connectivity to connect local neighborhoods to the trails
4. Implement Trash Clean Up to restore the land
5. Implement Trail Signage Measures for way-finding

Figure I-2: Project Timeline



BTAC reviewed the document and passed a motion advising staff to focus on the first priority: the development of a master plan for the La Tierra Trails area (the area of the Northwest Quadrant, north of NM-599).

In January 2010, the city contracted with Wilson & Company and Design Office to develop a Trails Master Plan for the La Tierra Trails. The goal of the Master Plan was to document the existing conditions, formalize the system, and outline a maintenance and stewardship recommendation to allow for future improvements. *Figure I-2: Project Timeline* represents the meetings and work completed following the NWQ Trails Priority Plan and throughout the La Tierra Trails Master Plan process.

B. PUBLIC PROCESS

Recognizing the importance of this asset to the citizens of Santa Fe, an inclusive and extensive public process was conducted to guide the plan. To foster an open and inclusive public input process, broad public outreach through various media (email, websites, newspaper, interest group pages, etc.) was initiated to invite wilderness trail users, experts, city agencies, landowners and the general public to contribute to the planning process. A series of user-specific focus group meetings, public involvement meetings, surveys, agency/ stakeholder meetings, and email correspondence helped identify existing social dynamics and arrive at a plan amenable to each group. Input from these meetings were documented and can be found in *Existing Conditions Analysis, Volume 1.*

Focus Group Meetings

To learn from known recreational users of the La Tierra Trails, a series of focus group meetings were held at the outset of the project. These meetings helped to provide a perspective of each users' experience of the trails and area and give information regarding wants, needs, and concerns about the site. These groups included representatives from the following sports:

- Hikers / Dog-walkers / Trail-runners
- Mountain Bikers
- BMX and Freeride bikers
- Equestrians
- Motocross and ATV riders

Prior to the public presentation of the draft Trails Master Plan, the focus groups were reconvened to review and give input on the draft plan as it related to their experience of the recreational area. Comments and suggestions from these meetings were incorporated into the final plan.

Public Involvement Meetings

Opportunities for involvement of the full community were provided in a series of public meetings held at key points in the planning process. Meeting participation was high, with attendance ranging from 55-120 people.

The first public meeting was held on May 13th, 2010 at Gonzales Elementary School to present a summary of the existing conditions and physical and social analysis. The meeting operated as a public forum and allowed the community to learn about the site and its users and give input on what they would like to see included in the trails master plan.

The second public meeting was held on January 11th, 2011 at the Santa Fe Community Convention Center to present the draft trails master plan. A question and answer session was held after the formal presentation to allow the public to give comment or ask questions about the plan before it was refined into the final trails master plan.

The third and final public meeting of the master plan process was held on June 16th, 2011 at the Unity Church to present the final trails master plan and details on elements of the plan. In an identical format to the second public meeting, a formal question and answer session followed the presentation of the plan.

Agency / Stakeholders Meetings

Interviews and informational meetings were conducted with representatives from relevant agencies and stakeholders at the outset of the project and prior to presenting the final plan. This provided an opportunity for representatives from city departments, internal and adjacent landowners / leaseholders, and city committees to outline their concerns and desires and see what impact the proposed plan would have on their interests.

Meetings, interviews, or presentations were held with the following entities:

- Parks Department
- Public Works Department
- Land Use Department
- Metropolitan Planning Organization
- Legal Department
- Police Department
- Fire Department
- Archaeology Review Committee
- Bicycle and Trails Advisory Committee
- Parks and Open Space Advisory Commission
- Santa Fe County Open Space & Trails and Land Use Departments
- Sangre de Cristo Water Company
- PNM
- Santa Fe Public Schools
- New Mexico Department of Transportation
- Army Corps of Engineers
- Private landowners

C. EXISTING CONDITIONS

The existing conditions analysis of the La Tierra Trails area included a thorough assessment of the physical and social conditions of the site. A series of analysis maps summarize the physical site information collected on property ownership, site utility lines and easements, soils, slope and aspect, vegetation types, wildlife species, circulation routes, existing trails and trailheads, as well as adjacent land uses. The full existing conditions analysis can be found in the *La Tierra Trails: Existing Conditions Analysis, Volumes 1-3 (Oct 2010).*

The planning team notified private landowners internal to and bordering the La Tierra property of the process and met with municipal agency departments (City: Parks, Fire, Police, MPO; Santa Fe Public Schools; County: Parks / Open Space; State: NMDOT, Parks) in order to gather information about the area's history, current conditions, and potential future impacts regarding the site. The trails themselves were also surveyed by professionals. The trail assessed focused on the trail type, material, current condition and future needs for maintenance, width, slope, timber and brush cover, and slope.

LAND OWNERSHIP

Although the Northwest Quadrant is known for being city-owned public land, approximately ten percent of the land designated as the La Tierra Trails is owned by other public agencies or private landholders. In addition, several different agencies lease or have easement rights on the land.

Land Owners

Santa Fe Public Schools owns three discontinguous parcels of land located within the La Tierra Trails area. In total, these properties amount to 99.01 acres (70.01, 15.0, and 14.0 acre properties). In May 2011, the SFPS Board of Education approved in concept the use of their land for recreational trails.

One interior private land holding within the La Tierra Trails project boundary is a 10.28 acre parcel located south of Pipeline Road. It can be accessed from Pipeline Road or the access gate at the Unity Way trailhead and is not part of the open space area.

Land Leases and Utility Easements

On some of the city-owned land within the La Tierra Trails area, several different utility agencies lease the land and restrict access to these parcels. Water, gas, and electric lines run through easements across the site.

Sangre de Cristo Water leases property at two locations to house a well and a one-million gallon water tank for the city's water supply. The NW Well and Water Tank are both located along a 70' utility easement, also known as Pipeline Road. Pipeline Road is a restricted access road with a service gate off of Camino de los Montoyas.

A cellular phone company, Qwest, leases land in the La Tierra Trails area. The Cell Tower is located on the east side of Camino de los Montoyas and accessed by a service gate with restricted access.

New Mexico Gas Company leases land adjacent to the Water Tank for equipment and piping.

Access Rights

A 1.3-mile dirt road, located close to the north property boundary west of Camino de los Montoyas, is being used to access to seven homes within County land. This dirt road is owned by the City but was built in order to provide site access to one landowner at the northwestern boundary of the La Tierra Trails.

SITE ANALYSIS

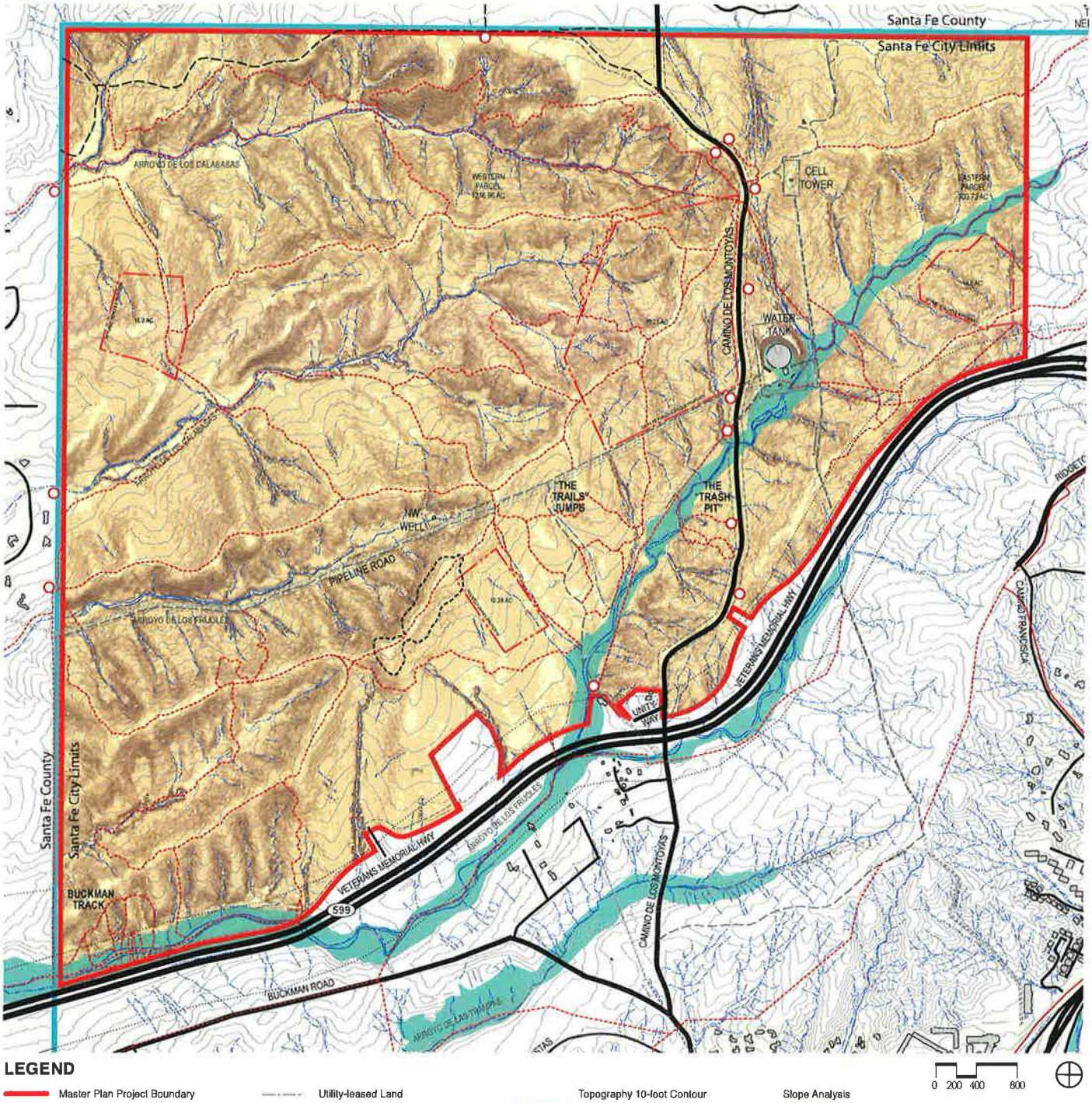
Slope Analysis

The topography of the site is fairly hilly with some steep slopes. Distinct ridgelines run across the site from northeast to southwest. Two major arroyos are located on this site: the Arroyo de los Calabasas and the Arroyo de los Frijoles. The Frijoles Arroyo enters the site from its highest point on the eastern boundary and travels under Camino de los Montoyas. It crosses the site boundary and NM-599 twice before exiting the site at the southwestern-most point of the trails area. (*See Figure I-3: Site Analysis Map*).

Relief

The elevation range across the project site area is 346 feet. The highest elevations are east of Camino de los Montoyas and the lowest elevations are west of Camino de los Montoyas and south of Pipeline road. The highest point of the site is at 7285 ft, located on the eastern boundary, just south of the northernmost point of the site; and the lowest point of the site, at 6939 ft, is at the western edge of the site boundary in the Arroyo de los Frijoles. The most predominant ridgeline of the site runs from the highest point, across Camino de los Montoyas, through the 70 acre Santa Fe Public School-owned site, across Pipeline Road, and towards NM-599 and the site limits. The existing cellular tower lies on this major ridgeline.

Figure I-3: Site Analysis Map



Escarpment Overlay

The preliminary draft of the Escarpment Overlay District for the Santa Fe Land Development Code, presented to the public in late March 2011, illustrates one area within the La Tierra Trails area. This area, a little over eight acres, is designated as a highly visible ridgeline and any improvements in this area will have to follow all rules and regulations as they pertain to the Escarpment Overlay District.

Soils

The soils of the La Tierra Trails vary based on elevation and land characteristics. Ridgelines are mainly Nazario gravelly loam (2-8% slopes), and arroyo beds - based on slope and drainage quantities - range from Levante-Riverwash complex (1-3% slopes) to Dondiego loam (1-3% slopes) to Junebee gravelly sandy loam (5-25% slopes). Overall, these soils are heavily susceptible to erosion.

Vegetation + Wildlife

The vegetation coverage in the La Tierra Trails area consists of three natural vegetation types: pinon + juniper hillsides, meadow / clearing, and arroyo habitat. Pinon + juniper tree cover makes up almost 95 percent of the site, meadows of wildflowers and grasses cover about three percent and arroyos' dense vegetation of pinons and at times, cottonwoods, cover less than one percent of the site. There is little to no evidence of invasive or non-native species within the site.

Utility clearings at easements or leased lands make up two percent of the site. These easements have little to no vegetation.

Wildlife typical for these vegetation areas and elevation include: the cottontail rabbit, jackrabbit, burrowing owl, pinon jay, stellar jay, coyote, bobcat, and mountain lion. During site analysis for the La Tierra Trails, a mountain lion was spotted by a nearby resident off of Ridgetop Road, less than 1/2 mile from the site boundary.

Image I-1,2,3: The cottontail rabbit, pinon jay, and jackrabbit are common animals of the pinon and juniper vegetation.

ZONING + LAND USE

While the site is currently zoned R1 residential, it's future land use designation is Open Space. The bordering areas of the entire site are zoned for low-density residential development, with the exception of the church property on Unity Way, zoned as 'Public/Institutional'. All properties west and north of the site are zoned 'Very Low Residential (1-3 du / ac)' or 'Mountain Corridor District (1 du / 10 ac)'. A portion of the eastern boundary of the site is zoned for 'Low Density Residential (3-7 du / ac)'.

CIRCULATION

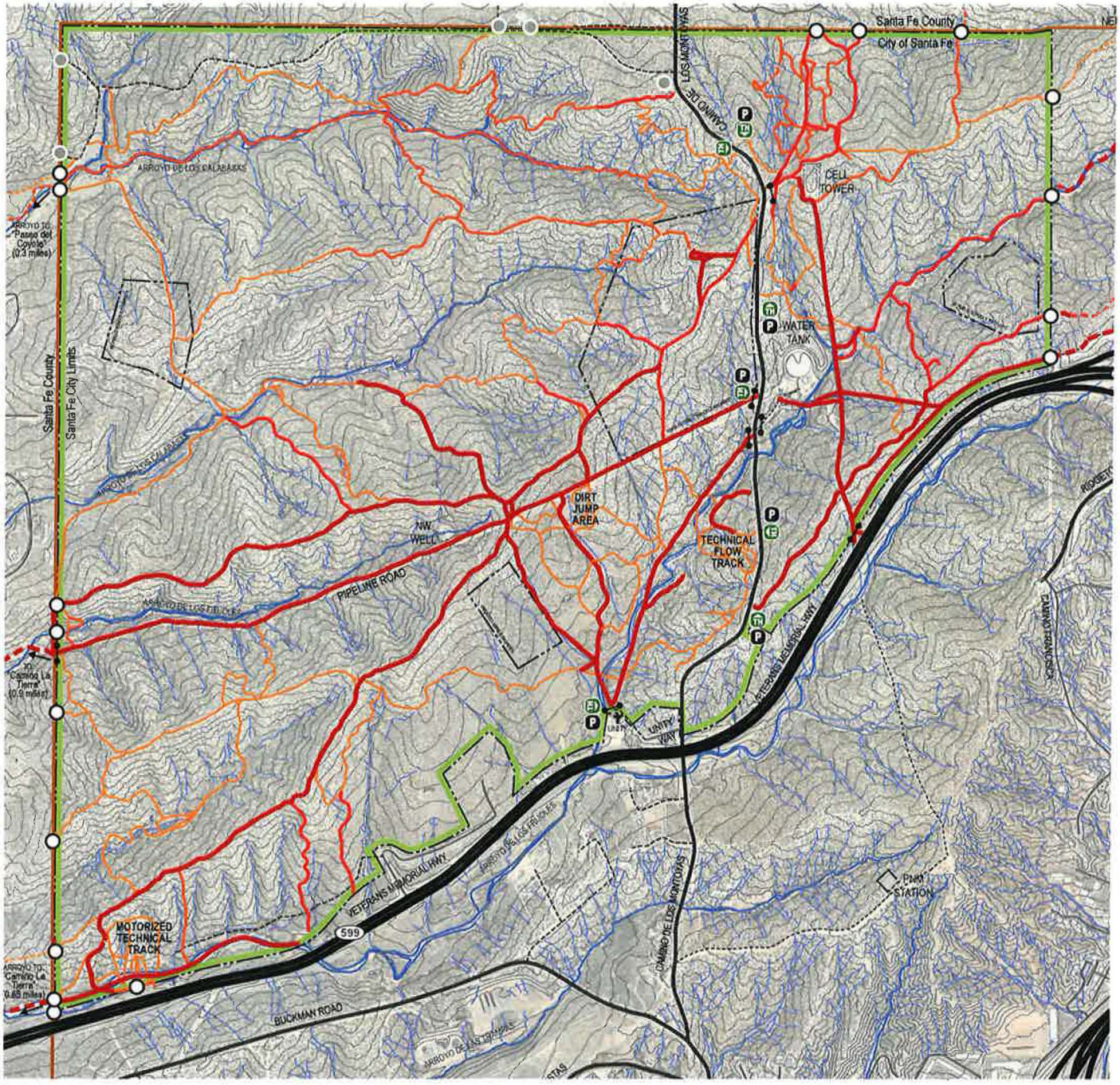
The La Tierra Trails site is bounded on the south by state highway NM-599 and bisected in a north/south direction by Camino de los Montoyas, which crosses NM-599 at-grade. On the north side of NM-599, west of Camino de los Montoyas, there is a pull-off and road which provides access to a privately-owned 16 acre property. The closest bus stop to the southernmost trailhead on Unity Way is a little over 1.5 miles, and a regional park-and-ride stop is located 1.75 miles from the southernmost trailhead on Unity Way.

EXISTING TRAILS

Over the years, more than 20 miles of existing trails have been created in the La Tierra Trails area by various users of the trails. Some were established by four-wheel vehicle use, evidence of which is still apparent today based on the clearance width and trail tread. Other trails were created by mountain bikers; these trails are narrower and have more turns and technical features than the wider trails that resemble dirt road beds.

Image I-4: Adjacent housing along the western boundary of the La Tierra Trails area.

Figure I-4: Existing Trails Widths + Aerial Map



LEGEND

- Master Plan Project Boundary
- Internal Property Line
- City / County Boundary
- Major Road
- Minor Road
- Minor Road (un-paved)
- Restricted-Access Road (un-paved)
- Property Line
- Utility-leased Property Line
- Building Footprint
- River
- Arroyo
- Other Drainageway
- Trailhead
- Parking at Trailhead
- Trail Access
- Vehicular Access (unrestricted access)
- Service Gate (restricted access)

Existing Wilderness Trails (widths)
- Trail, 1 - 2 feet
- Trail, 2 - 4 feet
- Trail, 4 - 8 feet
- Trail, 8 - 10+ ft

Existing Off-site Wilderness Trails (widths)
- Trail, 1 - 2 feet
- Trail, 2 - 4 feet
- Trail, 4 - 8 feet
- Trail, 8 - 10+ ft

Trail Widths

Trail tread widths within the trail system vary from 1-2 feet wide to over ten feet wide. The wider trails are more prominent in the section of the La Tierra Trails south of Pipeline Road and west of Camino de los Montoyas. North of Pipeline Road there are more narrower, single-track trails. (See *Figure I-4: Existing Trails Widths + Aerial Map*).

Trail Slopes

The slopes of the trails remain for the most part between 0% and 10% slope. Some of the trails exhibit short segments with steeper slopes, between 10% and 20%. A map illustrating the assessed trail slopes, see *Existing Conditions Analysis, Volume 2: Trails Conditions Assessment (Oct 2010).*

Image I-5: Dirt jumps at 'The Trails Jumps' area are covered in carpeting during the winter to retain moisture and preserve the tops of the jumps.

TECHNICAL TRAILS + AREAS

Several trails within the trail system include placed objects or man-made technical features that challenge the trail user and increase the trail's level of difficulty. These features include dirt berms; dirt or rock ledges; dirt or rock drop-offs; dirt jumps; and elevated, wooden bridges. While some of these trails and trail features have been well-maintained, other are dilapidated and in need of repair.

Image I-6,7,8,9: Trail features at 'The Trash Pit'

Two, non-motorized technical areas are located within the trail system south of Pipeline Road. One area, around 5 acres, called 'The Trails Jumps' by its current users, is a series of 2-8 foot high dirt jumps that are situated along a hillside, just south of Pipeline Road and east of the main trail intersection. The jumps are aligned along different lines, which vary in skill level. Riders, predominantly BMX bikers, begin their route from the top of the hill at Pipeline Road and travel down a 'line' which includes several jumps in a row. 'The Trails Jumps' area also includes a skate park-like bowl below and a wall ride.

Another non-motorized technical area currently referred to as 'The Trash Pit' includes some dirt jumps and an area set up as a pump track. This area is currently around 9.5 acres large. The technical features, which include wooden bridges, rock ledges, and dirt berms, are set along routes that weave in and out of pinon and juniper trees. A few of these routes terminate at large dirt jumps, close to the Arroyo de los Frijoles.

Image I-10: 'The Buckman Track'

One area of the La Tierra Trails is currently being used illegally by motorized recreational vehicles. This area is referred to as 'The Buckman Track'. Located in the southwest corner of the site on a south-facing ridge, it was built in the mid 1970's and has been used by

motocross riders and sport ATVs throughout the years. The track is 1/4 mile circuit that includes dirt jumps and berms. Frequent fence repair by the Parks Department to limit access this area has not discouraged riders to continue to access this track, either from County land through the Arroyo de los Frijoles or from a shoulder off of the state highway, NM-599.

EXISTING TRAIL ACCESS

A thorough analysis of all access within the La Tierra Trails Area was performed and a detailed documentation of these trailhead, trail access, service access, and non-restricted access locations can be found in the *Existing Conditions Analysis, Volume 3: Site Perimeter and Access Analysis (Oct 2010).*

Trailheads

Currently there are seven trailheads providing formal entry for users into the La Tierra Trails area. Each trailhead provides vehicular accessibility, parking accommodations (for at least one car) and a chicane access gate. One trailhead is located off of Unity Way, behind the Unity Church. All other trailheads are located along Camino de los Montoyas.

Currently the parking areas are not big enough to host group events and are not well marked for first-time visitors of the area. Furthermore, some trailhead parking lots have severe erosion problems and are hard for some vehicles to enter and exit.

Perimeter Access Points

Currently, the La Tierra Trails site is highly permeable, due to degraded, cut, or absent fences along the site boundary. Many of the site's fences have been visibly cut and moved, with visible signs of passage into and out of the site by mountain bikes and illegal motorized vehicle use. See *Figure I-4: Existing Trails Widths + Aerial Map* for documented perimeter access points.

OTHER SITE ELEMENTS

Old Archery Range

The Santa Fe Archery Club previously used land within the La Tierra Trails as a gathering and practice area. Their formal use are is located east of Camino de los Montoyas and north of the cell tower. The area today includes their use remains. An old shade structure and storage shed sags in a dilapidated condition the archery grounds are scattered with old concrete markers that were used for target practice. Old trails in this area are in relatively high disrepair, and old bridges crossing drainageways are dilapidated and no longer functional.

Image I-11: Walkways with old culverts at the old archery range drain into a highly eroded low point.

Image I-12: Dilapidated shade structure at the old archery range poses a safety hazard.

Image I-13: Dilapidated steps at the old archery range are washed by a gully.

MASTER PLAN

The La Tierra Trails offers a stunning setting and year-round wilderness trails for a broad spectrum of trail users. Its 25+ miles of trails compliment existing recreational trail destination areas in and around Santa Fe and expands the City's wilderness trail offerings to over 60 miles of recreational trails within just 3 miles from downtown Santa Fe.

The Trails Master Plan for the ca. 1,500 acre La Tierra Trails area formalizes the largely existing 25+ mile trail system with recreational users including hikers, dog-walkers, trail runners, mountain bikers, equestrians, BMX riders, freeride bikers, ATV riders, and MX riders. The plan calls for a cohesive network of trails with a hierarchy of multi-use, single-track, and technical trails that will ease existing user conflicts between hikers, bikers, and equestrians. The plan designates distinct, bounded areas for specialized recreational users such as BMX riders, freeride bikers, and motocross / ATV riders.

To facilitate interaction between the public and this natural resource, the Master Plan outlines proposed improvements to trailheads and trail access points, suggests a signage and wayfinding system, and indicates existing and proposed regional connections to the La Tierra Trails. In addition, the master plan highlights special use areas that could be established to restore and enhance the natural conditions of the site for future generations.

The La Tierra Trails Master Plan offers a vision and guiding framework for future recreational improvements to the La Tierra Trails area. At the same time, it is intended to be flexible and capable of being adapted to changing needs and desires. Ensuring adherence to project vision and goals outlined in the Master Plan, plan revisions will follow City processes for changes and updates.

With the following proposed Trails Master Plan, the La Tierra Trail system acknowledges existing recreational trail users, respects the land holdings of internal property owners and lease holders, coordinates with adjacent off-site land holders, and encourages future off-site planning and trail connections.

With the new La Tierra Trails: Trails Master Plan, La Tierra Trails will become a major wilderness trail recreational destination within the City of Santa Fe.

A. MASTER PLAN

The La Tierra Trails Master Plan offers a vision and guiding framework to transform the La Tierra Trails into a year-round destination for recreational trails use. The Plan is intended to formalize the trails into a logical network that maximizes user enjoyment and minimizes potential conflicts. It can be implemented flexibly in realistic phases, depending on funding and priorities set by the City.

THE VISION

Expanding on existing recreational uses of the site, the La Tierra Trails offers a generous and convenient large-scale site for the exercise, health, and wellbeing of a broad constituency of trail users - as an area that can collectively serve as a wildlife habitat, open space preserve, and recreation zone.

The La Tierra Trails vision and goals were generated through an extensive public process. They reflect public desires and helped to guide the planning and implementation of the project.

Vision

The La Tierra Trails will be a recreational destination for Santa Fe that supports the health and well-being of our people, our community, our economy, and our environment.

Opportunities

The recreational planning of this valuable public asset, gives rise to an array of opportunities that benefit the community. The La Tierra Trails could serve the community:

- to become one of many valued recreation destinations in Santa Fe for residents and visitors alike
- to promote economic development with the expanded recreational area
- to raise awareness and respect for the natural ecology and wildlife of this open space area within the City limits
- to host an array of world-class recreational events at the La Tierra Trails for a range of users

GOALS

Through an extensive master plan public process, a series of goals were identified to guide the development of the plan:

- Acknowledge past users of the site and instill mutual respect among all users.
- Restore, maintain, and enhance the native ecology
- Formalize a cohesive network of trails for a broad range of user groups
- Balance the establishment and use of the trails with a respect for the land and wildlife habitat
- Create clear, safe and consistent connections to the trails from adjacent neighborhoods and to regional trail systems
- Identify the roles and responsibilities of owners and users of the site
- Educate trail users to establish and instill a strong sense of stewardship and personal responsibility for the land.
- Develop a signage plan that will allow safe and enjoyable use of the site

Image II-1: The winter landscape from the La Tierra Trails

THE PLAN

The La Tierra Trails Master Plan will provide a safe, educational, and cohesive trail system for its community within the foothills of Santa Fe. The master plan proposes both internal and external refinements that will improve the connections to the trail system from the city and enhance the trail experience for all recreational trail users.

Following an extensive community outreach and public participation process, the Trails Master Plan was generated with specific input and participation of five existing trail user groups: hikers/dog-walkers/trail runners, mountain bikers, equestrians, BMX riders/ mountain bike freeriders, and ATV/MX riders. All groups have a space within the trail system and all user groups' trail experience has been enhanced and improved in various ways. A unique feature in the otherwise un-motorized recreation area, is a dedicated motorized ATV/ MX Technical Park area in southwest corner of the site, the first of its kind in the City limits. In addition to these user groups, the plan identifies ways in which the natural wildlife and ecology of the land may flourish in this space as well.

Trail system upgrades include both the re-routing or rehabilitation of existing trails and proposed new trails to simplify connections internal to the city-owned land. New trailheads are sited at strategic locations in the trail system and upgrades to existing trailheads are proposed in order to allow better connections into the trails by all users. Technical areas are designated to provide recreation opportunities for BMX riders, freeride bikers, and ATV / MX riders. With this plan, these groups will be given a legitimate space to recreate within the trails system.

An interpretive nature trail area is envisioned on this site as an opportunity to educate the users of the trails of the historical and natural significance of the land of the Northwest Quadrant.

Paramount to the success and use of the trails system will be the implementation of a signage and wayfinding system which will allow users to orient themselves, learn of the trail system, and plan their routes.

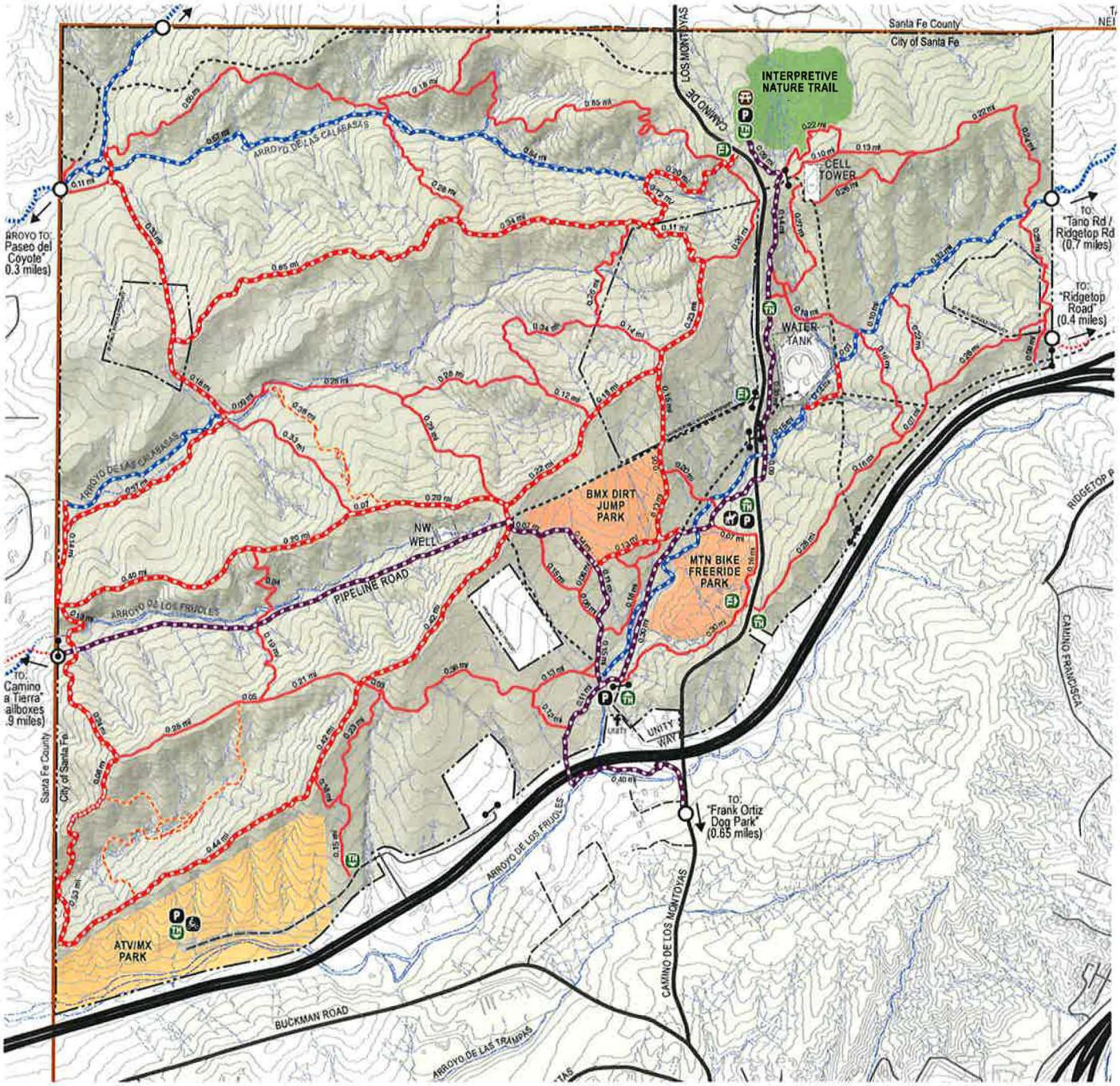
As the Master Plan is adopted and improvements are made according to the plan, the La Tierra Trails will be recognized as one of many gems the citizens of Santa Fe have at their doorstep for wilderness trail recreation.

DESIGN ASSUMPTIONS

As an outcome of the existing conditions analysis and input from city staff and key departments, a set of design assumptions was outlined to guide the development of the plan. These assumptions helped keep the goals of the project on track with the City's need to maintain the safety and well-being of the public citizens and their open space.

- The La Tierra Trails site will have a defined site perimeter with clear access points to the public trail system and roads.
- The trail system will be conceived as a system of loops and segments that are entirely contained on City property.
- Historical access through arroyo corridors (for non-motorized trail users) will be maintained and respected.
- Utility corridors may be used as trails but are not considered part of the trail system and will not be maintained by volunteer groups.
- Trailhead amenities and parking improvements will function to fulfill the needs of daily use and special events.
- Trail maintenance / stewardship by volunteer groups will follow the adopted standards.
- Motorized recreational vehicles are not allowed within the property except in the designated ATV/MX Park area.
- Technical Use Areas will have designated boundaries and appropriate signage to distinguish technical area limits and reduce user conflicts.

Figure II-1: Trails Master Plan Map



LEGEND

- Master Plan Project Boundary
- Property Line (within Project Area)
- City / County Boundary
- Major Road
- Minor Road
- Minor Road (un-paved)
- Restricted-Access Road (un-paved)
- Property Line
- Fencing
- Building Footprint
- Utility-leased Land
- Utility Easement
- Highway Buffer - 295' Setback
- Existing Trail (un-paved)
- Existing Trail (paved)
- Existing Trailhead / Trail Access

La Tierra Trail Network

- Trail, Regional Multi-Use (hiker, biker, equestrian)
- Trail, Multi-use (hiker, biker, equestrian)
- Trail, Arroyo, Multi-use (hiker, biker, equestrian)
- Trail, Single-track (hiker, biker)
- Trail, Technical (mountain biker)
- Technical area (non-motorized)
- Technical area (motorized)
- Interpretive Nature Trail Area

Trail Access, Parking, + Amenities

- Trail, (hiker, biker, equestrian)
- Trail, Arroyo (hiker, biker, equestrian)

Trail Access, Parking, + Amenities

- Trailhead and Parking (up to 10 vehicles)
- Trailhead Parking (10+ vehicles)
- Equestrian Trailhead and Trailer Parking
- ATV / MX Trailhead and Trailer Parking
- Trail Access (trail connection)
- Service Gate (restricted-access)

0 200 400 800

RULES OF USE

In order for the vision of the La Tierra Trail Master Plan to be realized, all users of the trails and open space area must be responsible for using the area respectfully, so that their own enjoyment of the natural area does not hinder another's enjoyment of the same space.

The following guidelines are key rules of use that each trail user should adhere to:

- Trail users must respect trail signage and only follow trails that are designated for their particular trail use.
- Trail users must stay on the trail and yield to other users.
- Trail users must walk/ride trails at their own risk.
- Technical trails and track areas are specially marked and should only be used by experienced riders, at their own risk.
- Motorized recreation vehicles are not allowed within the wilderness trails area; motorized recreation vehicles (sport ATVs and motocross) are allowed only within the ATV/MX Park.
- Dogs within the La Tierra Trails area must be kept on leash in accordance with the City Parks leash law
- Pet owners must clean up and properly dispose of all waste.
- Equestrian riders must be responsible to determine if trail conditions are appropriate for riding; if trail conditions are too wet, the trail tread may be degraded.

SHARE THE TRAIL:

The La Tierra Trails will adopt the National Forest's "Share the Trail" policy, which asks bikers to yield to both hikers and equestrians and hikers to yield to equestrians.

Image II-2: Share the Trail

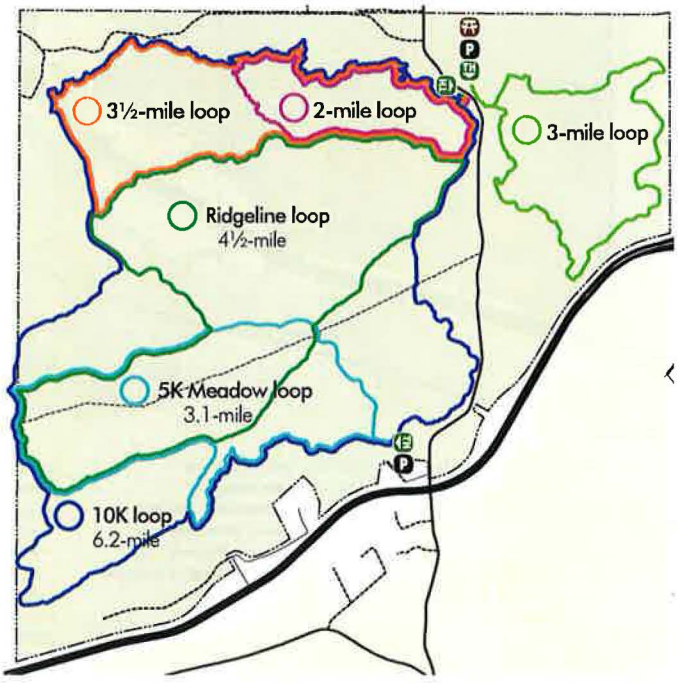
USER EXPERIENCE

With the implementation of the La Tierra Trails Master Plan, the recreational experience for a range of wilderness trail and open space users will be enhanced due to an emphasis on safety and ease of use. The plan provides clearly designated recreation areas for hikers, bikers, equestrians, BMX and freeride bikers, and motocross and ATV riders, as well as other sports compatible with these uses. While a majority of the trails are beginner and intermediate level trails, certain trail sections and areas are devoted to those with more technical skills.

Hikers / Dog-walkers / Trail-runners / Snow-shoers

Hikers at La Tierra Trails will be able to access the 25+ miles of trails from all trailhead and trail access points. *Figure II-2: Hiking Loops Map* illustrates suggested hiking routes that provide recreation options of varied length that range from easy to moderate difficulty and are able to suit users of all ages and adventure levels. These hiking loops will allow this user group to experience different natural features of the site, such as meadows, pinon forests, or arroyos and to witness views of the surrounding mountain ranges.

Figure II-2: Hiking Loops Map



The following hiking loops provide hikers and trail-runners a variety of trail lengths and outdoor experiences:

- Ridgeline Trail: a major, wide, mostly multi-use trail that provides good visibility and is easy to follow.
- 5K/10K loops: provides the competitive trail-runner a set trail distance for training with moderate elevation gain.
- Northern Trail (2, 3, 3½ mile options): gives the hiker a peaceful wilderness experience on trails only a few miles from the plaza.

Mountain Bikers

Mountain bikers of the La Tierra Trails will have access to the full 25+ mile trail system from all trailhead and trail access points. Proposed connector trails will allow bikers the opportunity to bike into the trail system from regional trails and locations in town or Santa Fe County.

Figure II-3: Mountain Biking Loops Map identifies biking routes that range from easy to moderate difficulty. Loop suggestions for bikers are devised to maximize the length of the trail ride for varying abilities. The technical trails identified in the Master Pan Map (*Figure II-1: Trails Master Plan Map*) are mountain biking routes that include challenging technical trail features.

Equestrians

Trails that accommodate equestrians are wider trails that provide space for passing and sight lines with views of the trail ahead. Equestrian trails consist of nine miles of multi-use wilderness trails and three miles of arroyo trails within the La Tierra Trails system.

Equestrians will be able to access the trails from off-site locations through existing arroyo trails that cross the site boundary as well as at all multi-use trailhead locations. They will also be able to trailer their horses and park in the designated horse trailer parking area.

Figure II-4: Equestrian Loops and Routes Map illustrates suggested loops for both half-day and full-day rides and trail connector routes for equestrians that wish to pass through the site. More experienced riders can add on additional multi-use trail segments for longer distance rides.

Figure II-3: Mountain Biking Loops Map

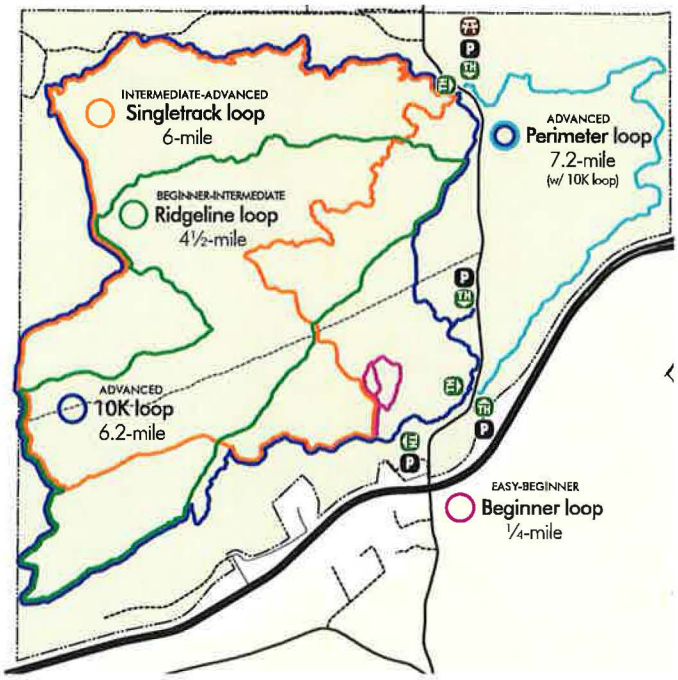
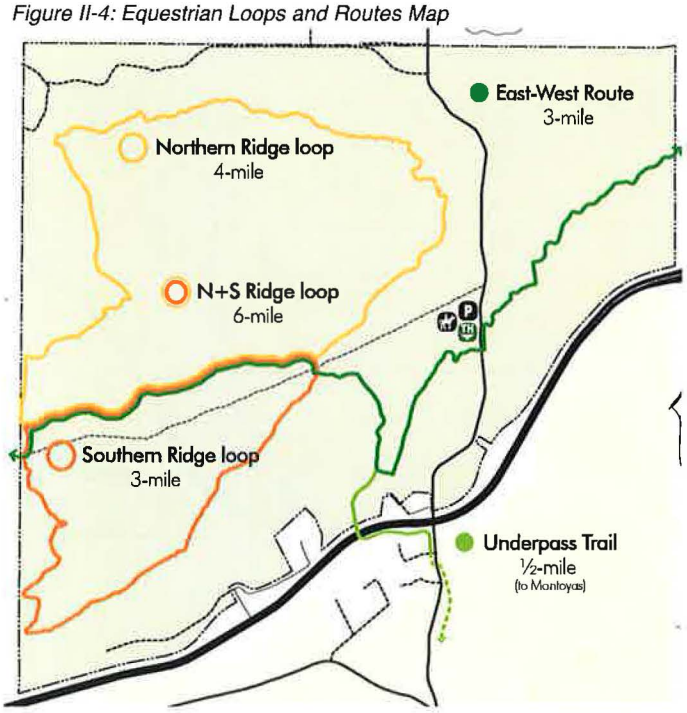


Figure II-4: Equestrian Loops and Routes Map



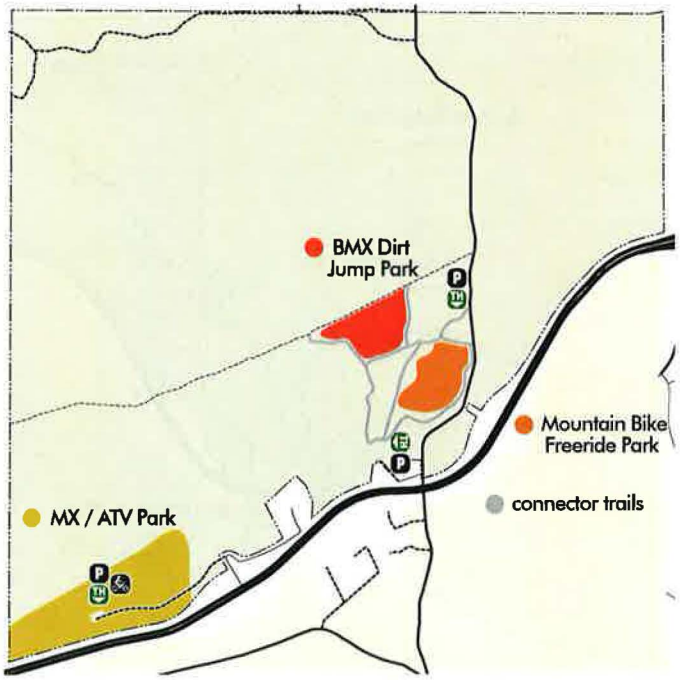
BMX Riders + Freeride Bikers

BMX and freeride bikers will be allowed to use all 25+ miles of trails within the La Tierra Trails. In addition, two distinct technical areas (total area ca. 34 acres) will be designated for non-motorized use. These are currently areas with concentrations of existing technical jumps and tracks and will be the only areas within the La Tierra Trails that new trail jumps and freeride trails can be built. As with all new additions or improvements to the site, these stewards will need to go through the proper protocol to be granted the ability to further expand and develop this area.

Motocross Riders + ATV Riders

ATV and MX riders have a designated use area of ca. 50 acres within the La Tierra Trails. These trail users will only be able to access the designated motorized technical area from a new trailhead and access road off of NM-599. This trailhead will accommodate up to 15 trailers for all terrain vehicles and 10 regular parking spaces. The existing intermediate level track will continue to be used as such.

Figure II-5: Technical Park Areas



B. ELEMENTS OF THE PLAN

Trails, technical areas, special use areas, and trailheads comprise the main elements of the trails master plan. (See *Figure II-1: Trails Master Plan*). The plan proposes improvements of these elements where they are necessary in order to provide satisfying recreational areas for all trail users as well as sustain quality natural areas for existing wildlife. These improvements are outlined in *Section F: Master Plan Project Implementation.*

Image II-3

TRAILS

Regional Multi-Use Trail

The regional multi-use trail will connect the City to the wilderness trails of La Tierra. Inside the La Tierra Trails area, it is proposed to provide a safe route of travel between neighborhoods to the south and west of the trails area. This trail type begins at the NM-599 pedestrian underpass and continues up into the trail network along a water line easement that runs northeast towards Camino de los Montoyas near the Water Tower. The regional multi-use trail will cross Camino de los Montoyas at a marked crosswalk and continue to the north along the east side of the road on a newly built 10' trail. This trail will terminate at the North trailhead on Camino de los Montoyas.

Multi-Use Trail

The multi-use trail provides the easiest, widest trails within the trail system. Many of these trails were originally created by off-road vehicles and typically have a wider clearing distance between vegetation and gentler grade changes, allowing ample sight lines and passing space. The tread surface is well established and generally hard-packed, however the trails do include occasional drainage crossings with sandy bottoms. These trail characteristics overall provide the safest trail routes for non-motorized trail users.

Hiker/Biker Trail

The hiker/biker trails consist of more difficult, narrower trail segments off of the wider multi-use trails. These trails have varying grade changes, denser vegetation, as well as tighter switchbacks. The tread surface may at times include loose rock or drainage crossings.

Technical Trail

Technical trails occur within the system as alternative routes for more experienced bikers. These technical trails include bermed trail sides, constructed dirt jumps, or wooden bridges which add to the difficulty of traversing these narrower, steeper trail segments. These trails are clearly marked so that they can be avoided by non-technical trail users. They are not essential to the overall connectivity of the trail system.

Arroyo Trail

The arroyo trails within the trail system provide strong wildlife corridor connections and regional trails for equestrians. These sandy-bottom trails vary in overall width, but all designated arroyo trails within La Tierra Trails will be maintained with certain minimum corridor dimensions to ensure safe travel.

Easements as Trails

Utility access roads and easements within the La Tierra Trails are not indicated on the plan as part of the wilderness trail network; however, they may be used as such. Since easements are generally straight lines and not designed - like well-design trails are - with contours or drainage in mind, they are sometimes heavily eroded and may not be pleasing to walk, ride, or bike.

TECHNICAL AREAS

Three technical park areas are designated within the La Tierra Trails: the BMX Dirt Jump Park, Mountain Bike Freeride Park, and ATV/MX Park. These parks provide technical skill areas for both non-motorized and motorized trail users. As illustrated in the master plan map, these areas have designated boundaries beyond their current use areas and may be improved over time following the guidelines laid out in the Design Standards Chapter.

All technical areas are intended to have perimeter non-technical access trails, clear entry points, signage, a spectator area separate from the park, and a range of designated use areas for varying levels of expertise. It is intended that each area will be planned to most benefit the user experience and safety, as well as provide safe interface among internal users and between technical areas and the remaining trail system.

The City of Santa Fe assumes that technical tracks and jumps in technical park areas will be constructed and maintained by the associated user group according to known best practices. Where feasible, resources such as water or a location for tool storage will be provided to facilitate ease of maintenance.

Non-Motorized Technical Areas

BMX Dirt Jump Park

The BMX Dirt Jump Park area is ca. 16 acres located internal to the La Tierra Trails property south of pipeline road. Access to the BMX Dirt Jump Park is from the *Frijoles Trailhead*, ca. 0.42 mi east of the park, or from the *Unity Way Trailhead*, ca 0.38 mi south of the park.

The BMX Dirt Jump Park includes the current BMX jump area of 'The Trails Jumps' as well as an additional expansion area to the south and east. It will maintain the dirt jump experience but also include expanded areas for distinct difficulty levels which will range from beginner to intermediate to advanced.

Mountain Bike Freeride Park

The Mountain Bike Freeride Park, a ca. 18 acre area just west of Camino de los Montoyas, can be accessed directly from the Frijoles trailhead and parking area.

The Mountain Bike Freeride Park includes the existing 'Trash Pit' freeride area and a larger area to the south and west for future expansion. This park will maintain the experience of the freeride tracks and include expanded areas for different skill levels, ranging from beginner to advanced.

Motorized Technical Area

ATV / MX Park

The only motorized recreational area within the La Tierra Trails will be the ATV/MX Park, a ca. 50 acre area of land on a south-facing slope adjacent to NM-599. This area includes the 'Buckman Track', an existing ATV/MX track built in the 1970's, as well as buffer and re-vegetated areas to prevent noise pollution and restore the area's natural features. Future improvements will include a beginner track.

The boundaries of the area will be fenced and signed to indicate its designation as a motorized use area. The area will have a designated trailhead and parking area as well as a single, safe point of access off of NM-599's northern access road. At the ATV/MX trailhead, there will be appropriate signage informing riders about park rules of use, risks, and general information.

SPECIAL USE AREAS

Special use areas are designated areas within the open space area that may be improved and upgraded to create a space that will enrich and benefit the community. Currently, one area within the La Tierra Trails has been identified as a special use area. The La Tierra Trails Master Plan, a flexible plan that allows for future changes and modifications, can be modified to include additional special use areas as warranted. For approval, the goals of the proposed special use area must be consistent with the vision and goals for the La Tierra Trails Master Plan, as stated in *Section II-A: Master Plan.*

Interpretive Natural Trail Area

The Interpretive Nature Trail Area is envisioned to be a space where trail visitors can come to learn about the wildlife, history, and ecology of this area of Santa Fe. Users will be guided through a well-maintained, accessible, 1/2-1 mile loop trail. Interpretive signage and interactive trail features along the trail will describe the flora and fauna within the area, historically significant landmarks, visible mountain ranges, etc. Open space areas within the Nature Trail Area will focus on best practices for ecological restoration and wildlife habitat preservation.

TRAIL ACCESS

Trail access in the La Tierra Trails Master Plan consists of trailheads, trail access points, and service/ maintenance and emergency access points.

Trailheads

Trailheads serve as important interface locations between public roads, trails, parking, and access areas to the trail network. Trailheads in the La Tierra Trails will be improved to provide overview information on the trails, and provide parking and access into the trail system. This includes increasing the number of spaces available for parking, designating trailer parking for equestrians and ATV/MX riders, upgrading access gates to correspond with trail user types, and providing locations for signage and other amenities. (*See Figure II-6: Trail Access Map*).

The Master Plan identifies two types of trailheads: trailheads with trail access and up to 10 parking spaces, and trailheads with trail access and larger parking and/ or trailer parking. Trailheads with parking for more than 10 cars will be located primarily off of Camino de los Montoyas: at the Unity Way Trailhead, Frijoles Trailhead, and North Montoyas Trailhead. Equestrian trailers (up to 3 trailers) will be accommodated at the Frijoles Trailhead and ATV/MX trailers will be accommodated at the ATV/ MX Park trailhead.

Six smaller trailheads with trail access and up to 10 parking spaces are indicated as part of the Master Plan. Most of these are located in areas currently used as trailhead locations off of Montoyas. A total of three new trailheads will be constructed to provide additional access to the system and increase connectivity.

While the La Tierra Trail system is a system of unpaved, wilderness trails, all applicable accessibility codes and standards will be met in the design and construction of trailhead improvements and trailhead parking.

Trailheads - Major (with 10+ vehicle parking)

North Montoyas Trailhead (expanded)
The North Montoyas Trailhead will serve as a destination point for the regional multi-use trail; it will provide access into the trail system and include a group picnic shelter, individual picnic tables, and viewing areas of the spectacular surrounding scenery. The parking area will be expanded to provide parking for up to 30 vehicles and access into the area will be improved, with culverts at entry points off of Camino de los Montoyas.

Central Montoyas Trailhead (new)
The most significant improvement to parking and trail access is the addition of a major trailhead on Camino de los Montoyas, south of Pipeline Road at the Arroyo de los Frijoles crossing of Camino de los Montoyas. This trailhead is located at the safest road crossing location along Montoyas on a relatively flat, cleared area. Two parking areas joined by an access road will accommodate parking for up to 65 vehicles, as well as for up to three horse trailers. This trailhead will provide easy access to the regional multi-use trail, the Mountain Bike Freeride Park, and convenient access to many favorite trail loops of the La Tierra Trails system.

Unity Way Trailhead (expanded)
The improved trailhead off of Unity Way will serve as a formal gateway into the trails system. The trailhead and parking area for up to 30 cars will provide trail parking and access - all within City property.

ATV/MX Park Trailhead (new)
The only motorized vehicle trailhead will be located along the southern boundary of the property line and will be accessed from a new frontage road extension off of NM-599. This trailhead will provide parking for up to 15 trailers or trucks carrying small sport ATVs or motocross bikes. Trailhead access to the ATV/MX Park will be only for smaller recreational vehicles (no Jeeps, etc.); emergency and maintenance vehicles will have a separate locked access gate.

Trailheads - Minor (with up to 10 vehicle parking)

North-Central Montoyas Trailhead (existing)
The North-Central Montoyas Trailhead will remain un-changed except for slight enlargements to the trail access gate to bring it up to design standards to allow easier bicycle entrance.

Pipeline Road Trailhead (existing)
The Pipeline Road Trailhead will remain un-changed, except for modifications to the trailhead gate so it conforms to the access standards.

Trash Pit Trailhead (closed)
The existing trailhead located near the 'Trash Pit' technical area will be closed and trail access will be re-located to the new Frijoles Trailhead.

South Montoyas Trailhead (east-west access)
The existing South Montoyas Trailhead, located on the east side of Camino de los Montoyas, will be improved with an additional trail access gate on the west side of the road. The two trail access gates will be connected with a crosswalk, which will have road striping and speed control measures north and south of its location.

Trail Access

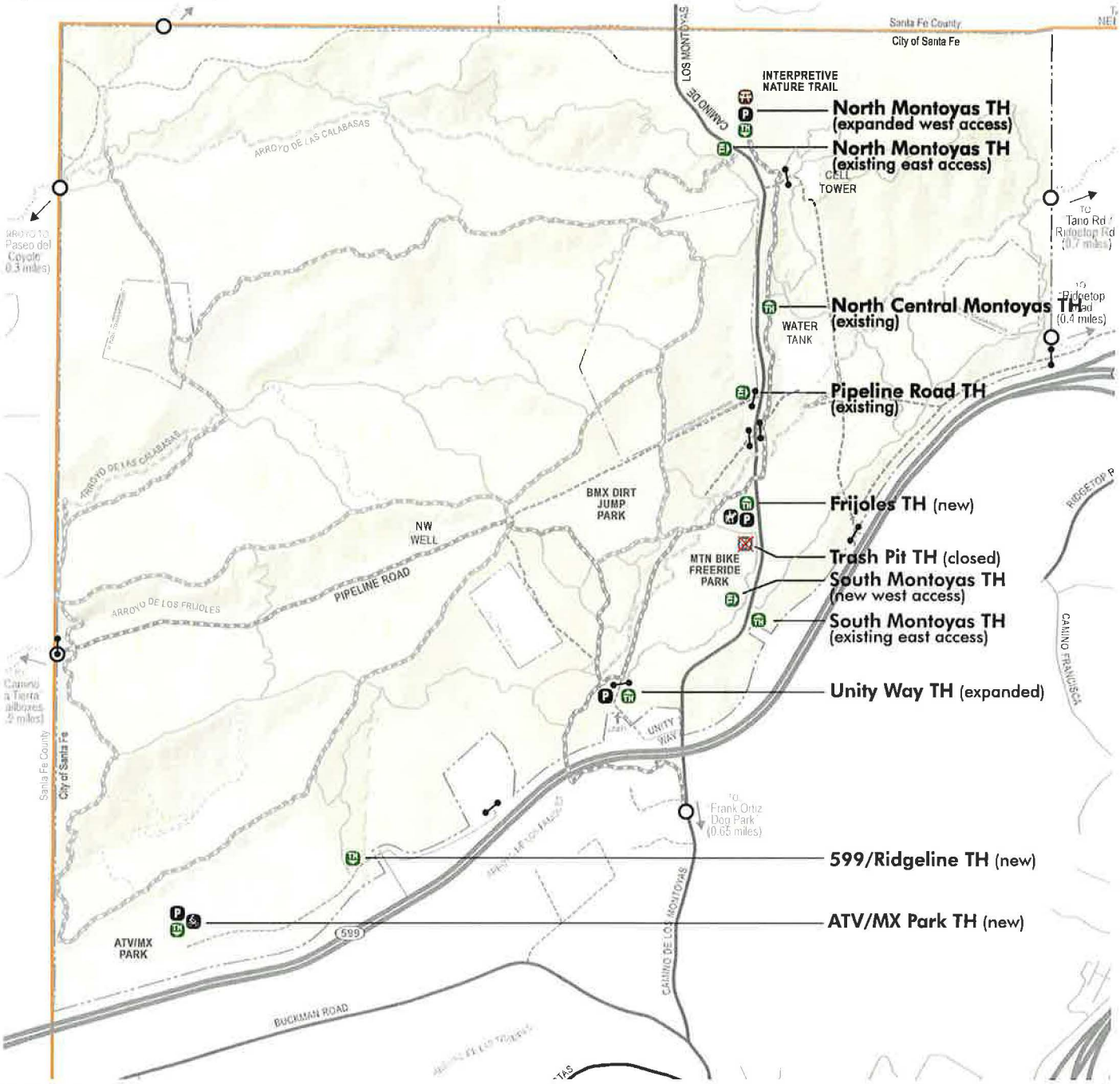
Trail access points are located along the perimeter of the La Tierra Trails site. They will provide trail access to non-motorized trail users (hikers, bikers, equestrians) across the site, into (and from) regional connector trails. These trail access points will be controlled by gates or other measures in order to prevent motorized users from entering the La Tierra Trails sites.

Arroyo Trail Access
Historical access through arroyo bottoms has been maintained for trail use for hikers and equestrians. These arroyo trails traverse the La Tierra Trails site and connect to drainage systems beyond. These arroyo access points include the Arroyo de las Calabasas connection in the northwest corner and the Arroyo de los Frijoles connection along the east property line.

Regional Trail Access
The Master Plan identifies connections to legitimate public trails located off-site, whether existing or proposed. These access points include the Camino La Tierra County trail connection along the west property boundary at Pipeline Road and the Santa Fe Estates trail connection in the southeast corner of the site.

Utility Easement Trail Access
Access gates for service / maintenance vehicles and emergency vehicles are located at all intersections between utility easements and property or right-of-way boundaries. While these gates will be locked to all motorized vehicle use, trail users can access these easement trails on a limited basis.

Figure II-6: Trail Access Map



LEGEND

- Master Plan Project Boundary
- Property Line (within Project Area)
- City / County Boundary
- Major Road
- Minor Road
- Minor Road (un-paved)
- Restricted-Access Road (un-paved)
- Property Line
- Utility-leased Fenceline
- Building Footprint
- La Tierra Open Space Area
- River
- Arroyo
- Other Drainageway

Trail Access: Trailheads, Parking, and Amenities

- Trailhead, Major (with parking: 10+ vehicles)
- Trailhead, Minor (with parking: up to 10 vehicles)
- Trailhead, Equestrian Accommodations (parking and trail access)
- Trailhead, ATV / MX Park (parking and trail access)
- Trailhead, Closed
- Trail Access (trail connection)
- Service Gate (restricted-access)

C. USE OF THE LA TIERRA TRAILS

The La Tierra Trails area has several different land owners, an array of easements and land leases, and diverse security needs. Because this open space area is not just a recreational area for trail users, all site users must be able to use and access the site without affecting or limiting use or access by another party.

GENERAL AND DAILY USE

Recreational Use

Daily access to the trails will be supported through trailheads and perimeter trail access locations. The trails and trailheads will be open to the public during regular park hours of sunrise - 10 pm according to City of Santa Fe Park Regulations.

No motorized vehicles, with the exceptions of park maintenance, utility service vehicles, and emergency vehicles will be permitted within the La Tierra Trails area.

Service / Utilities

Many easements exist on the La Tierra Trails site, as well as several utility facilities. Utility companies with special access into the site via the service gates are: Sangre de Cristo Water Company (water easements, Pipeline Road, Water Tank, NW Well, and access roads), PNM (electric easements), New Mexico Gas Company (gas easements), and Quest (Cell Tower and access road).

Pipeline Road is located within a utility easement for water and gas lines that runs east-west across the trails site. It is patrolled daily by a security guard for the Sangre de Cristo Water Company. The water tank, located at the terminus of Pipeline Road, just east of Camino de los Montoyas, is a 10 million gallon reservoir for City drinking water. Its site is secured and occupied 24 hours a day by a water company employee that resides there.

Under the easement and lease agreements with the City and the utility companies, it is important that the daily use of the trails by hikers, biker, or equestrians do not conflict with the necessary duties and obligations of these various utilities.

Emergency Use

At times, there may be an emergency out on the trails. In the case of an injury or accident, fire and/or police department vehicles will respond and be able to enter the trails from any service gate.

Maintenance Use

On a regular basis, the trails, trailheads, parking areas, and site fencing will be inspected, maintained, and at times repaired. The parks department or trail stewards may need to access the site with either a small vehicle or water truck in order to bring supplies or tools to a specific location within the trails. These parties will be able to enter the site from designated restricted-access service gates with permission from the Parks Department, who will be responsible for unlocking and locking gates.

Individual Property Owners

The landowner of the one private property located interior to the La Tierra Trails site will maintain legal access to its privately owned 10-acre site.

The Santa Fe Public Schools Board of Education, owner of three separate parcels within the La Tierra Trails site, has agreed to conditionally allow the City of Santa Fe to provide trail users access to the existing trails that are on SFPS lands as part of the City's trails network. As Master Plan implementation moves forward, the City of Santa Fe and Santa Fe Public Schools will work toward a formal agreement for trail access, use, liability and maintenance on SFPS property.

Access to a single privately-owned property located within the County that accesses from the City-owned dirt road along the northwestern boundary will maintain legal access per State Supreme Court Order #SF 87-302 (C). The City of Santa Fe will resolve the currently tolerated use of a small segment of this same City-owned dirt road by some County residents whose legal access to Avenida de Sevilla is from an unfinished segment of Vista Chicoma in the County.

SPECIAL USES + EVENTS

La Tierra Trails is already recognized as a venue for recreational events (see inset to right). With the realization of the Master Plan, the City anticipates that the La Tierra Trails will most likely attract more annual events for all trail user groups.

To best accommodate current and future special uses and events, event planning and permitting is required.

Permitting

A Special Use Permit is required for all organized activities held at the La Tierra Trails and can be obtained through the City Parks Department. As part of the permit application, event organizers must provide a map of the arrangement of activities proposed within the open space area. These include event area / routes; parking locations for coordinators, volunteers, participants, and spectators; staging areas, etc.

Because the La Tierra Trails site maintains a number of land uses and operations, event staff and volunteers must be aware of certain regulations of use for the site:

- Pipeline Road and access to Pipeline Road must remain clear at all times. No parking, events, or other obstructions will be permitted.
- Vehicular site access (for set-up, equipment, etc.) will be allowed on a limited basis by permit only.

Event Parking

Depending on the projected number of vehicles, event parking at the La Tierra Trails is anticipated to be distributed among a series of parking lots in close proximity to the main event area. Generally, parking lot improvements for La Tierra Trails trailhead areas will accommodate parking demands most of the time, so no parking lots will be larger than 50 or 60 cars.

For larger events, the Master Plan identifies a location for a new, temporary, overflow parking lot on the west side of Montoyas, off of the restricted-access Pipeline Road easement. This event parking lot could provide parking for up to 90 cars and would be located within the trails area and out of sight from the Pipeline Road intersection with Camino de los Montoyas. It would be available for use during registered, permitted events only.

Another option for larger event parking includes utilizing off-site parking areas with shuttles to the event area.

There are currently two large annual events held at the La Tierra Trails.

The La Tierra Torture mountain biking race is held at the La Tierra Trails yearly, in early May. In 2010, the race attracted around 250 competitors.

An annual Trail Jam is held at the BMX dirt jumps during the late summer. The event has drawn increasing numbers of competitors each year from all around the state.

Image II-3, II-4: For references see back section.

D. RECREATIONAL CONNECTIONS TO THE TRAILS

As a wilderness trails destination, the La Tierra Trail system offers an array of trails for different users of varying abilities. Of primary importance is connecting this trail system to the larger, regional trails, paths, and bike routes within the City of Santa Fe and Santa Fe County. Trail connections should provide clear, safe, and convenient access to both wilderness and urban trails in order to promote walking, biking, and horseback-riding to the La Tierra Trails area.

By highlighting existing connector trails and proposing new trails, the La Tierra Trails trail system can become a more recognized recreational destination for the city.

The wilderness trail access points outlined in the master plan are located to allow trail connections in all directions.

REGIONAL ROUTES + TRAILS

Urban Bicycle Routes (existing)

According to the Santa Fe Metropolitan Planning Organization's 2011 Bicycle Map, all City roads bordering and bisecting the perimeter of the La Tierra Trails site are designated as bicycle routes, or shared-traffic roads. Although these roads vary in traffic speed, they all provide paved, bikeable routes to and around the La Tierra Trails area.

Wilderness Regional Multi-Use Trails (proposed)

The regional multi-use trail proposed for the La Tierra Trails Master Plan connects major activity hubs within the La Tierra Trails to the closest City park and to a major County trail.

This regional multi-use trail will make use of an existing pedestrian/bicyclist/equestrian underpass at NM-599 to provide a safe means of access to the La Tierra Trail system.

It is proposed that, from the underpass, the trail will run east within the NMDOT right-of-way and enter the Northwest Quadrant, city-owned land. The trail will cross Camino de los Montoyas at a safe road crossing and run south, east of Camino de los Montoyas. The trail is proposed to eventually connect to the Frank Ortiz Dog Park on Camino de las Crucitas.

REGIONAL TRAILS WITHIN LA TIERRA TRAILS

Wilderness Regional Multi-Use Trails (proposed)

Within the La Tierra Trails system, the regional multi-use trail will connect the Unity Way Trailhead, Frijoles Trailhead, and the North Montoyas Trailhead along one clear trail. The regional multi-use trail will fork just north of the Unity Way Trailhead and connect to the BMX Dirt Jump Park and key trail intersections along the western half of the water easement, Pipeline Road.

The Pipeline Road water easement provides access through the western site boundary and into County land along an old roadbed just north of the Arroyo de los Frijoles. This double-track trail connects to the parking lot off of Camino la Tierra, one mile beyond the property boundary.

Arroyo Trails (existing)

Arroyo de los Frijoles

The one major arroyo that traverses the site of the La Tierra Trails is the Arroyo de los Frijoles. The main spurs of this arroyo, both on the west and eastern boundary of the site, will provide regional access across and beyond the site.

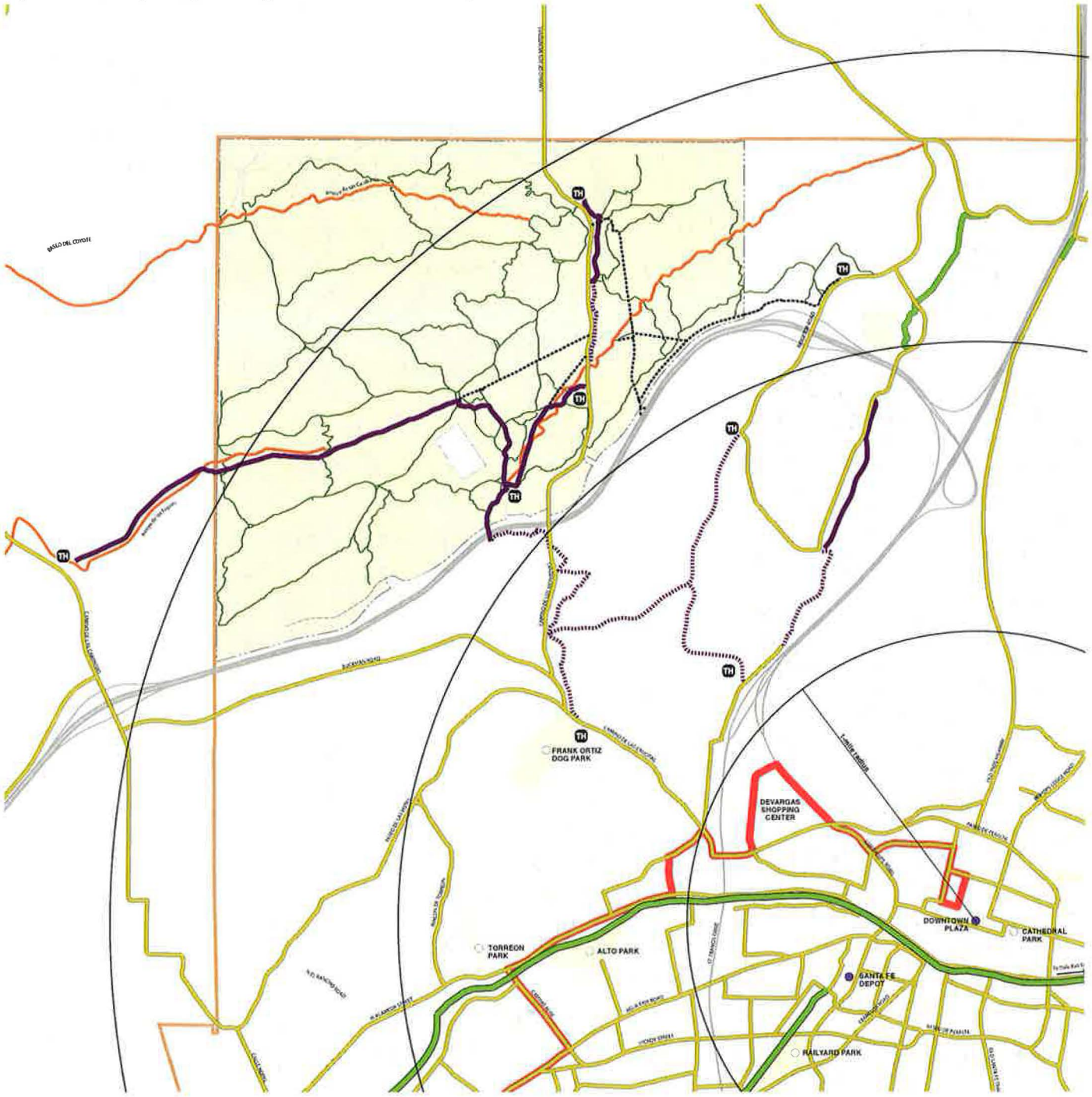
The northern spur of the Arroyo de los Frijoles crosses the western boundary of the site at the Pipeline Road trail access point. This arroyo trail connects all non-motorized trail users from the La Tierra Trails to the large parking lot off of Camino la Tierra, one mile beyond the site boundary.

At the eastern boundary, the southern spur of the Arroyo de los Frijoles (which enters the site near the Unity Way Trailhead) crosses the Santa Fe Estates property boundary. The arroyo trail here continues through Santa Fe Estates' designated open space area, and currently connects with Tano Road. Once the property is developed, the trail easement will remain, however the trail will cross several neighborhood roads along the way.

Arroyo de las Calabasas

Near the northern limit of the La Tierra Trails, the Arroyo de las Calabasas crosses the western boundary of the site. The arroyo trail travels 0.3 miles through County land to the neighborhood road, Paseo del Coyote.

Figure II-7: Existing + Proposed Regional Trail Connections Map



E. PUBLIC INTERFACE

Facilitating public and user interface with the La Tierra Trails open space and recreation area will increase appreciation for and stewardship of this public amenity. While a significant portion of this involves physical improvements such as connections (See *Section II-D: Connections to the Trails*), signage (*See Section III-G: Signage*), and implementation projects (See *Section II-F: Master Plan Project Implementation*), opportunities exist to promote or communicate with the public through other venues.

Public Information

Information on public open space areas can be accessed in a variety of different locations and venues: websites, brochures, maps, boards, etc. The City can build on this existing outreach, as they have an opportunity not only to generate recreation- and trail-focused material to highlight the City's diverse wilderness trail offerings, but also to distribute this information in a broad-reaching manner.

Developing promotional material about the City's trail system and wilderness trail offerings could include:

- developing wilderness trail brochures / maps in hardcopy and downloadable printable versions
- improving website information to focus on recreational trail offerings, status, suggested routes, volunteer opportunities, etc.
- installing community boards at trail kiosks to present current information about recreation and trails areas

The distribution of this promotional material to reach a wide audience could be accomplished by:

- providing wilderness trail information on the City's webpage
- providing information at activity centers such as the City's community centers and parks
- distributing brochures and maps to local tourist sites, schools, and public information centers

Public Outreach

Public outreach and interface can be facilitated either having an interactive website or partnering with other groups that focus on relaying and updating trails-related information.

The City website could be used to provide up-to-date information to the public on trail-related issues such as:

- suggested trail routes for varying abilities
- prescription trail offerings for health
- trail closure status
- volunteer work efforts
- special events

Conversely, park staff could benefit from opportunities for users to interface with the website by allowing the public to :

- identify and report trail maintenance needs
- initiate trail adoption efforts

F. MASTER PLAN PROJECT IMPLEMENTATION

In order to establish the La Tierra Trails recreation area as set forth in this Master Plan document, a series of projects have been identified and prioritized. The projects outlined in *Figure II-8: Project Implementation Timeline* and F*igure II-9: Implementation Projects Map* represent the major priority projects recommended to be completed by the City in order to realize the plan.

Projects are listed according to the following categories: access control, clean-up, signage, connections, and master plan. Within each category, priority projects are generally listed at the top. These projects stand out in part because they help ensure the safety and security of all the users and/or provide clarity and greater accessibility to the trail system.

As part of the 2008 Parks General Obligation Bond approved by the public, $2.9 million was allocated for Northwest Quadrant Open Space and Trails. While a portion of this has been used to address access control, cleanup, and master planning costs, the remainder is available to implement priority projects. Projected costs and implementation timelines are estimates and are subject to adjustment as projects, approvals, and construction timelines are finalized.

Volunteer Involvement

Efforts will be made by the City to work with volunteer organizations and individuals to help implement some of the projects and assist with stewardship and maintenance. This serves a dual purpose: it builds community appreciation and support for the project, and permits cost savings to be applied toward other projects.

Project Implementation Process

Projects listed in *Figure II-8: Project Implementation Timeline* will be implemented under the direction and administration of City staff. In all cases, proper procedures shall be followed regarding site clearance, design (*see Chapter III: Design Guidelines*), approvals, and construction.

New projects completed as part of the Trails Master Plan will need to follow all City, State, and Federal guidelines for archaeological review and clearance prior to construction. New trail construction is no exception.

In the past, site improvements have been made ad hoc without City knowledge or following due process. Upon adoption of the Master Plan, all projects shall follow proper procedures. Site improvements conducted without following proper procedures will be subject to dismantling or revegetation.

Figure II-8: Project Implementation Timeline

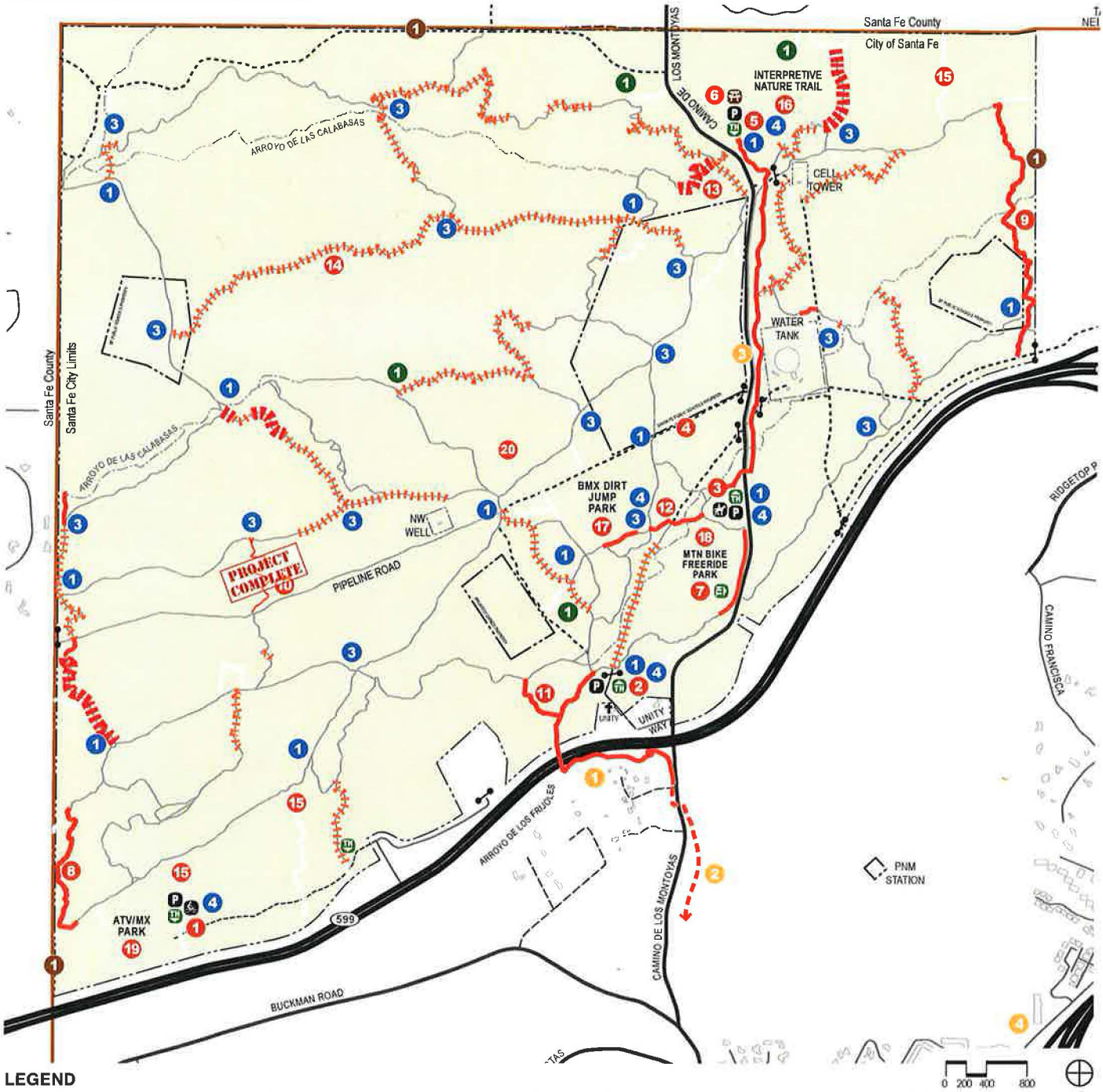
Implementation Timeline for Projects (anticipated best case scenario) **LEGEND** Planning + Design + Approvals Construction + Implementation

No.	Project Type		Project	Cost Range	Timeline: 2011-Q1	2011-Q2	2011-Q3	2011-Q4	2012-Q1	2012-Q2	2012-Q3	2012-Q4	2013-Q1	2013-Q2
Five Priority Categories for Future Expenditures				$3,270,000*										
ACCESS CONTROL				$300,000										
1	Fencing	New / Repair	Perimeter Fencing + Access Control Secure perimeter of site along LTT property lines (new fence installation + fence repairs), install perimeter fencing around technical park areas, and upgrade access gates /chicanes to comply with standards.	$300,000										
CLEAN UP				$100,000										
1	Clean-Up		Trash Clean-up Clean up remaining areas with trash.	$100,000										
SIGNAGE				$120,000										
1	Signage	New	Phase 1 - Orientation Signage A phase 1 signage system will include critical orientation signs and internal trail markers.	$30,000										
2	Signage	New	Phase 1 - Trail Maps Trail map brochures will be published for public distribution.	$10,000										
3	Signage	New	Orientation / Regulatory Signage Fabricate and install wayfinding signage for the La Tierra Trails area. This includes orientation and regulatory signage as proposed in the draft signage master plan. The family of signs includes trailhead kiosks, trailhead signs, internal regulatory signs, internal orientation signs, and internal trail markers.	$60,000										
4	Signage	New	*Interpretive Signage* *Interpretive signs at major trailheads, nature areas, and vantage points will provide information on the native ecology, geology, history of the site, etc.*	$25,000										
CONNECTIONS														
1	Trail	New	Multi-Use Regional Trail - NM 599 ROW Underpass Connector Trail A new multi-use regional trail will provide a safe connection to the LTT trail system by making use of the existing NM 599 underpass (west of NM599 / Montoyas intersection). This ca. 0.5 mile new trail segment will connect from a new trail access point on the east side of Montoyas (south of NM 599) to a new trailhead north of Unity Church and terminate at a new large trailhead /parking area at the Frijoles Arroyo / Montoyas intersection.	$600,000										
2	Trail	New	Multi-Use Regional Trail - Dog Park to NM 599 Connector Trail A new multi-use regional trail segment will provide a safe off-road connection from neighborhoods south of NM 599 to the LTT trail system. This ca. 0.65 mi trail will connect from the Frank Ortiz Dog Park to the NM 599 underpass trail.	$300,000										
3	Trail	New	Multi-Use Regional Trail - North of NM 599 A new ca. 0.65 multi-use regional trail will provide a safe off-road connection from the new 'Frijoles' trailhead north to a new expanded cell tower trailhead.	$300,000										
4	Trailhead	New / Repair	Mejia Park N Ride New trailhead and wilderness trail connection at the Park-n-Ride along Calle Mejia with signage.	$50,000										
MASTER PLAN														
1	Trailhead	New	ATV / MX Trailhead New ca. 0.3 mi access road and trailhead parking (15 vehicles w/ trailers) for dedicated motorized ATV/MX Park. The new ATV/MX Park will have a perimeter fence, signage, trail end maintenance access, and site amenities.	$400,000										
2	Trailhead	Expansion	Unity Church Trailhead New trailhead north of Unity Church with parking area for up to 30 cars, trail and maintenance access, signage, and site amenities.	$150,000										
3	Trailhead	New	'Frijoles' Trailhead New trailhead east of Montoyas south of Frijoles Arroyo with parking area for up to 60 cars, trail and maintenance access, signage, and site amenities.	$175,000										
4	Parking	New	'Pipeline' Event Parking New event parking area off of pipeline road for up to 80 cars.	$250,000										
5	Trailhead	Expansion	North Trailhead Drainage improvements and expanded parking area for up to 24 cars. The improved trailhead will have accessible parking, signage, trail and maintenance access, and site amenities.	$100,000										
6	Picnic Area	New	North Trailhead Picnic Area New group shade structure (18 x 36) with picnic tables (50 person capacity), 8 individual picnicking areas with connecting accessible pathway, signage, and site amenities.	$50,000										
7	Trailhead	New	Southwest Trailhead Montoyas + Miscellaneous Trailhead Improvements New trail access (chicane) west of Montoyas to access perimeter loop trail of entire 1500 acre area.	$5,000										
8	Trail	New	West Connector Trail New ca. 0.35 mi connector trail internal to site along west property boundary.	$20,000										
9	Trail	New	East Connector Trail New ca. 0.65 mi connector trail internal to site along east property boundary.	$30,000										
10	Trail	New	Central Connector Trail New ca. 0.25 mi connector trail between existing trail south of pipeline north to ridge trail.	$15,000										
11	Trail	New	Meadow Connector Trail New ca. 0.20 mi connector trail between new regional trail to meadow trail	$10,000										
12	Trail	New / Realign	Mountain Bike Freeride Park Connector Trails New ca. 0.40 mi connector trails around Freeride Area and connecting to BMX Park	$20,000										
13	Trail	Repair	Trail Realignment Various trail realignments into sustainable alignments.	$20,000										
14	Trail	Repair	Trail Repair / Rehabilitation Trail repair / rehabilitation for ca. 4.50 miles of trail.	$45,000										
15	Trail	Closure	Trail Closure Ca. 0.40 mi of trail to be closed and restored (old ATV / MX trails)	$20,000										
16	Trail	New / Repair	Nature Trail - Northeast Corner Nature trail area restoration and trail establishment.	$15,000										
17	Technical Area	New / Repair	BMX Dirt Jump Park Improvements BMX Park improvements to increase safety between BMX riders and spectators / other trail users, and to create a safer environment for BMX riders of various skill levels. Park improvements include perimeter fencing and signage, grading and drainage, maintenance amenities (water cistern, tool shed, etc.), and site amenities.	$75,000										
18	Technical Area	New / Repair	Mountain Bike Freeride Park Improvements Freeride Park improvements to increase safety between Freeride riders and spectators / other trail users, and to create a safer environment for Freeride riders of various skill levels. Park improvements include perimeter fencing and signage, grading and drainage, maintenance amenities (water cistern, tool shed, etc.), and site amenities.	$50,000										
19	Technical Area	New / Repair	ATV/MX Park Improvements ATV / MX Park improvements to increase safety between ATV / MX riders and spectators, and to create a safer environment for ATV / MX riders of various skill levels. Park improvements include internal fencing and signage, beginner area track, and additional site amenities.	$50,000										
20	Archaeology	New	Archaeological Clearance for Master Plan Improvement Projects Archaeological surveying, reporting, and clearance of areas of planned improvements.	$20,000										

*** Cost Estimates:** Cost ranges represent conceptual level estimates for project design, construction, and materials costs. Total project costs as indicated below amount to $3.3 million.

Environmental Sensitivity: The project team will recommend all projects to be sensitive and respectful of the natural vegetation and characteristics that are highly valued within the La Tierra Trails site.

Figure II-9: Implementation Projects Map



LEGEND

- Master Plan Project Boundary
- Internal Property Line
- City / County Boundary
- Major Road
- Minor Road
- Minor Road (un-paved)
- Restricted-Access Road (un-paved)
- Property Line
- Utility-leased Property Line
- Building Footprint
- La Tierra Open Space Area
- Existing Wilderness Trail
- Existing Arroyo Trail
- River
- Arroyo
- Other Drainageway
- Service Gate

Proposed New Construction Projects
- New / Improved Trailhead
- New / Improved Parking

Proposed Trail Improvements (See "Exhibit D")
- Trail, Proposed New Segment (#8-12)
- Trail, Proposed Repair / Rehab
- Trail, Proposed Realignment
- Trail, Proposed Closure*

Proposed Projects (See "Exhibit D")
- Access Control Projects
- Clean Up Projects
- Trail Signage Projects
- Trail Connections Projects
- Master Plan Projects

* Proposed Trail Closure to occur at trail segments that no longer contribute to the overall trail system. These trails may remain open but will not be part of the official La Tierra Trails network. Revegetation and physical closure of trails will occur at old ATV/MX trails that will not be part of the master plan's designated ATV/MX area.

DESIGN GUIDELINES

The La Tierra Trails Master Plan Design Guidelines are intended to ensure that improvements to La Tierra Trails result in a distinct recreational destination that harmonizes with existing natural features and is executed to minimize future maintenance demands. Design standards are specified for all trails, technical areas, special use areas, trailheads, and amenities of the La Tierra Trails so that the quality of the recreation and open space area can be sustained.

Standards for proper design and sound construction will ensure that improvements withstand the ravages of time, weather, and different trail users. Master Plan improvements implemented with these standards will also provide trail users better interface with the trail system to foster an appreciation for the trails, understand proper interaction with other users, and recognize the importance of preservation of the natural environment.

The following Design Guidelines outline standards and best practices particular to special conditions of the La Tierra Trails. This information is intended to serve as a basis for which improvements to the trail system and open space areas are made. Reference documents and/or standards are cited to serve as guidelines where items are not covered in these guidelines and should be used in conjunction with information included in these standards. These standards include:

- AASHTO
- American Disabilities Act
- City of Santa Fe, Land Development Codes
- USDA Forest Service, Trail Standards

All new construction should follow local, state, and national applicable codes.

Using the La Tierra Trails Design Guidelines:

Intent

- over-arching purpose and vision

Standard

- minimum requirement for all design and construction

Guideline

- desired goal for exceptional construction

A. TRAILS

A hierarchy of five different types of trails make up the La Tierra Trails system based on intended users needs and site specific conditions. Each trail type shall meet the guidelines as outlined in this document. New trail construction and existing trail maintenance shall conform to these guidelines to ensure that the quality of the trail system is sustained.

Intent

The trail layout and design standards in this document identify techniques to design and construct a sustainable trail system that is intended to minimize maintenance needs. Through proper layout and construction, trails can be more resistant to the destructive impacts of precipitation, freeze/thaw, and frequent or improper trail use. The following standards and guidelines are designated based on a trail's expected user type, user volume, and area drainage patterns.

The trail hierarchy of the La Tierra Trails provides an organization to the trails to minimize conflicts and maximize the recreational experience for each trail user. It also gives area visitors an overview of skill levels and an idea of what to expect when embarking on a hike or bike ride.

Standards

General Trail Construction / Maintenance

When constructing and maintaining trails, the following standards shall be used:

- USDA (US Department of Agriculture) Forest Service

Trail Layout / Alignment

New trail construction and realignments should consider existing topography, natural features, user type, recreational experience, skill level, and sustainable trail construction in the layout and execution of the trails.

When laying out trails, the following standards shall be used:

- USDA (US Department of Agriculture) Forest Service, or
- IMBA (International Mountain Bicycling Association).

TRAIL SYSTEM COMPONENTS

Intersections

Trail intersections should be clearly marked (see *Section III-G: Signage*), have adequate lines of site, and be designed for continuous flow. To clarify designated routes, techniques should be utilized such as: installation of edging material (stones, branches, etc), surface clearing of trail route, and revegetation of non-trail areas (see *Vegetation, below*).

Arroyo/Drainage Crossings

Trails that cross arroyos and drainage areas should be designed for minimal impact to the arroyo banks. It is assumed that most wilderness trails will not have constructed crossings and will descend into the sandy arroyo bottoms. At intersections with these crossings, warning signs should caution trail users of the sandy trail materials.

Bridge designs will vary depending on the length and height of the crossing and on type and amount of trail use. On open space trails, a simple wooden bridge may be used. Professional assistance should be sought to assist in designing and installing bridge and culvert crossings.

Vegetation

Native vegetation along all natural open space trails shall be preserved to the greatest extent possible to protect the aesthetic quality of the trail. Clearing of vegetation for trails, especially along embankments, should be minimized.

Native and/or self-sustaining plant materials should be used for revegetation of all disturbed areas to prevent erosion or for screening purposes. Construction techniques to preserve vegetation and trail routing techniques should be used to minimize visual intrusion.

Tree Trimming - Clearing Limits

It is important for all trail building and maintenance crews to properly trim branches and vegetation out of the trail corridor. Saw branches and brush back to the trunk or base of the tree or plant rather than cutting too deep into the tree or the opposite, cutting limbs only to attain the clearance limit (See *Figure II-1: Pruning at the Collar*). If a tree requires excessive pruning to accommodate the trail corridor, it may need to be removed. (*USDA FS*)

Revegetation

Revegetating areas disturbed during construction or areas not utilized by trail users serves the important function of stabilizing erosion-prone soils, providing greater wildlife habitat areas, and minimizing the loss of valuable top soil.

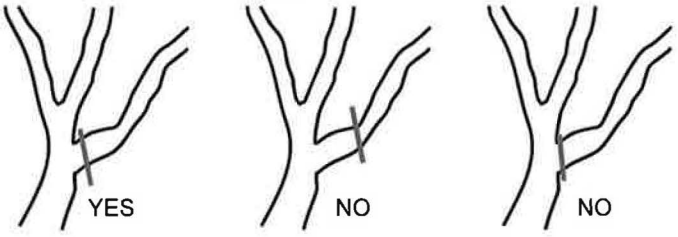
Revegetation projects should be installed during the rainy season and prime growing season (July 1 - September 15) to take advantage of natural rainfall. Proper soil preparation and application of mulch, soil amendments, and hydromulch with reseeding is important to the overall success of revegetation. To ensure greater success with revegetation, maximum side slopes of disturbed areas should be less than 3:1 slope. Areas with slopes greater than 3:1 should utilize natural jute netting over the hydroseeding to help with embankment stabilization.

Areas undergoing reseeding and/or revegetation should have signs to inform the public of the process.

Materials

Materials used for construction of site elements and for site restoration should be natural, locally sourced materials wherever possible. Imported materials should be kept to a minimum in order to retain the natural wilderness area. Where feasible, imported materials for erosion control should be used sparingly and should be biodegradable. Plastic materials should not be used for trail or trailhead elements, drainage structures, or erosion control.

Figure II-1: Pruning at the Collar



TRAIL TYPES

The trails master plan is comprised of five different trail types: the Regional Multi-Use Trail, Multi-Use Trail, Arroyo Trail, HIker/Biker Trail, and Technical Trail. Each trail should be designed, constructed, and maintained to meet its corresponding trail type standards.

Regional Multi-Use Trail

The Regional Multi-Use Trail is a wide, primary trail connecting neighborhoods to regional recreation areas and trail systems. Road crossings along this trail type should be avoided or minimized to allow the user a vehicle-free trail experience.

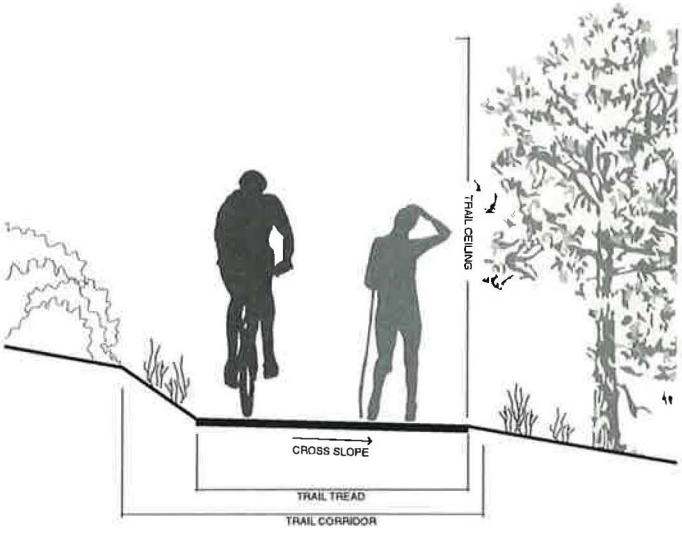
Standards

Tread Surface: Hard, packed, stable dirt, paved in some sections; free of large cobbles with occasional drainage crossings with sandy bottoms.

Features: Above-grade and at-grade arroyo crossings.

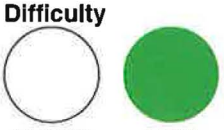
Trail Tread (width):	8 - 10 feet
Trail Corridor (clearing width):	12 - 14 feet
Trail Ceiling (clearing height):	10 - 14 feet
Cross Slope:	2-5% maximum
Percent Grade:	5% max (where possible)
Turning Radii:	50 feet (where possible)
Sight Distance:	90 feet

Figure II-2: Regional Multi-Use Trail Section



Users Permitted

Difficulty



EASIEST EASY

Multi-Use Trail

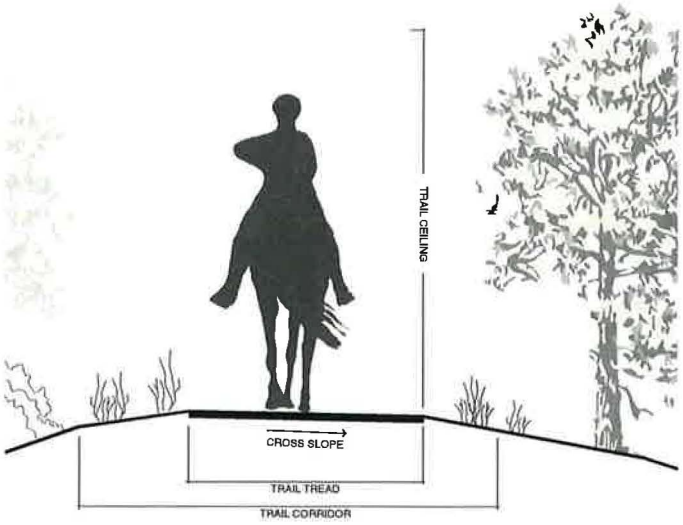
The Multi-Use Trail type provides the easiest, widest trails within the wilderness trail system. These trails have a wide clearing distance between vegetation and gentler grade changes, allowing ample sight lines and passing space. Overall, these trail characteristics provide the safest trail routes for all trail users.

Standards

Tread Surface: Hard, packed, stable dirt; free of large cobbles with occasional drainage crossings with sandy bottoms.

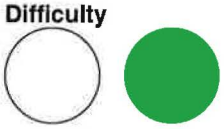
Trail Tread (width):	2 - 6 feet
Trail Corridor (clearing width):	8- 10 feet
Trail Ceiling (clearing height):	10 - 14 feet
Cross Slope:	2-5% maximum
Percent Grade:	5% or less (avg); 10% (max)
Turning Radii:	15 feet (min)
Sight Distance:	20 feet

Figure III-3: Multi-Use Trail Section



Users Permitted

Difficulty



EASIEST EASY

Arroyo Trail

The arroyo trails within the trail system follow designated existing major drainageways. They are linked to off-site arroyos and serve both as corridors for wildlife and as trails for equestrians and hikers. These sandy bottom trails vary in overall width, but all designated arroyo trails within La Tierra Trails will be maintained with certain minimum corridor dimensions to ensure safe travel.

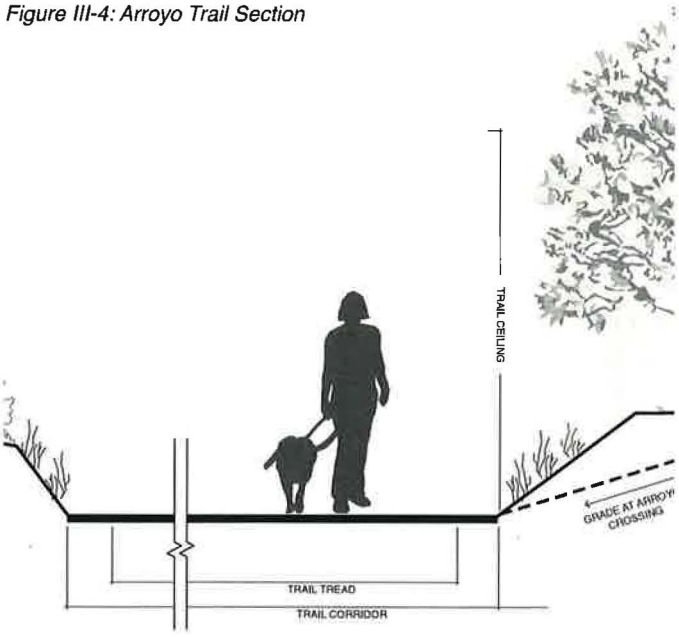
Standards

Tread Surface: Loose sand, arroyo bottom

Features: Densely vegetated embankments elevated from arroyo bottom.

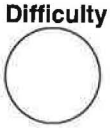
Trail Tread (width):	varies
Trail Corridor (clearing width):	8 feet (min) for passage
Trail Ceiling (clearing height):	NA
Percent Grade:	NA

Figure III-4: Arroyo Trail Section



Users Permitted

Difficulty



EASIEST

Hiker / Biker Trail (single-track)

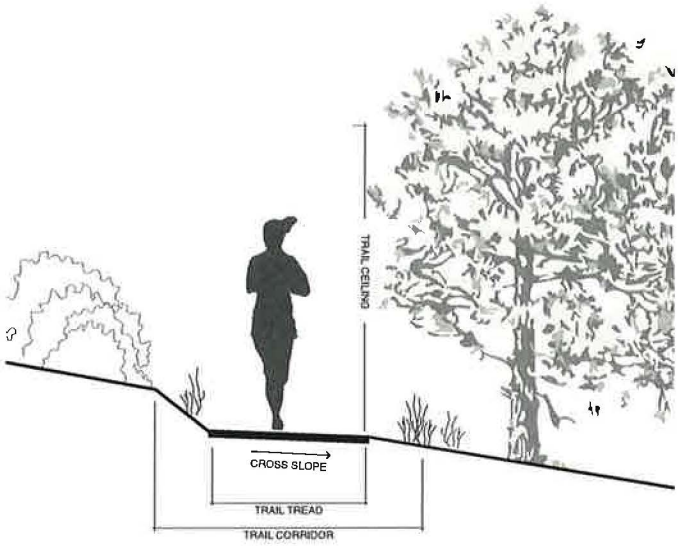
The Hiker/Biker Trail type provides more difficult trail segments off of the wider multi-use trails. These trails have varying grade changes and denser vegetation as well as tighter switchbacks.

Standards

Tread Surface: Hard, packed, mostly stable dirt; occasional loose rocks, drainage crossings with sandy bottoms.

Trail Tread (width):	18 - 24 inches
Trail Corridor (clearing width):	4 feet (min)
Trail Ceiling (clearing height):	8 - 10 feet
Cross Slope:	5%, typ.
Percent Grade:	10% or less (avg); 15% (max)
Turning Radii:	10 feet (min)
Sight Distance:	15 feet, typ.; varies (depending on density of vegetation)

Figure III-5: Hiker/Biker Trail Section



Users Permitted

Difficulty

Technical Trail

Technical trails occur within the system as alternate routes for more experienced bikers. These technical trails include bermed trail sides, constructed dirt jumps, or wooden bridges which add to the difficulty of traversing these narrower, steeper trail segments. These trails are clearly marked so that they can be avoided by non-technical trail users.

Standards

Tread Surface: Variable soil stability, loose rocks, drainage crossings with sandy bottoms.

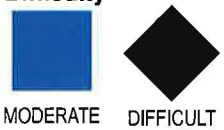
Features: Dirt jumps, bridges for technical riders with ride-around options.

Trail Tread (width):	18 - 24 inches
Trail Corridor (clearing height):	3 feet (min)
Trail Ceiling (clearing height):	8 - 10 feet
Cross Slope:	NA
Percent Grade:	15% or less (avg); 20%+ (max)

Figure III-6: Technical Trail Section

Users Permitted

Difficulty



TRAILS AT ROAD CROSSINGS

Trails that cross busy highways and roads at grade are to be avoided wherever feasible but can be done with care. Where a grade crossing must be done, a trail crossing at mid-block is the preferred method when long sight lines are possible. Crossing at an intersection should be done when the road is too busy or too dangerous to cross at mid-block, or when a roadside trail reaches the intersection.

The La Tierra Trail system has several instances where at-grade trail crossings are indicated mid-block. These trail crossings are opportunities to keep the trail network highly visible in the public eye. The entrances to the trail system on both sides of the road should be safe, inviting, and easy to use. Trail access entrances should follow guidelines outlined in *Section II-D: Trailheads.*

Trail Crossing at Mid-Block, Paved Road

Trail crossings of paved roads mid-block should be sited with clear sight lines and visibility of users. The following standards shall be used for trail crossings:

- Trail intersection should preferably be at 90 degrees to the road for at least 100 feet before reaching the road.
- Trail widths at intersections can be widened from the standard to accommodate users waiting to cross the road. Special consideration should be given to equestrian trail crossings. See *Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds, USFS.*
- "Trail Crossing" warning sign and warning markings (painted on the road) should be located in both directions at a distance from the trail crossing of 750 feet for rural roads and 250 feet for urban streets.
- Standard crosswalk markings according to City of Santa Fe standards should be used to mark trails crossing the roadway.
- Warning signs along the trail should be located as warranted to warn users of upcoming road crossing.

B. TECHNICAL AREAS

Three designated technical areas, or parks, have been identified within the trails master plan for existing user groups. The BMX Dirt Jump Park, the Mountain Bike Freeride Park, and the ATV/MX Park provide recreation areas for trail users with advanced riding skills and proper equipment. To ensure the safety of all La Tierra Trails users, the Master Plan calls for the addition of signage, fencing, perimeter trails, and general area amenities at each of these areas.

As these improvements are implemented at each of the technical areas, the technical areas themselves shall be master planned. Master plans for each technical area shall outline the nature and location of upgrades, prioritize improvement projects, and ensure the plans conform to the master plan and design standards. New tracks or trails proposed in this master plan must be implemented following the proper procedures outlined in *Section II-F: Master Plan Project Implementation.*

Intent

To help provide safe and enjoyable technical areas, technical park areas shall have distinct boundaries and entry points that clearly communicate information about the park, required equipment, and best practices for safety and risk management. Each technical park area design shall consider the full range of individuals who may come in contact with the technical area, including riders with varying skill levels, spectators, and those not interested in entering the area. Each technical park shall provide locations or routes for beginner, intermediate, and advanced skill riders that are clearly marked.

Image III-1: A clearly marked alternate trail is provided next to the more challenging 'optional line'. (Tom Brown Park, Tallahassee, FL)

The extent of technical park interior development should match the capacity to maintain those areas, since technical park features and jumps generally require a higher level of maintenance.

Standards

The following standards were developed with the assistance of the online IMBA article *"Eighteen Steps to Building a Dirt Jump or Freeride Park".*

Plans should be developed for all the technical park areas in order to help guide future design and construction of the areas:

- *Technical Park Area Master Plan*
  A master plan of the entire technical park area shall be created to illustrate the proposed layout of use areas and skills level areas. Plans shall be generated in consultation with City staff and technical area users. Where possible, specialty designers should be hired to provide this plan. The plan should include proposed design schemes for expansion areas.

- *Construction Plan*
  The creation of a construction plan will help City staff and officials better understand the long-term intentions and goals of each technical rail user group and their associated park areas. The plan should include phases and funding options for the various elements of the park.

All technical park areas should incorporate essential elements into the park designs for both safety and enjoyment:

- *Perimeter Fencing*
  Perimeter fencing shall be installed along the edges of the technical area boundaries to designate the limits of technical areas and inform trail users of specialized areas. Fencing types shall follow fence guidelines outlined in *Section II-E: Fencing + Access Gates.*

- *Gathering / Spectator Area*
  A gathering / spectator area shall be located centrally with views of technical areas but a safe distance away from them. The gathering /spectator area shall be accessible from the larger trail network, but fenced apart from the technical trails, which will provide safety for spectators. Access to the spectator area should not cross technical area trails.

- *Signage*
  Signs shall be placed at all entrances and key points of intersection into the technical areas and within the main gathering / spectator area. Signs should include a map of the technical park area and the basic guidelines and rules for safety and helmet use. Signs should also warn riders of the risk associated with using these areas and provide helpful riding tips, in addition to emergency contact numbers.

- *Maintenance Amenities*
  Maintenance amenities and materials to assist with routine maintenance of technical area features should be cited in a convenient location away from technical area features. Amenities such as water tanks shall be located close to multi-use trails or utility easements so water trucks can convenient refill them with minimum disturbance. Amenities shall follow site amenity guidelines outlined in *Section II-F: Amenities.*

- *Grading + Drainage*
  Stormwater should drain away from riding lines. Depressions and low spots between jumps or on pump tracks should be modified so water sheds away from use areas. Parks that provide better grading and drainage of jumps dry out sooner after rainstorms. Direct stormwater in swales towards landscape revegetation areas.

- *Beginner Skills Area*
  Beginner skills areas shall be created in a distinctly separate section of the technical park area. Lines or features here should consist mainly of tabletop jumps with possibly one or two lines of semi-tabletops. Jumps in the beginner lines should be between 2-3 feet in height and spaced 5-7 feet apart.

- *Skills Area Progression*
  In addition to creating a distinct Beginner Skills Area, it will be important to design jumps and areas that cover a full spectrum of skill levels. This will allow beginners to safely begin using the technical park areas.

- *Incorporate Fall Zones in Technical Features*
  Incorporate cleared areas alongside technical features that will act as fall zones for riders unable to clear a difficult trail feature.

Continual repair and maintenance of the technical park areas is essential to the sustained enjoyment and safety of the parks.

- *Maintenance Plan*
  A maintenance plan should be included as part of the park Conceptual Drawing and Construction Plan. Develop a Maintenance Plan that lists all features, jump lines, or loops within the park. Develop a system to periodically inspect the elements of the park to ensure proper upkeep and maintenance of the area.

Guidelines

General trail construction guidelines addressed in *Section III-A: Trails* should be followed. This will ensure a consistent and cohesive trail network that is sustainable, easy to maintain, and with the lowest impact on surrounding wildlife and vegetation.

The following information provides best practices and suggested design and building improvements for the technical park areas.

- *Optional Lines*
  Incorporate optional lines at particularly difficult obstacles or features which may be too difficult for some riders. Provide a more difficult alternate route outside of the trail flow on easier lines, and provide the more difficult route on the main trail on trails that are flagged as more advanced.

- *Trail Filters*
  Incorporate trail filters as a way to announce the entry to a technical trail and serve as an example of the skill level required for certain trails or jump lines. Trail filters are "high-skill-level, low-consequence obstacles" that help to warn un-experienced riders of subsequent skills areas along the route.

Technical Trail Building References

- Eighteen Steps to Building a Dirt Jump or Freeride Park
  http://www.imba.com/resources/freeriding/18-steps-building-dirt-jump-or-freeride-park
- "Fifteen Tips to Building Excellent Downhill Trails"
  http://www.imba.com/resources/freeriding/fifteen-tips-building-excellent-downhill-trails
- "How to Build Dirt Jumps"
  http://www.wikihow.com/Build-Dirt-Jumps

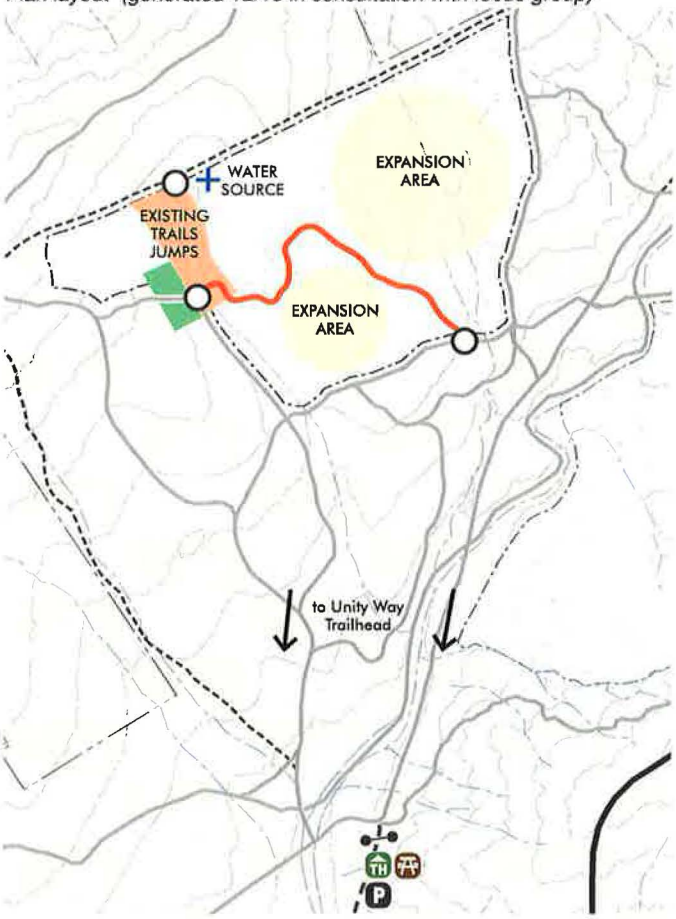
BMX DIRT JUMP PARK

The internal location of the BMX Dirt Jump Park necessitates designing a clearly identifiable and easily accessible entry point for BMX riders. Both major trailheads to the east and south of this area are ca. 0.35 miles from the existing jump area.

The BMX Dirt Jump Park area layout should consider both the organization of perimeter site elements and access as well as internal elements and circulation. The design should prioritize safety. Perimeter site elements include: main access points, signage, fencing, and spectator area(s). Internal site elements that should be logically placed include: maintenance area (convenient to access routes for trucks and for ease of user maintenance), roll-in mound, dirt jump lines / skate park feature locations and configuration, internal non-technical circulation.

Upon final build-out, maintenance supplies should be conveniently and securely located within the technical area. Vehicular access for maintenance will be limited.

Figure III-6: BMX Dirt Jump Park - Proposed conceptual Master Plan layout (generated 12/10 in consultation with focus group)



MOUNTAIN BIKE FREERIDE PARK

The Mountain Bike Freeride Park is conveniently located off of Camino de los Montoyas and will have direct access from the new Frijoles Trailhead.

Future improvement plans of the Mountain Bike Freeride Park should include a sufficient buffer along the eastern edge of the park to allow for safe hiker/biker movement between the park and the property boundary. Perimeter and internal improvements should focus on logical organization of park elements, safety of all users, clarity of signage, and ease of maintenance.

A beginner area should be planned in close proximity to the technical area main point of access. A location for maintenance supplies should consider ease of access by City maintenance trucks from the trailhead parking lot or Camino de los Montoyas.

Figure III-7: Mountain Bike Freeride Park - Proposed conceptual Master Plan layout (generated 12/10 in consultation with focus group)

ATV / MX PARK

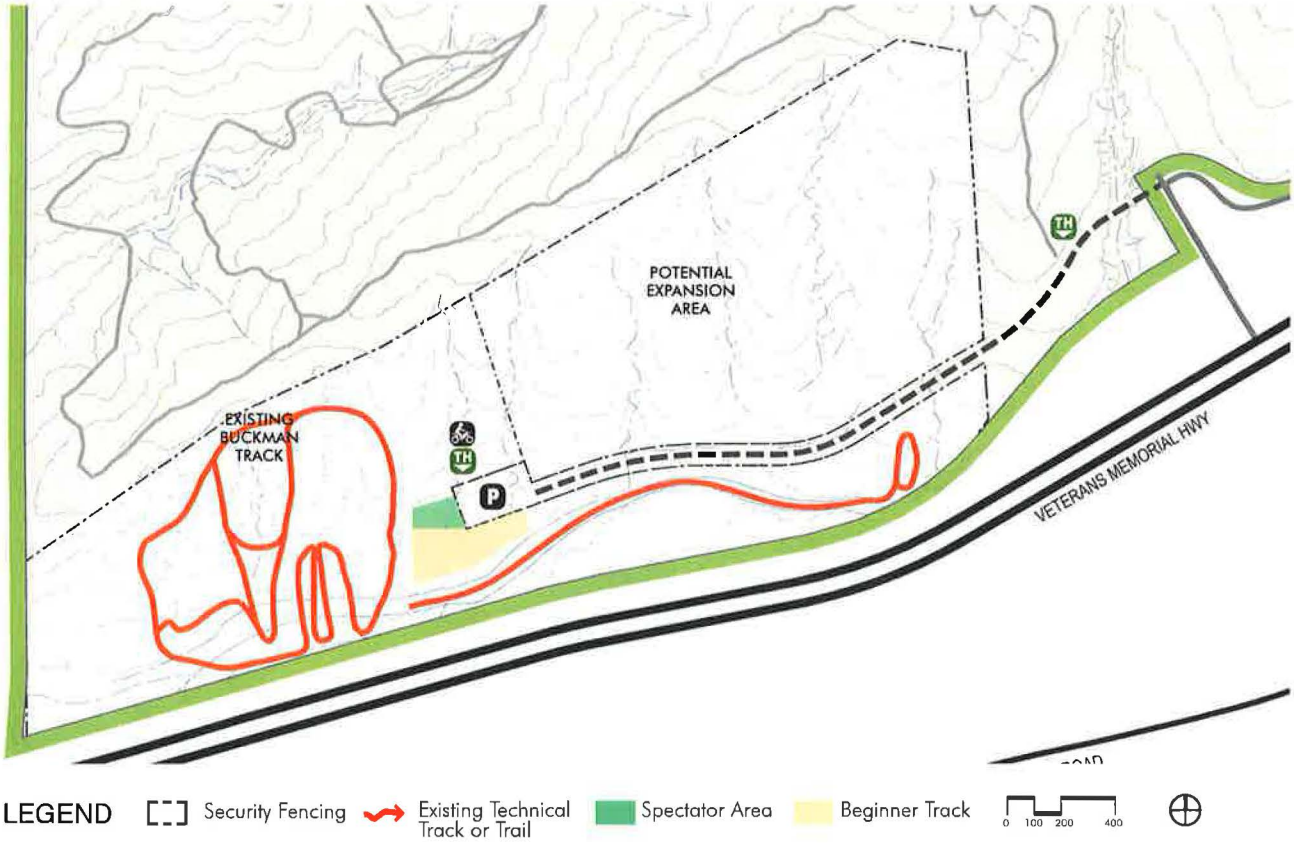
As the first legal ATV/MX Park in the City limits, an opportunity exists to plan the new park in a way that models best practices of safety and enjoyment for all users. Paramount to achieving this is the proper planning, layout, construction, and signage of the area.

While the current track has been in existence for almost 40 years, as the Master Plan is adopted, the park should anticipate a greater number of users of all skill levels. The park should be planned for the safety of all existing and future users and spectators.

Best practices and lessons learned from other municipalities should be followed for park improvements as well as for risk management and maintenance.

The park should clearly separate beginner and spectator areas from remaining park areas, and minimize circulation conflicts between track access and the tracks themselves. A main gathering / spectator area, located next to the parking lot, should allow non-motorized users to view the technical track and its riders. This area should be fenced apart from the technical trails to provide safety for spectators. Signage at the trailhead should provide riders with a comprehensive view of the designated motorized area, explaining the skill levels needed to ride the technical tracks. Signage will also set the rules and guidelines for use of the area, explicitly stating that motorized vehicles are not allowed within the rest of the La Tierra Trail system.

Figure III-8: ATV / MX Park - Proposed conceptual Master Plan layout (generated 12/10 in consultation with focus group)



C. SPECIAL USE AREAS

Special use areas have been designated within the La Tierra Trails for independent projects that serve a specific use within the open space and recreation area. The only special use area currently designated is the Interpretive Natural Trail site.

INTERPRETIVE NATURE TRAIL

The nature trail area is located on land that was previously used as an archery range by the Santa Fe Archery Club. The nature trail area should be planned and developed as a separate project.

Intent

The Interpretive Nature Trail Area is envisioned to be a space where visitors of the trails can come to learn about the wildlife, history, and ecology of this area of Santa Fe, while walking on a well-maintained, ½ - 1 mile loop trail. The area would be dedicated to establishing, monitoring, and informing visitors about ecosystems, environmental restoration, cultural heritage, and wildlife habitats. Partnerships with local environmental groups, non profits, or schools could be formed to help design, fund, implement, and maintain this area.

Standards

The area should include:

- a ½ - 1 mile loop trail, which will be a hard-packed, well-maintained trail that is ADA accessible.
- interpretive signage along the trail to educate users about existing natural resources and efforts to foster and expand those resources.
- a shade structure or main kiosk, located at the fork of the two-directional loop trail.
- a trail map, which can be printed out or posted as a large sign at the entry to the loop trail.
- a designated boundary, with access only from the southwest, off the North Montoyas trailhead and parking lot. (other La Tierra Trails will not be able to connect into the interpretive nature trail).

Guidelines

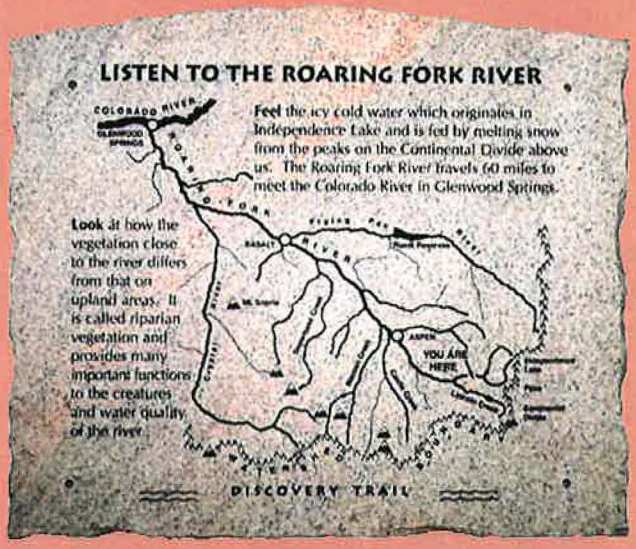
The interpretive signage should be straightforward, informative boards, and the signage of the trail should comply with the general standards set forth in the signage design guidelines.

Case Studies

Interpretive trails for the blind have been built across the nation. A wildlife sanctuary in Norfolk, Massachusetts uses a post and wire fencing type to guide visitors along the trail.

The Braille Trail and the Discovery Trail are interpretive trails that are located outside of Aspen, Colorado along the Independence Pass, State Highway 82. The Braille trail was built in 1961 within the intention of guiding blind trail visitors through a well-maintained trail. Informational signage, also written in Braille, encourages visitors to "experience the ecosystem through touch, sound, smell, and even taste". The Discovery Trail was built in 2000 and provides an educational trail experience for disabled visitors in mind.

At the Stony Brook Sanctuary in Norfolk, MA, fencing guides blind visitors along an interpretive trail with educational signage written in both English and Braille.



The signage along the Discovery Trail educates visitors of the Roaring Fork River, its watershed and the wildlife that it fosters.

Images III-2, III-3: For references see back section.

D. TRAILHEADS

Trailheads serve as important junctures or 'transfer points' between public roads, trails, parking, and access areas to the trail network. As the user's first impression of the trail system, the trailhead should provide necessary information where needed and should be physically attractive and inviting to use. Their proper location, design, and collection of amenities can help orient the trail user to provide a safe and pleasurable recreational experience.

As outlined in the Master Plan, two types of trailheads are designated for the La Tierra Trail system: Minor Trailheads with trail access and up to 10 parking spaces and Major Trailheads with trail access and larger parking areas and/or trailer parking. Trailhead and parking locations as indicated on the Master Plan are general and should be refined as more detailed design occurs. Each trailhead, parking area, and associated amenities should be designed specific to site conditions in an appropriate manner.

Standards

The following standards should be utilized when designing trailhead areas:

- Firmly tie the trail and vehicular space together
- Anchor the transfer point and trailhead area to the site using natural vegetation or features
- Use gateway effects at the transfer point and beyond
- Provide trail information for users
- Make the trailhead area safe and accessible for users
- Use appropriate and sustainable landscaping

Resources

"*Trails Design and Management Handbook*" Pitkin County Open Space and Trails, 1994.

2009 International Fire Code; Appendix D: Fire Apparatus Access Roads, Figure D103.1: Dead-end Fire Apparatus Access Road Turnaround

MAJOR + MINOR TRAILHEADS WITH PARKING

Trailheads with parking have three transition areas that should be considered so the transition from road to trail is smooth and pleasant: between the road and parking entry area, where you park and exit the car, and at the entry point to the trail system.

Siting and Layout

- Parking lot locations should be sited on flatter sites and be configured to meet suggested parking counts with a minimum of impact to the site and disturbance to existing vegetation.
- Parking area layouts should be rational and customized to each site. Utilize curved edges whenever possible and appropriate.
- Parking areas should follow the existing grades of the land as much as possible. Stormwater runoff should be managed toward vegetated swales and away from trails.
- Access connections to roadways should consider existing roadway drainage and provide culverts, if necessary.
- Parking spaces and parking lot circulation should be organized in a logical and space-saving way.
- Parking spaces should be located to permit safe, unobstructed access to the trail gates and entry points. Wheelstops can be used to designate pedestrian areas from vehicular or parking areas. Spaces should not block access to any service gates that may be located at the trailhead.
- At designated equestrian trailhead areas, parking space should be provided for horse trailers.
- A user information area should be included along the pathway adjacent to the trail access gate. Trailhead amenities and signage can be located in this area.

Visibility

- All trailheads should be marked and clearly visible from a distance.
- Where possible, trail kiosks or signs at the trail entrance should be visible from the road. In cases where this is not feasible, a major trailhead sign for motorists should be placed at the entrance to the trailhead area.
- The trail entrance, or transfer point, should be highly visible and utilize natural anchor points and gateway effects to draw users.

Materials

- Parking area surface should be gravel or base course in non-accessible areas.
- Wheelstops can be concrete or treated lumber.
- Bollards, boulders, or other natural elements such as vegetation can be used to delimit circulation zones or serve as anchoring devices.

Amenities

- Trailhead amenities should be tailored for the users of the particular trailhead. At a minimum, each trailhead should have a trash receptacle and signage.
- Dog waste stations and recycling receptacles should be provided at all trailheads with parking.

Landscape + Revegetation

- Topsoil removed from the parking area and vehicular spaces should be stockpiled and used for restoration and revegetation of cuts, fills and site disturbance.
- Clear limits of construction should be staked and fenced to minimize disturbance to existing vegetation.
- Areas surrounding the trailhead and parking area disturbed during construction should be restored with native vegetation. See Section II-A: Revegetation.

Emergency Access

- Parking lots should provide space for emergency vehicles to enter the parking lot area. Roadway clearance should be 26 feet minimum.
- At dead-end access roads with parking lots, parking lot areas should comply with the 96' diameter cul-de-sac design in *Appendix D of the 2009 International Fire Code, Figure D103.1 "Dead-end Fire Apparatus Access Road Turnaround"*. This will require that a 96 foot diameter turning area is provided within the parking area.

Fencing + Gates

- Trail user access should be controlled through perimeter fences and gates to access the trail system.
- Fencing and gate layout in parking areas should be designed with safety in mind to prevent short-cutting and direct users to the transfer point. (See *Section II-E: Fencing + Access Gates).*

MINOR TRAILHEADS WITHOUT PARKING

Trailheads without parking include places where a main trail meets a road but without a parking area.

- The transfer point should be easily visible from the road. Signs should be placed along the road warning drivers of upcoming trailheads and/or at grade crossings.
- The transfer point should have good sight lines along the road in each direction.
- The level of development should fit the context of the surrounding area.
- Fence sections or vertical elements can be used to direct users and draw attention to the trailhead, or transfer point.
- A user information area should be included in the layout to direct and inform trail users.
- Gate access should follow standards outlined in *Section II:E Fencing + Access Gates.* Gate type, location and setback should conform to the users and type of trail.

E. FENCING + ACCESS GATES

The La Tierra Trails Master Plan calls for perimeter access control to regulate types of users entering the trail system and safeguard users and the property itself. Access control includes fencing and logical points of entry designed to permit access by users of the trail system. The trail system as outlined in the Master Plan has internal loops that do not require use of trails on private lands for a return trip.

Fencing is an important component to achieving access control both along property boundaries and designated technical park areas. Perimeter fencing will help secure the La Tierra Trails open space from illegal trash dumping, overnight campers, and unregulated motorized vehicular use. Fences along technical area boundaries will ensure the safety of non-technical riders and limit riders from encroaching on the general wilderness trails and open space area.

At trailheads and trail access points, fencing and gates will frame a formal gateway, or entry, into the trails area. Access gate type and location will be dictated by the type of trail and trail users that are allowed access at those locations. Typical wilderness trail access points will prevent OHV access; OHV access is only permitted at the trailhead of the ATV/MX Park. Designated wilderness trail access points at key locations will accommodate park maintenance, emergency, and special events vehicles.

Materials

Intent

In keeping with the rural, wilderness area feel of the La Tierra Trails, all access control materials shall be constructed of natural, durable materials that blend in with the landscape and can withstand the local climate with minimal maintenance.

Standards

- Fence materials shall be metal, wood, or a combination thereof.
- Gate materials shall be metal, wood, or a combination thereof to compliment adjacent fence types and materials.
- Access control barriers shall be of natural materials such as boulders or steel posts.

FENCING

Perimeter Site Boundary

Intent

The primary objective of fencing the perimeter of the La Tierra Trails site is to secure the perimeter to prevent unwanted motorized vehicles from entering the land illegally. Fencing should still permit large and small wildlife animals from passing through the area. Fencing or perimeter access control measures should also allow water to flow freely within drainageways without holding up debris.

Standards

The entire perimeter of the property shall be fenced with a five-strand barbless wire fence or split-rail fence. In order to allow wildlife crossing, the fencing should maintain the following requirements*, where applicable :

- bottom wire/bar should be at least 16" above the ground
- top wire/bar should be 40" above the ground or lower
- top two wires should be at least 12" apart

* *Reference: "Fencing with Wildlife in Mind"*

Guidelines

- At large arroyos where designated trail access points are located, fencing should terminate along the embankment of the arroyo and trails should be accessed following standards set in *Access Gates: Arroyo Trail Access, pg. 54.* At large arroyos that are not access points, appropriate access control measures should be implemented to prevent unauthorized motorized access into the site.
- At small drainageways that are not designated access points, the water gap areas may be spanned with fenced using either large rocks supported by heavy gauge wire or line posts as anchor points.

Image III-4: Five-Strand Barbless Wire Fence along the west side of Camino de los Montoyas.

Motorized Technical Area

Intent

The entire perimeter of the motorized-technical area shall be fenced in order to prevent user conflict between motorized and non-motorized trail users. Vegetated buffers shall separate the motorized technical area from the adjacent non- motorized trail system. A single access point location off of the ATV/MX parking lot will have informational signage about the use of the area and allow safe entry to the motorized area for permitted users.

Standards

- The designated limits of the ATV/MX Park shall be fenced with a five-strand barbless wire fence. Fence standards should follow standards outlined in 'Fencing: Perimeter".
- The ATV / MX Park access road shall also be fenced to keep road vehicles from mixing with off-road recreation vehicles.

Guidelines

- Fencing along the north and west perimeter of the park should be set back from non-motorized trails by at least 50 feet.
- At key points along the perimeter, signs should be installed on the fenceline stating "ATV/MX Park Area - Do Not Enter".

Non-Motorized Technical Area

Intent

The perimeter of the non-motorized technical areas should be clearly marked and/or fenced to designate limits of technical park areas and separate technical areas from the remaining trail system. In heavily wooded technical area perimeters not adjacent to trails, the boundary may not need to be fenced, however, appropriate signage and fencing will need to be installed to prevent user conflicts in remaining areas.

Standards

- The visible perimeters of non-motorized technical areas shall be fenced using a post and cable fence or split-rail fence.
- At a minimum, fencing shall be installed within 100 yards of a trail.
- At junctures between non-technical trails and technical areas or technical area entrances, signs shall inform users of technical area boundaries and direct users towards designated entry points or non-technical trails.

Image III-5: Small drainageways can be fenced using heavy rocks to anchor the water gaps. Photo of La Tierra Trails, northern boundary; (10-14-10).

Image III-6: Post and Cable Fencing at the terminus of Pipeline Road.

ACCESS GATES

Gates or fence openings shall be selected and sited to permit easy entry of allowed users and prevent entry by unlawful users of the trail or area. Gates and opening types have been identified for selected trail types and technical areas. Other opening types not identified shall be reviewed by City staff prior to installation.

Figure III-10: Horse Gate with Wheelchair Accessibility (USDA Forest Service)

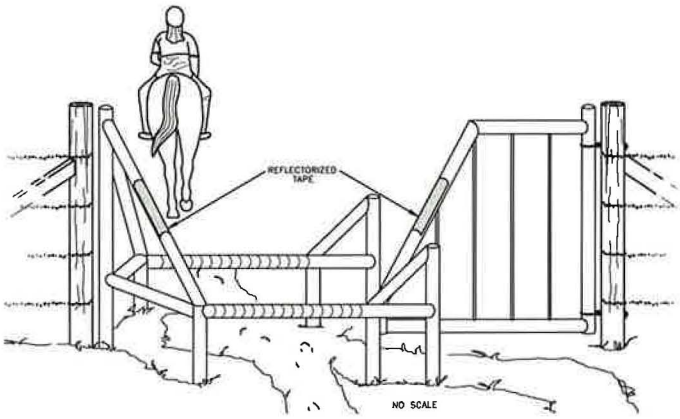


Image III-7: Current Trail Access Gate at the Unity Way Trailhead

Non-Motorized Trail Access

Multi-Use Trail Access

Intent

Multi-use trails are intended for all non-motorized users and their equipment. Access gates to these trails will serve to control motorized vehicles from entering the site, but must allow access for trail users of various sizes, including hikers with dogs, people in wheelchairs, strollers, bikers with their mountain bikes, and equestrians with their horses.

Standards

All trailheads and trail access points with entry into regional multi-use and multi-use trails will have trail gates designed according to the US Department of Agriculture, Forest Service standards to allow equestrian passage as well as wheelchair accessibility (see *Figure III-10: Horse Gate with Wheelchair Accessibility).*

Hiker / Biker Trail Access

Intent

Hiker-Biker trail access gates should effectively prevent access of motorized users into the trail system, but should allow comfortable passage of people with their bikes through the entry-point. Mountain bikers may need to dismount before going through hiker/biker trail access gates.

Standards

Trail access shall be chicane-style switchbacks constructed with treated lumber posts and barbless wire with clearances of 36" to allow access for mountain bikes.

Arroyo Trail Access

Intent

Along the site boundary at arroyo beds it is important to use a fence that will not limit pedestrian, equestrian, or wildlife movement.

Standards

Boulders or other approved elements may be used to prevent vehicular traffic from accessing the trails area through arroyo corridors. Boulders, if used, should follow the following specifications:

- spacing between boulders and fenceline: 36" max.
- height of boulder: between 16" and 30"
- width of boulder: at least 24"

Private Property Trail Access

Intent

Much of the site perimeter of the La Tierra Trails area abuts private property. In some cases, these private landowners may request an access gate to enter the trails directly from their property. It is recommended that, in these instances, the City work with the private homeowner to determine the feasibility of installing a gate at that location. If it is deemed feasible, then the City must approve the gate design to make sure that it is secure.

In locations where trail access is not a public access point, the private landowner bears the cost of the gate installation and maintenance. The City may request that signage be added to the gate location to notify trail users that they are approaching private property.

Image III-8: This trail access in northern Arizona includes boulders that narrow the trail entry point. (Thumb Butte parking lot, trailhead 316)

Image III-9: Typical vehicular gate shown here at the restricted road to the Cell Tower.

Motorized Trail Access (Limited)

ATV/MX Park Access

Intent

Trail access gates or openings at the ATV/MX Park should allow entry for trail riders entry on small, motorized recreation vehicles and prevent large vehicles from entering the park area.

Standards

Bollards or large boulders (min. 3' x 3') shall be used to mark entry points to the ATV/MX Park trails. Clear distance between entry markers shall be 48 inches.

Guidelines

Bollards may be used at the trailhead and parking area for the ATV/MX Park.

Maintenance / Emergency Access

In order to preserve the La Tierra Trails as a recreational area and location for wildlife habitat, vehicular access to the site is only allowed for service, security, maintenance, and for emergencies. These locations are indicated on the La Tierra Trails Master Plan. Vehicular access to the site for events will be permitted on a case by case basis (see *II-C: Use of the La Tierra Trails, Special Uses + Events*).

Intent

Vehicular gates will be installed on a limited basis to access designated easements or for maintenance or emergency vehicle access.

Standards

Vehicular gates shall be 50" tall steel bar ranch gates with a minimum clear opening of 10 feet. All vehicular gates shall remain locked with restricted access by designated official personnel.

F. SITE AMENITIES

The primary objective regarding selection of site furnishings and amenities within the La Tierra Trails area is to maintain a cohesive and consistent aesthetic throughout the open space area. Selections should be guided by durability and minimal maintenance and should be made of natural, recycled materials that can be locally sourced or fabricated, where possible. Simple materials such as steel, wood, stone, and concrete resonate well with the site's existing features. Site furnishings, once selected, should be used as the standard for all similar type furnishings.

Picnic Tables

Picnic tables shall be provided at the group picnic shelter and private picnic areas planned for the North Montoyas Trailhead. Other picnic table locations could include technical park spectator areas and major trailheads.

- Locate picnic tables by shaded areas whenever possible.
- Install picnic tables on a paved or compacted, level surface and provide access to avoid conflicts with pedestrians or other users.
- Tables shall be made of either concrete or steel for long term durability. Steel tables should be fastened to the ground.
- Tables shall be of a neutral color that will reflect heat

Benches

Park benches shall be provided in high use areas at new or improved trailheads. Benches may also be sited internal to the open space area, at key lookout points of at major trail intersections.

- Locate benches in shaded areas when possible.
- Install benches on paved surfaces and provide a clear access to the seating area to avoid conflicts between pedestrians and bench users.
- Benches should be a minimum of 6 ft. long and comprised of durable materials.

Bicycle Racks

Bicycle racks shall be provided at the group picnic shelter area.

- Install bicycle racks on level surface.
- Bicycle racks should be placed to avoid conflicts with other pedestrians or trail users.
- Bicycle racks shall be of a neutral color, and coordinate with site furnishings in the same area.

Trash Receptacles / Recycling Receptacles

Trash receptacles and recycling receptacles shall be placed at all major trailheads. Trash receptacles shall be provided at all minor trailheads, parking areas, technical parks, and special use areas in order to maintain a clean and tidy trail system and open space area.

- Receptacles should be freestanding, a minimum of 32 gallon size, and of steel construction.
- Secure receptacles to the ground in open areas.
- Provide internal plastic liners to facilitate trash collection.
- Receptacles shall be of the same style and color.
- Receptacles shall be a neutral color.

Dog Waste Receptacles

Dog waste receptacles shall be placed at all trailheads and other locations with high incidence of dog waste.

- Locate dog waste receptacles inside open space areas along trail in clearly visible locations.

Bollards

Bollards shall be used to prevent vehicular access into the trail system.

- Bollards shall be 8" diameter steel posts with flat tops.
- Space bollards with min. 36" and max. 48" clear opening.
- Bollards should be able to withstand minor vehicle impacts.
- Provide removable bollards where emergency or maintenance vehicle access may be needed.

Shade Structures / Shelters

Shade structures and shelters shall be custom fabricated in metal or heavy timber (or a combination thereof), simple in form, and located in high use areas. Design style and material shall be similar for each structure.

Maintenance Amenities: Water Tanks, Sheds, etc.

Amenities placed in technical park areas to help with long-term maintenance efforts shall conform to material and durability standards as set forth in this document.

- Vertical structures or amenities such as water tanks or sheds shall be screened or located in inconspicuous areas, or sub-grade, to minimize vandalism.
- Maintenance amenities should be of steel construction and in a color that blends with the surrounding natural landscape.
- Maintenance amenities should be located for easy service access and grouped, when possible.

Lighting

To keep the La Tierra Trails area as a wilderness recreational area, lighting will not be provided as a site amenity. Where lighting is deemed necessary for security or other reasons, light fixtures and poles should be simple, durable, compliment other site furnishings, and utilize renewable energy (such as solar).

Art

Santa Fe is recognized internationally as a creative art community with a rich history of art as fundamental to its culture. This legacy should be reflected in the public spaces of the La Tierra Trails. Artwork will be encouraged to be visually beautiful, intellectually stimulating, and respectful of the environment.

- Public art should relate to its physical or cultural context.
- All public visible art work and placement must be reviewed and approved by the wilderness trails land manager to ensure it is in keeping with the overall image of the La Tierra Trails and does not lead to visual chaos.

G. SIGNAGE

Proper signage and wayfinding is key to an enjoyable and safe recreational experience. In the La Tierra Trails area, the signage program will consist of regulatory signs, directional, wayfinding, and interpretive signs.

Included in this section is a schematic signage program for internal directional and wayfinding signage for recreational users to navigate the open space area. All other signs, such as required regulatory and traffic signs will be selected and installed according to applicable codes.

SIGNAGE MASTER PLAN

The signage plan for the La Tierra Trails introduces a family of signs that will be placed throughout the trail system to help users interface with the recreational area. The system is intended to orient users, establish rules of use, provide panels with additional information, and assist with orientation for emergency responders.

The sign hierarchy includes trailhead kiosks at all major trailheads, secondary trailhead signs at minor trailheads and technical park entrances, orientation maps at major intersections, and trail markers at minor intersections and along trails. Regulatory signs will inform users of rules, regulations, or best practices for trail use.

A distinctive logo for the La Tierra Trails system should be developed and adopted, and used to identify the La Tierra Trails.

Directional Signs

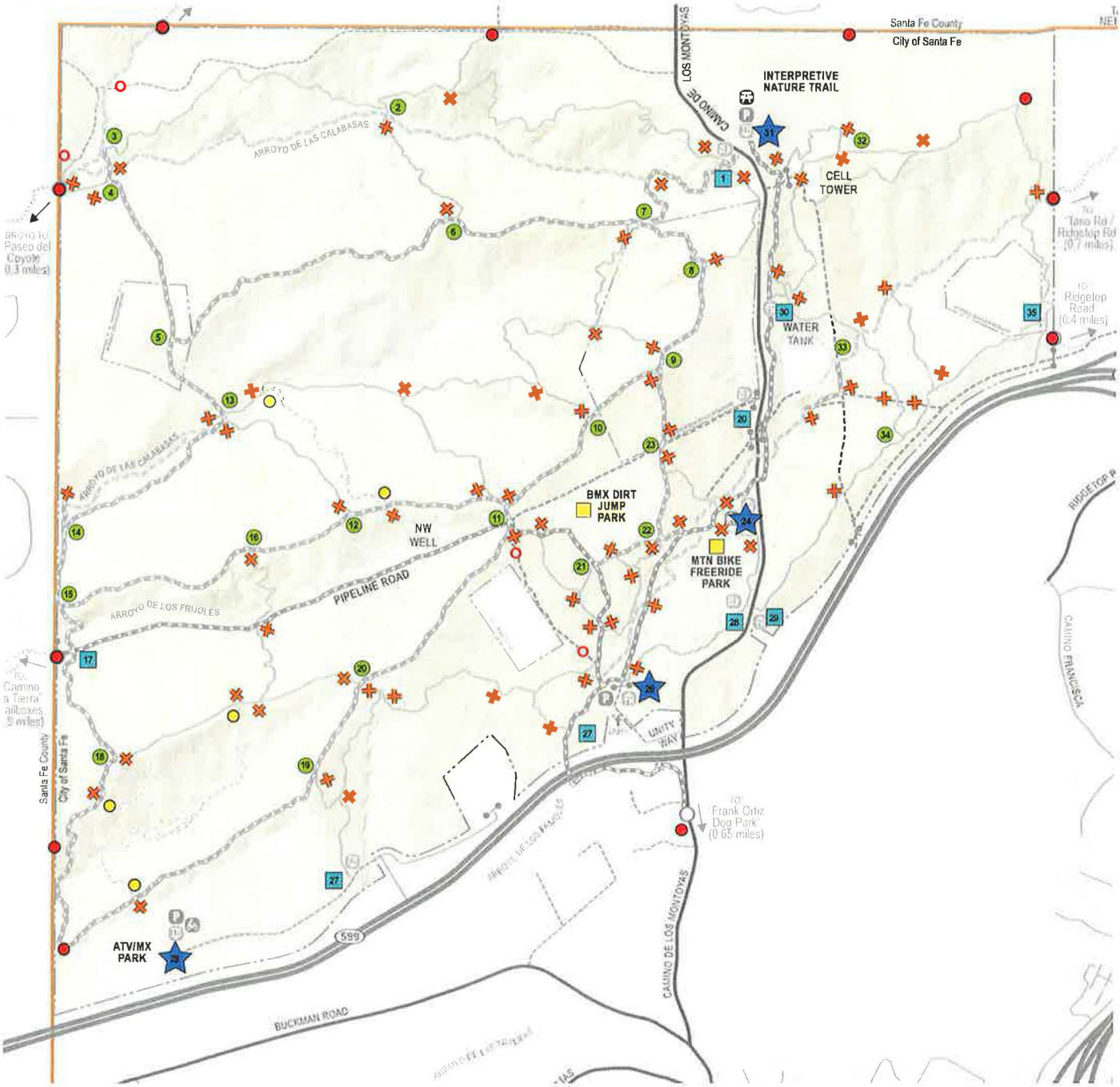
Directional signs in La Tierra indicate directional turns and connections on the trail itself, but also directions to nearby destinations or support facilities. Directional signs should be placed on approaches to the trail within the adjacent community and major connection points, so people are aware of how to reach the La Tierra Trails.

Intersections and Crossings

The La Tierra Trail system is intended to provide safe routes separate from roadways. However, the trails cross some roadways. Path approaches to these crossings should be signed with Stop or Yield signs to minimize conflicts with autos. Crossing signs should be placed in advance of path crossings to alert motorists. If needed, traffic control devices should be used to slow down traffic in the vicinity of crossings.

In general, all signs should be located two to four feet from the edge of the trail or paved surface, and have a minimum vertical clearance of 8.5 feet when located above the path surface and ba minimum of four feet above the path surface when located on the side of the path. All signs should be oriented so as to not confuse trail users.

Figure III-11: Signage Master Plan Map



LEGEND

- Master Plan Project Boundary
- Property Line (within Project Area)
- City / County Boundary
- Major Road
- Minor Road
- Minor Road (un-paved)
- Restricted-Access Road (un-paved)
- Property Line
- Utility-leased Fenceline
- Building Footprint
- La Tierra Open Space Area
- River
- Arroyo
- Other Drainageway
- Trailhead and Parking (up to 10 vehicles)
- Trailhead Parking (10+ vehicles)
- Equestrian Trailhead and Trailer Parking
- ATV / MX Trailhead and Trailer Parking
- Trail Access (trail connection)
- Service Gate (restricted-access)
- Primary Trailhead
- Trailhead Kiosk
- Secondary Trailhead
- Trailhead Map
- Technical Area Map
- Orientation Map
- Trail Map at Intersection
- Trail Marker
- Directional Marker
- Regulatory Sign
- Technical Trail Warning Sign
- Directional Sign
- Restricted Road Sign

SIGN TYPES

Primary Trailhead - Kiosk

Orientation, regulatory, best practices, and informational maps in an expandable kiosk format at major trailhead locations. Space will be provided for the community to post information for trail users.

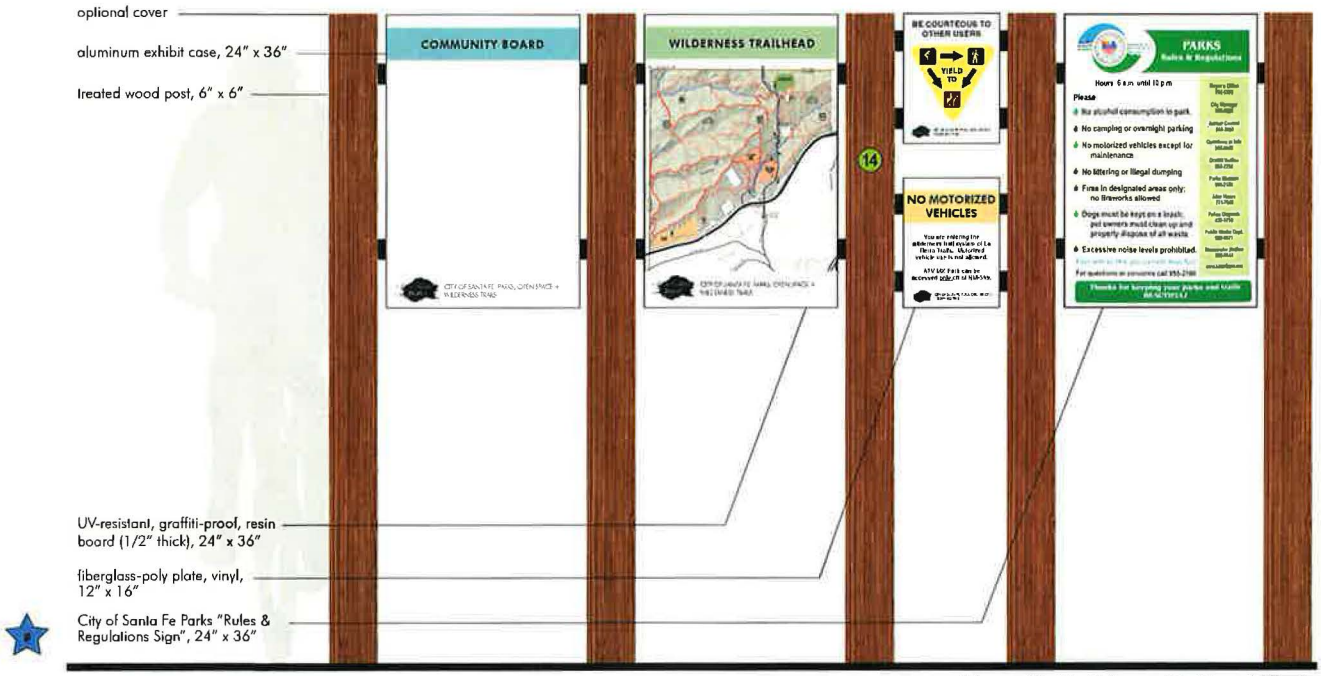


Figure III-12: Primary Trailhead Kiosk

Secondary Trailhead - Map

Trail Map + System Information Board

Orientation and regulatory map series at minor entry points and trailheads. Secondary trailhead maps are numbered for ease of wayfinding.

Figure III-13: Secondary Trailhead Map

Technical Park Map

Orientation, regulatory, and informational map series at technical park major entry points. These secondary trailhead maps are numbered for ease of wayfinding and provide information in greater detail for users of the technical area.

Figure III-14: Technical Park Map

Orientation Map

Orientation map (reduced size) and trail designation marker sign series at multi-use trail intersections. Orientation maps are numbered for ease of wayfinding.

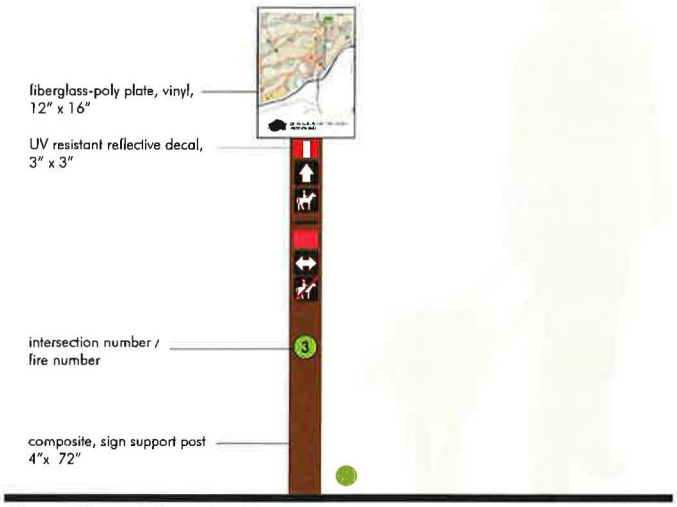


Figure III-15: Orientation Map

Trail Marker

Trail designation / trail marker sign series at trail intersections and along trails to designate trail type, direction and allowed users.

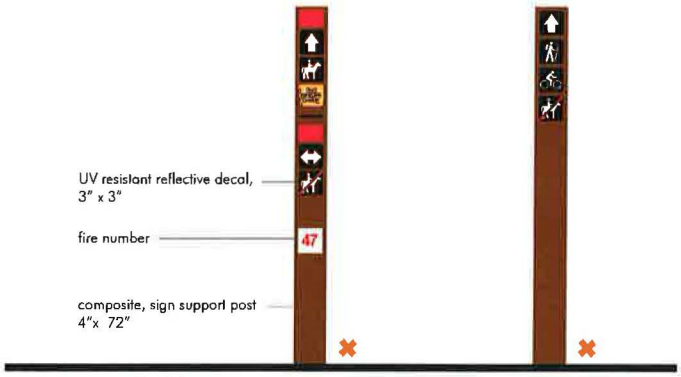


Figure III-16: Trail Marker

Regulatory Sign

Regulatory sign series at edges of property, entrances to technical trails/areas, etc.

Figure III-17: Regulatory Sign

STEWARDSHIP + MAINTENANCE RECOMMENDATIONS

The trails, amenities, and open space improvements proposed within the La Tierra Trails Master Plan will require regular support, maintenance, and management by land owners and stewards of the land.

In order to ensure continued, lasting quality of the trails in this area, the planning team recommends that the City should adopt the La Tierra Trails Master Plan as a framework for management of the trail system. They should then designate a 'land manager'; allocate funding for trails management, maintenance, and operations; and develop guidelines for volunteer involvement.

A. STEWARDSHIP

In order to sustain the vision of the La Tierra Trails Master Plan, the trails and open space must be cared for on a regular basis. Opportunities exist for the City of Santa Fe to work with dedicated trail users in order to create a sustainable and cooperative management plan for not only the La Tierra Trails, but for all the wilderness trails of Santa Fe.

Santa Fe has a long history of successful non-profit partnerships that focus on stewardship and preservation of public open space areas. These include:

- Santa Fe Trails Alliance
- Keep Santa Fe Beautiful
- Santa Fe Watershed Association
- Railyard Stewards
- Santa Fe Conservation Trust

Many individual associated with these entities and others have contributed their time and effort toward maintaining the La Tierra Trails area.

Image IV-1: Subaru-IMBA Trail-Care Crew on Pipeline Road for Trail #10 Construction (05-07-11)

Purpose of a Stewardship Plan

As population growth pressures increase the demands placed on our public lands and agency budgets are not able to keep pace with increased growth and human impacts, public land management agencies are becoming more reliant on trained volunteers to help fill a variety of important roles.

Trail stewards can provide the labor and expertise needed to assist with trail maintenance of existing wilderness trail systems and build new trails as the system expands. Tasks may include:

- trail monitoring
- trail maintenance (clearing obstructions, clean up, replacing markers, repairs, etc.)
- trail building
- ecological restoration
- invasive species – weed control
- environmental education / interpretation.

Many public land agencies are not prepared to manage volunteer projects or provide the necessary resources for project planning, design, and oversight. Through volunteer-based non-profit organizations, volunteer coordinators can successfully build local capacity and organize volunteers.

Volunteers provide extra eyes and ears for public land agencies. They may extend scientific understanding of the system or aid staff responsible for resource management decisions. They enhance visitors' experience, understanding, and appreciation of our lands and community. They help conserve the biodiversity of local ecosystems. Service organizations, schools, businesses, families and individuals can aid staff on short and long term projects including area clean-ups, trail and area maintenance and construction, facility work, habitat restoration and greeting and educating the public. All of these help provide care and restoration of our lands.

It is critical that agencies approve volunteer efforts and facilitate volunteer participation on public lands.

To help ensure the long-term success and sustainability of the wilderness trails system, the following actions are recommended for the City of Santa Fe:

1. **Designate a 'Land Manager' for wilderness trails/ open space areas**

   Over time, a diverse range of issues and needs will present themselves that need to be addressed regarding the maintenance and operations of wilderness trails and open space areas. These can include emergency issues, clean-up or repairs, promotional marketing, or new project coordination. To direct these efforts efficiently and effectively, the City should designate a:

   - single point of contact for all wilderness trails/ area related issues as a member of the city staff (multi-disciplinary)
   - require regular reporting as appropriate (Parks Advisory, Public Safety, BTAC, etc.)

2. **Allocate funding for wilderness trails / area management, maintenance and operations**

   While the proper design and construction of trail elements and facilities should minimize maintenance requirements, routine maintenance will be needed to retain a safe recreation area. Funding for this purpose should be allocated.

   - recurring funding for management, maintenance, operations, small improvements
   - typical rule of thumb $1,200 / linear mile of trail per year ($78,000 for current trail system); costs should be monitored and adjusted appropriate to Santa Fe wilderness trails
   - diverse funding units: Parks, Engineering, Police, Legal, Recreation, etc.

3. **Adopt the LTT Master Plan as a framework for managing the wilderness trail system:**

   The La Tierra Trails Master Plan provides a framework and platform to manage the open space area.

   - routine and remedial maintenance
   - user safety and risk management
   - enforcement of park rules of use
   - programming and event process
   - marketing and promotion
   - oversight and coordination with volunteer groups

4. **Develop guidelines for volunteer involvement**

   To maximize the benefits of volunteer and community involvement, a clear and concise process should be outlined and implemented that fits the Santa Fe community.

   - outline process for identifying and implementing projects
   - structure a volunteer protocol (eg. Trail maintenance, Adopt-a-Trail, fundraising, monitoring)
   - develop a checklist for maintenance of wilderness trails

Image IV-1: Trail #10 Construction (05-07-11)

B. MAINTENANCE

An inspection, monitoring, and preventative maintenance plan and schedule is designed to find and repair all problems while they are small. Proper design and construction, along with adherence to the schedule, will keep all maintenance expenses to a minimum.

During each scheduled maintenance, the following items should be inspected:

- trail surface for water damage
- drainage dips and grade dips for water damage
- side swales and culverts
- trail structures
- trailhead areas and amenities
- signs
- revegetation efforts
- general cleanup and repairs
- social trails

A suggested monitoring schedule is as follows:

First Year

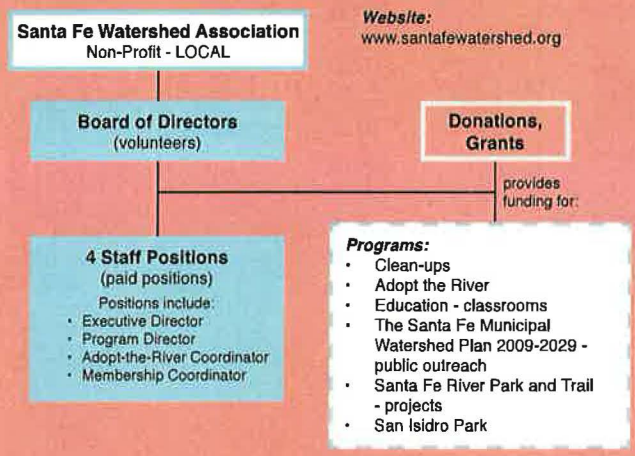
- after the first moderate to heavy rains
- approximately every 6-8 weeks during the primary usage season
- about September 1

Each Subsequent Year

- during snowmelt
- approximately every 6-8 weeks during the primary usage season
- about September 1

Case Studies

*A **successful non-profit organization** that works in cooperation with the City of Santa Fe is the Santa Fe Watershed Association. This organization could be used as a model for the formation of a new non-profit for the Santa Fe wilderness trails. The benefit of a non-profit organization would be that they would be able to receive funding through governmental agencies and other grants.*



*The Colorado Trail Foundation's **Adopt-A-Trail** (AAT) Program and Volunteers accomplish annual maintenance on The Colorado Trail. There are 58 maintenance sections and volunteer Adopters. Along with their volunteer helpers, Adopters remove fallen trees and do Trail maintenance each spring to protect the Trail and make it passable and enjoyable for users. Adopters and their helpers enable the CTF to continue preserving The Colorado Trail.*

REFERENCES

The following information was used for research and data-gathering by the planning team for the creation and development of the La Tierra Trails Master Plan. The following list should be used as a reference only, for it by no means is an exhaustive list of the various codes, policies, and procedures that should be used during the realization of this master plan.

GENERAL CODES

2009 International Fire Code

American Association of State Highway and Transportation Officials (AASHTO)

American Disabilities Act (ADA)

City of Santa Fe, Land Development Code

IMAGE REFERENCES

Existing Conditions

Cover: design office

I-1: www.flickr.com/zoniedude1

I-2: www.avant-gardening.org

I-3: www.innerenergies.org

I-4 - I-13: Donald Hays Trail Contractor, Inc.

Master Plan

II-1: Donald Hays Trail Contractor, Inc.

II-2: design office

II-3: Daniel Coriz

II-4: James Rickman

Design Standards

III-1: design office

III-2 - III-3: See 'Special Use Areas' references: "Independence Pass -- A Journey through History's Most Scenic Working Landscape" & "Mass Audubon Introduces Sensory Trails"

III-4 - III-7: design office

III-8: www.goby.com

III-9: design office

Stewardship + Maintenance Plan

IV-1: Subaru-IMBA Trail Care Crew

IV-2: Subaru-IMBA Trail Care Crew

DOCUMENT REFERENCES

Existing Conditions

City of Santa Fe Bike Map

City of Santa Fe GIS (aerial data, building footprints, City bike routes + trails, drainageways, land use, La Tierra Trails mapping, parcels, parks, road centerlines, topography (10ft contours), utility lines + easements); February 2007, for Township 17N, Range 9E, Sections 9, 10, 11, 14, 15, 16

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International Mountain Biking Association, "Fifteen Tips to Building Excellent Downhill Trails" Retrieved March 9, 2011; http://www.imba.com/resources/freeriding/fifteen-tips-building-excellent-downhill-trails

Park Guidelines for OHVs George E. Fogg, FASLA in association with the National off-highway vehicle conservation council

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"Mass Audubon Introduces Sensory Trails"; Everyone Outdoors: Accessible Adventures and Adaptive Recreation in New England and Beyond!, October 6, 2010. http://everyoneoutdoors.blogspot.com/2010/10/sensory-trails-for-people-with-visual.html

Stewardship + Maintenance Recommendations

The Colorado Trail website, Colorado Trail Foundation; http://www.coloradotrail.org/aat.html

Trail Stewardship Contacts - Santa Fe, NM

Margaret Alexander, Member, Trails Alliance

Julie Bain, President, Backcountry Horsemen, Santa Fe Chapter

Colleen Baker, Santa Fe County Trails + Open Space Department

Fabian Chavez, Director, Parks Department

Daniel Coriz, BMX Dirt Jump Builder

Cynthia Lovely, Former Trails Maintenance Coordinator, Trails Alliance

Charlie O'Leary, Santa Fe Conservation Trust

Rici Peterson, Former Employee, Santa Fe Conservation Trust

Susan Spinell, Former Employee, Santa Fe Conservation Trust

Rich Strang, Mountain Bike Freeride Trail Builder

Jennifer Sublett, Trails + Volunteer Coordinator, National Forest Service

Bob Ward, Member, Santa Fe Fat Tire Society

Steve and Cath Washburn, Members, Trails Alliance

Stewardship Contacts - Case Studies

Sandy Freethy, Volunteer Coordinator, Moab Trail Foundation, Trail Mix Committee

Robin Hilliard, Volunteer Coordinator, Santa Fe Watershed Association

Eliza Kretzmann, Executive Director, Railyard Stewards

Gilda Montano, Volunteer Coordinator, Adopt a Median Program

Bob Woods, NM Regional Representative, Continental Divide Trail Alliance