



Resource Management Plan

Bear Canyon Arroyo Resource Management Plan

Originally Adopted as the Bear Canyon Arroyo Corridor Plan

by the City Council and signed by the Mayor on June 21, 1991
City Council Resolution No. R-1991-356; City Enactment No. 100-1991

by the Board of County Commissioners on January 24, 1991
Bernalillo County Resolution No. 1991-2

Amendments:

This Plan incorporates the City of Albuquerque amendments in the following referenced Resolutions, which are inserted at the end of the Plan and are on file with the City Clerk's Office. Resolutions adopted from December 1999 to the present date are also available (search for No.) on City Council's Legistar webpage at <https://cabq.legistar.com/Legislation.aspx>.

<i>Date</i>	<i>Council Bill No.</i>	<i>City Enactment No.</i>	<i>Plan References</i>	<i>(see Note 1)</i>	<i>Description</i>
11/16/17	R-17-213	R-2017-102	Title Revised	Yes	Revised the Plan type from a Corridor Plan to a Rank 3 Resource Management Plan.
6/21/1991	R-356	R-100-1991		Yes	Plan Adoption

Notes:

1. The amendments in the Resolutions may or may not be reflected in the Plan text: "Yes" in this column indicates they are; "No" indicates they are not.
2. The original adopting Resolution(s) and the Resolutions listed in the table above are inserted at the end of this Plan in chronological order.
3. This Plan may include maps showing property zoning and/or platting, which may be dated as of the Plan's adoption. Refer to the Albuquerque Geographic Information System (AGIS) for up-to-date zoning and platting information at <http://www.cabq.gov/gis>.

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CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. R-356 ENACTMENT NO. 100-1991

SPONSORED BY: Herb H. Hughes

RESOLUTION

ADOPTING THE RANK THREE BEAR CANYON ARROYO CORRIDOR PLAN; ADOPTING A DESIGN OVERLAY ZONE AND AMENDING ZONE MAPS TO ILLUSTRATE BOUNDARIES OF THIS ZONE.

WHEREAS, the City Council, the governing body of the City of Albuquerque, has the authority to adopt plans for physical development within their jurisdiction; and

WHEREAS, the Council recognizes the need for Rank Three plans consistent with the Rank One Albuquerque/Bernalillo County Comprehensive Plan and the Rank Two Facility Plan for Arroyos to guide the City, other agencies, property owners and other individuals to ensure orderly development and effective use of resources; and

WHEREAS, the Facility Plan for Arroyos, adopted by the City in 1986, calls for corridor plans to further detail and implement its concepts; and

WHEREAS, corridor plans are Rank Three plans; and

WHEREAS, the Council recognizes the need for design regulations and guidelines for the Bear Canyon Arroyo Corridor and lands adjacent to it; and

WHEREAS, the Council recognizes the need for public projects to improve the arroyo corridor for trail use and for related recreational facilities; and

WHEREAS, the Bear Canyon Arroyo Corridor Plan has been developed with the assistance of citizens, property owners and the official planning bodies having jurisdiction over the plan area in accordance with the Facility Plan for Arroyos; and

WHEREAS, the Environmental Planning Commission, in its advisory role on all matters related to planning, zoning and environmental protection recommended the adoption of the Bear Canyon Arroyo Corridor Plan at a public hearing February 14, 1991, finding the plan consistent with the provisions of the Albuquerque/Bernalillo County Comprehensive Plan and the Facility Plan for Arroyos; and

WHEREAS, "trail corridor" in the attached plan means the existing and proposed rights of way, easements and licensed lands within which trails are authorized to be constructed, as illustrated and defined in the plan; thus, planned trail locations are well clarified.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. The Bear Canyon Arroyo Corridor Plan, attached hereto and made part of this Resolution is hereby adopted as a Rank Three Plan. All development and improvement activities within the corridor and the adjacent design overlay zone shall be guided by this plan.

Section 2. The Design Overlay Zone, which includes all properties abutting the corridor is hereby mapped as an amendment to the City of Albuquerque Zone Map.

Underscored Material - New
[Bracketed Material] - Deletion

1 PASSED AND ADOPTED THIS 17th DAY OF June, 1991.
2 BY A VOTE OF 9 FOR AND 0 AGAINST.

3
4 Michael Brasher
5 Michael Brasher, President
6 City Council

7 APPROVED THIS 21st DAY OF JUNE, 1991

8
9 Louis E. Saavedra
10 Louis E. Saavedra, Mayor
11 City of Albuquerque

12 ATTEST:

13
14 Karen M. Perea
15 City Clerk

RESOLUTION 1991-2

ENDORSEMENT OF BEAR CANYON ARROYO CORRIDOR PLAN

WHEREAS, AMAFCA Resolution 1987-2 states that it is AMAFCA's policy to participate in community planning and join other governmental agencies in adopting plans which go beyond drainage and flood control; and

WHEREAS, the City of Albuquerque and Bernalillo County have adopted the Facility Plan for Arroyos, a Rank Two Plan; and

WHEREAS, on May 23, 1985, AMAFCA stated its support for the Facility Plan for Arroyos; and

WHEREAS, the Bear Canyon Arroyo Corridor Plan, a Rank Three Plan, will be presented to the City of Albuquerque and Bernalillo County for adoption; and

WHEREAS, AMAFCA subscribes to and supports the Bear Canyon Arroyo Corridor Plan.

NOW THEREFORE BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY that:

The AMAFCA Board of Directors hereby endorses the Bear Canyon Arroyo Corridor Plan.

PASSED, ADOPTED AND SIGNED, THIS 24TH. DAY OF JANUARY 1991.

THE ALBUQUERQUE METROPOLITAN
ARROYO FLOOD CONTROL AUTHORITY

R. Ward Hunnicutt
R. Ward Hunnicutt, Chairman

(SEAL)

ATTEST:

Ramona Cook
Secretary

EXECUTIVE SUMMARY

The Bear Canyon Arroyo Corridor Plan contains policies, regulations and project proposals to guide future trail development along the Bear Canyon Arroyo and other nearby arroyos and arroyo tributaries. This plan implements policies in the Rank One 1988 Albuquerque/Bernalillo County Revised Comprehensive Plan and the Rank Two 1986 Facility Plan for Arroyos.

The Facility Plan for Arroyos envisions creating a City/County trail system. The Bear Canyon Arroyo Corridor Plan's proposed trails will form networks for walkers, runners, bicyclists, equestrians and people who use wheelchairs by connecting to other routes, lanes and trails.

The trail corridor includes Bear Canyon Arroyo rights-of-way and easements, Bear Arroyo Tributary right-of-way, a short segment of Upper Bear Tributary right-of-way and a segment of Embudito Arroyo easement east of Tramway Boulevard. Public streets and sidewalks, trail easements across private

properties, and Arroyo del Oso and El Oso Grande park pathways and City Open Space parcels complete the corridor.

The proposed trail corridor winds through industrial areas west of I-25, commercial areas near major streets, many residential areas, two parks, and City Open Space in and near the foothills of the Sandia Mountains. The distinctive quality of each corridor segment is enriched by views of the volcanoes and Sandia Mountains.

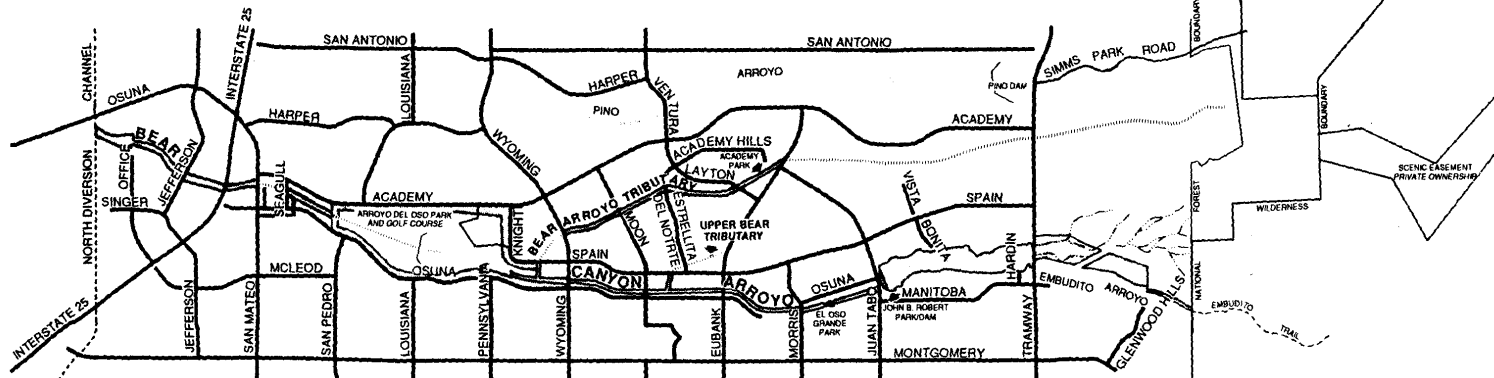
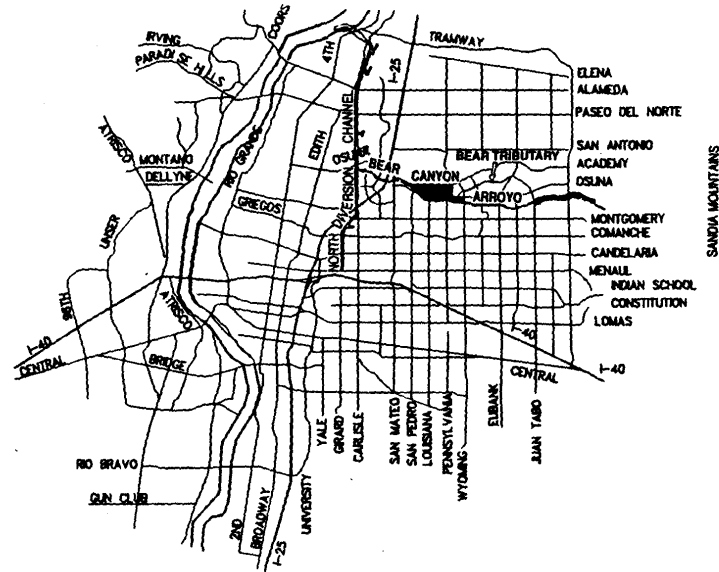
The plan contains goals; a description of existing conditions and trail corridor potential; policies, regulations, guidelines and project proposals; a suggested plan implementation schedule, roughly estimated project costs and appendices with supporting materials.

The plan's goals, policies and project proposals were established through discussions with and draft reviews by the public and a technical team.




Introduction



Bear Canyon Arroyo Corridor Context Map



LEGEND:

-  POTENTIAL TRAIL CORRIDOR
-  ARROYO SEGMENTS NOT BEING CONSIDERED FOR TRAIL CORRIDOR INCLUSION
-  OTHER ARROYOS



INTRODUCTION

For many years, people have frequented arroyos for recreation, for unobstructed views of the mountains and volcanoes and for escape from the daily bustle of urban life. In the 1940's and 50's city children roamed the grassy mesa east of Wyoming Boulevard using magnets to collect iron deposits from arroyos. (From personal interviews.) Earlier, North Valley farmers visited Basque shepherds and goat herders making their living along the Bear Canyon Arroyo. (Shining River, Precious Land, An Oral History of Albuquerque's North Valley, Kathryn Sargeant and Mary Davis, 1986.)

Now, people walk, run, bicycle and sometimes ride horses along the banks of Bernalillo County's many arroyos. Although insufficient data exist to anticipate future trail demand in Albuquerque, trails built in and near the City seem to be well used as soon as they are constructed.

The Tramway trail and the recently constructed Bear Canyon Arroyo Corridor segment between Eubank and Juan Tabo are very popular trail sections. Moreover, the results of two surveys conducted for the Parks and Recreation Department (the 1989 Citywide Survey conducted by UNM and the 1990 Network Survey) both rank trail development as being highly desired by Albuquerque residents.

This Bear Canyon Arroyo Corridor Plan's policies and recommended projects will enable a broad spectrum of people to safely use the proposed trails, enjoy corridor views and learn about the corridor's primary function as a floodway.

PLAN PURPOSE

The Bear Canyon Arroyo Corridor Plan establishes interconnected trail networks for hikers,

pedestrians, runners, bicyclists, equestrians and people who use wheelchairs. This plan emphasizes creating a barrier free environment for people who are often excluded from recreational areas containing physical obstacles. Trails of this type are attractive, worthwhile community investments for both residents and visitors.

The plan determines trail locations and recommends a range of acceptable trail designs and materials. Lands required for City Open Space acquisition are identified and drainage policy is established for undeveloped lands adjacent to the corridor. The plan establishes a Design Overlay Zone containing design requirements and guidelines for new development and redevelopment on properties abutting the trail corridor. The plan also describes project proposals for seven corridor segments. To assist agencies charged with implementing recommended projects, very rough cost estimates and project priorities are supplied.

CORRIDOR LOCATION

The Bear Canyon Arroyo, Bear Arroyo Tributary, Upper Bear Tributary and Embudito Arroyo form one of several arroyo systems in Albuquerque's northeast heights. Portions of all four drainageways form most of the Bear Canyon Arroyo Corridor.

The Bear Canyon Arroyo flows from the western face of the Sandia Mountains to the North Diversion Channel. The Bear Arroyo Tributary flows from the Sandias to the Bear Canyon Arroyo in Arroyo del Oso Park west of Wyoming. The Upper Bear Tributary flows from the Sandias to the Bear Canyon Arroyo between Moon and Eubank. The Embudito Arroyo has been diverted from its southwesterly flow at the mouth of Embudito Canyon on the west face of the Sandias

to flow along the north side of Glenwood Hills North Subdivision east of Tramway. The arroyo reappears downstream at Montgomery Boulevard east of Juan Tabo Boulevard.

The trail corridor includes over seven miles of the Bear Canyon Arroyo, approximately one and a half miles of the Bear Arroyo Tributary, a very short segment of the Upper Bear Tributary between Spain Road and its confluence with the Bear Canyon Arroyo, and an approximately 1.3 mile long segment of the Embudito Arroyo east of Tramway Boulevard. Public streets and sidewalks, trail easements across private properties, and Arroyo del Oso and El Oso Grande Park pathways complete the corridor.

POLICY FRAMEWORK

The Albuquerque/Bernalillo County Revised Comprehensive Plan and the City's Storm Drainage, Flood and Erosion Control Ordinance (Enactment No. 63-1982) endorse using drainage rights-of-way and drainage easements for utility corridors and recreational trails. The Facility Plan for Arroyos establishes guidelines and procedures for creating a multiple purpose network of recreational trails and open space along arroyos.

The Facility Plan categorizes each arroyo corridor as Urban Recreational, Open Space Link or Open Space by analyzing its ability to form an urban trail system, to link major open space areas or to serve as major open space.

The Facility Plan ranked the Bear Canyon Arroyo system a high priority Urban Recreational Corridor based on the following criteria: 1) connectivity between activity centers, 2) recreational potential and 3) proximity to existing and programmed trails. This corridor's primarily urban location makes it ideal for developing trail segments leading to schools, parks, employment centers, commercial centers and residential development. This designation allows the Corridor Plan to set policies

and regulations for park and trail development, to require minimum easements for trail development, to require particular channel treatments within dedicated parks and to recommend locations for arroyo crossing structures.

Because the corridor east of Juan Tabo includes City Open Space and leads directly to the Cibola National Forest, this plan includes Open Space policies and regulations. (See Facility Plan for Arroyos, Policy 2, p.27.) Policies include preserving the existing floodplain, promoting drainage design that blends visually with adjacent land, controlling drainage from adjacent development, requiring certain wall, landscaping and setback solutions on private properties to strengthen highly scenic views of natural features, preserving topsoil and existing vegetation, requiring additional low-maintenance native plant materials, and programming low impact recreational amenities.

This corridor plan assumes that most of the 51+ acres of privately owned land in the Bear Canyon Arroyo one hundred year floodplain between Juan Tabo and Tramway will be acquired to form a consolidated piece of City Open Space. Approximately 35+ acres of this area will soon be in the First Priority Group of the Open Space Advisory Board's Major Open Space Acquisition Priority List. (See Appendix H, Open Space Advisory Board meeting minutes, January 22, 1991.) Obtaining trail easements across the remaining 16+ acres not being considered for purchase at this time will be necessary for corridor continuity.

PLANNING PROCESS

The Bear Canyon Arroyo Corridor Plan project began in late 1987. A Citizen Planning Group and Technical Team were organized to develop the plan with planning staff and a consultant. All property owners adjacent to probable corridor alignments, representatives from nearby neighborhood associations, and representatives from interested

groups such as local parent/teacher associations and potential trail user groups were invited to join the Citizen Planning Group. The technical team and citizen group identified issues and recommended goals, preliminary trail locations and design treatments. Technical team members are listed under "Acknowledgements". The many members of the Citizen Planning Group are listed in Appendix A.

Two field trips and several planning workshops were held in 1987 and 1988 to acquaint planning participants with the arroyo corridor, to discuss corridor issues and existing City and Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) policies and to develop the plan. Work on the plan stopped temporarily in the spring of 1988 and resumed in the summer of 1989.

A draft plan was released for review in July, 1990. Comments were accepted through September. During the August 1990 public meeting, three major issues were raised:

- 1) Some residents adjacent to the proposed trail along the Bear Tributary felt the trail would substantially interfere with their privacy on adjacent properties located physically lower than the narrow arroyo bank;
- 2) Some residents between Moon and Eubank along the Bear Canyon Arroyo were concerned about that arroyo segment's design and maintenance; and
- 3) Representatives of the John B. Robert Neighborhood Association felt the plan's implementation chapter should include steps toward acquiring Open Space between Juan Tabo and Tramway earlier in the process.

Three subsequent neighborhood meetings were held in October to work toward resolving these issues. During August, September and October the draft was also presented to seven boards and commissions.

On October 25th a packet containing a compilation of all comments received and the Planning Department's proposed plan text changes was sent to technical team members, August meeting attendees, representatives from Commissions and Boards and other interested parties. The revised plan was released for comment in December 1990 and presented to the public again in January 1991.

At a joint public hearing on February 14, 1991, the Environmental Planning Commission and County Planning Commission recommended that the plan be transmitted to the City Council and Board of County Commissioners provided that all staff responses to comments in the staff report and addendum submitted to the planning commissions were incorporated into the final plan. This plan incorporates all noted text and map changes.

Goals



GOALS

The Bear Canyon Arroyo Corridor Plan adheres to the general goals and policies of The Facility Plan for Arroyos while establishing goals, objectives and policies specifically suited to this drainage corridor. For example, the Bear Canyon Arroyo Corridor Plan applies the Facility Plan for Arroyos policy about the primacy of the drainage function to its specific policies, regulations, guidelines and project proposals. The following paraphrased goals and objectives set the stage for corridor policies and projects. (See Appendix A for a complete list of Bear Canyon Arroyo Corridor goals developed by the Citizen Planning Group.) Goals represent broad policy guidelines. Objectives are quantifiable steps to achieving a particular goal.

- | | |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GOAL | 1. TO CONSTRUCT A SAFE, ATTRACTIVE, INTERESTING AND CONVENIENT TRAIL CORRIDOR. |
| Objectives | <ul style="list-style-type: none">A. Establish an east/west trail corridor that will eventually connect trails in the bosque to trails in the Sandia Mountains.B. Build trails and trail connections to larger recreational and commuter networks for walkers, runners, bicyclists, equestrians and people with physical limitations.C. Establish a network of trails to link residential areas, employment and service centers, schools and open space.D. Provide opportunities for recreation, environmental appreciation and education within the corridor. |
| GOAL | 2. TO DESIGN AND CONSTRUCT A CORRIDOR THAT ACTS AS A COUNTERBALANCE TO THE SURROUNDING BUILT ENVIRONMENT. |
| Objectives | <ul style="list-style-type: none">A. Allude to both the natural environment and surrounding built environment by carefully choosing and arranging corridor landscaping and construction materials.B. Provide refuge and food for wildlife.C. Retain Open Space areas in their primarily natural condition. |

Corridor Potential



CORRIDOR POTENTIAL

GENERAL OBSERVATIONS

Information gathered from staff field work, citizen planning group meetings, telephone calls and letters is generalized below.

Constraints

- Using only Bear Canyon Arroyo and Bear Tributary easements and rights-of-way for trail placement will result in a fragmented series of trails.
- Some of the Corridor's existing rights-of-way and easements are not wide enough to serve bicyclists, hikers, and runners simultaneously.
- Certain arroyo banks that are higher than adjacent residential yards and homes will need special trail design to ensure adjacent residents' privacy.
- Corridor segments containing concrete lined channels will challenge designers' abilities to re-establish a natural appearance in the corridor.
- Corridor segments abutting long rows of fenced properties will isolate potential trail users and may provide inadequate trail access.
- Sloped terrain at Corridor/street intersections could obstruct wheelchair accessibility.
- Mid-block street crossings at trail intersections can be dangerous, however, the nearest signalized intersections are often inconveniently far away for trail users.

- Concrete lined channel sections have no barriers to prevent accidental falls into the arroyo and few ladders for climbing out.

Opportunities

- Repeated materials and careful design can strengthen the sense of place and direction the Corridor's linear shape and panoramic views provide.
- The Corridor's proximity to neighborhoods, employment and schools can provide many people with alternative off-street walking and bicycling routes.
- The Bear Canyon Arroyo Corridor can be connected to Elena Gallegos Open Space trails when a proposed north/south National Forest foothills trail is complete. The corridor will also connect to the National Forest Embudito Trail.
- The eastern portion of the Corridor can provide additional trails for equestrians after previously discussed trail connections are established.
- Arroyo del Oso Park and El Oso Grande Park are located within the proposed corridor and can serve as trail destination points and rest areas.
- Sun Tran's bus routes on San Mateo, Wyoming, Eubank and Juan Tabo boulevards can serve existing and potential Bear Canyon Arroyo Corridor trail users.

CORRIDOR CONTINUITY

Although uninterrupted trails are not required for an Urban Recreational Corridor, some continuity is desirable to create a corridor safely separated from vehicular traffic. Developing an entirely uninterrupted Bear Canyon Arroyo Corridor, however, is not possible. Five major traffic carriers intersect the corridor: Interstate 25 and San Mateo, Wyoming, Eubank and Juan Tabo boulevards. An apartment complex partially covers the Bear Canyon Arroyo between San Mateo Boulevard and Seagull Lane. Easements there would not permit building a trail. Other portions of the corridor are privately owned or are constrained by easement agreements that allow only drainage and maintenance.

Most physical interruptions and property issues constraining continuous Bear Canyon Arroyo Corridor trail development do have solutions. For example, with substantial investment and innovative engineering Interstate 25 could be bridged. Moreover, each continuous portion of the corridor can certainly be developed with straightforward connections to nearby on-street bicycle routes and lanes, public sidewalks and other pathways. Mid-block trail crossings of major streets can be designed with wheelchair accessible medians and adequate warning signs for motorists. When the street is too dangerous to cross mid-block and a traffic signal is nearby, trail users can be directed along sidewalks to the closest street intersections. Trail connections located in street rights-of-way can be identified by introducing some trail design features there.

While trails cannot be developed in the .16 mile long Bear Canyon Arroyo segment between San Mateo and Seagull, trail users can be directed along street rights-of-way to the next trail segment at

Seagull and the Bear Canyon Arroyo or to Arroyo del Oso Park. Some people may not wish to hike this nearly half mile route along sidewalks and across streets, but to provide continuity and direction for those who may, this route can be signed and designed as a part of the corridor.

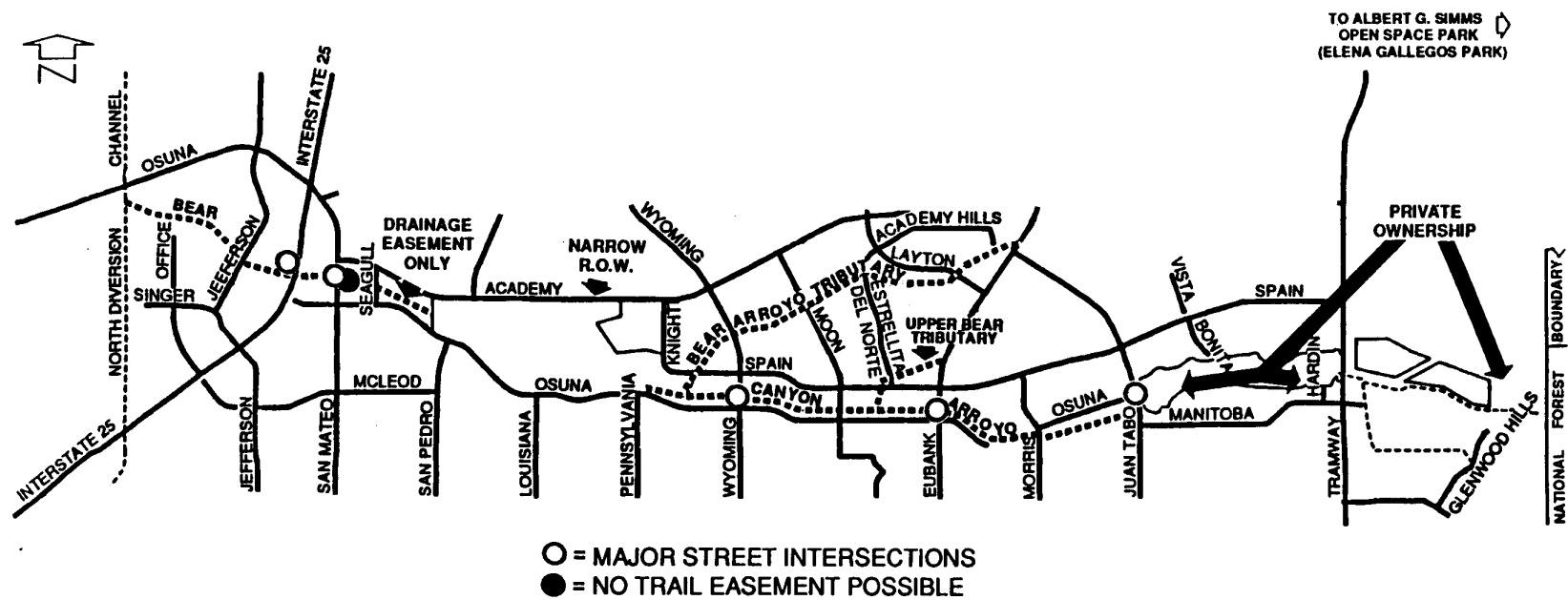
With additional Open Space acquisition between Juan Tabo and Tramway and trail easement agreements where the arroyo has been deeded as a drainage and utility easement only, much of the corridor can be connected reasonably well.

TRAIL CONSTRUCTION POTENTIAL

To develop trails within existing and proposed easements and rights-of-way, the following elements must be carefully evaluated: the width, running slope and cross slope of arroyo banks and other potential trail alignments, the locations of maintenance roads or other facilities that will share potential trail space, the locations of potential trail entrances and the corridor's distance and views to and from adjacent land uses.

To discuss trail construction potential based on existing physical conditions and legal constraints, the corridor has been divided into seven segments. Six segments are located along the Bear Canyon Arroyo. From the west they are 1) The North Diversion Channel to Arroyo del Oso Park, 2) Arroyo del Oso Park, 3) Wyoming to Eubank, 4) Eubank to Juan Tabo, 5) Juan Tabo to Tramway, and 6) Tramway to the National Forest boundary. 7) The Bear Arroyo Tributary's approximately two (2) mile long section being considered for trails is discussed as one segment.

Corridor Constraints



Legal Status of Corridor Land

The following terms and acronyms help describe the legal status of properties being recommended for trail construction and trail connections.

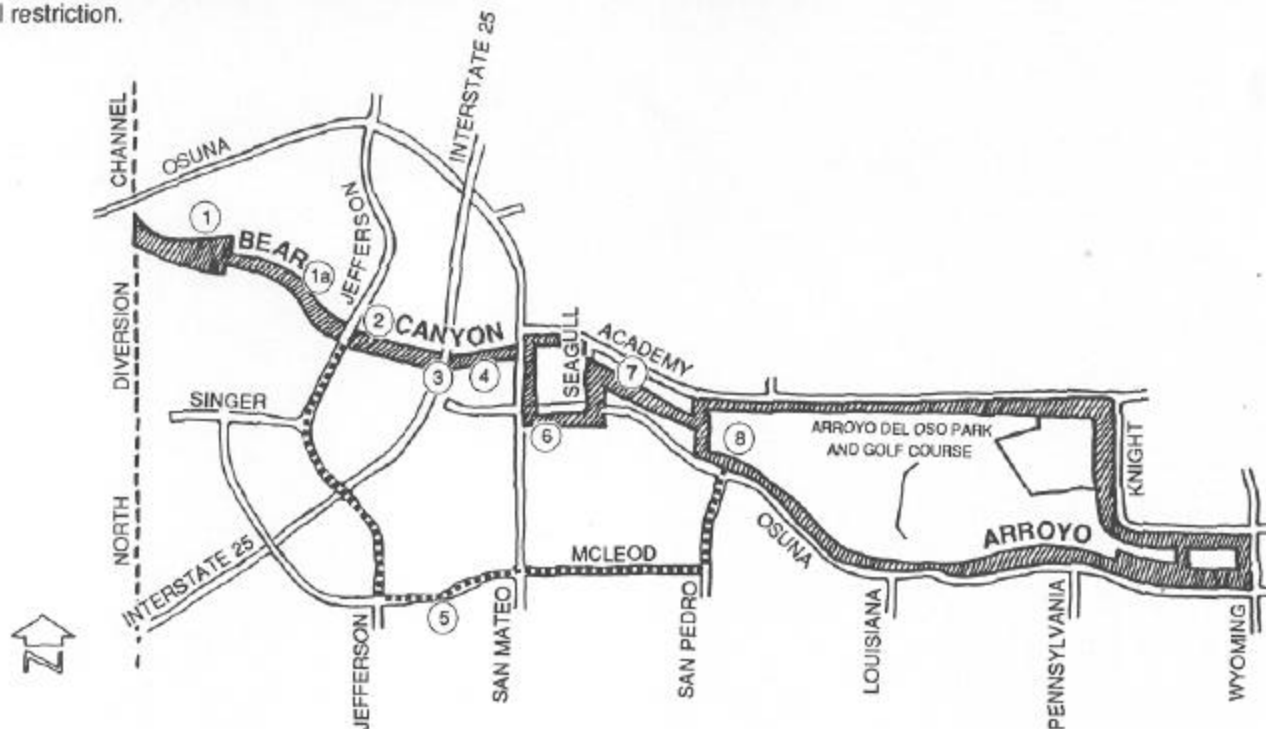
Easements cover property not owned by the City. When a property owner grants permission to the City to use a portion of land, it is usually for a specific purpose such as drainage or utility placement. Easement agreements usually are made to last for the entire life of the granted use. Any additional use not specified in the easement agreement (such as building trails) requires an additional agreement.

Public right(s)-of-way are owned by the City. Trails and trail connections may be located in these areas without legal restriction.

Licenses are granted for specific uses and users and can be terminated by the land owner at will.

NMSHTD is the acronym for the New Mexico State Highway and Transportation Department.

AMAFCA is the acronym for the Albuquerque Metropolitan Flood Control Authority.



① North Division Channel to Jefferson
AMAFCA dedicated right-of-way

①a AMAFCA easement
City trail was built after obtaining an AMAFCA encroachment license.

② Jefferson to I-25 Bear Canyon Arroyo AMAFCA easement
Encroachment license from AMAFCA is required to build trail. Trail easement agreement from underlying property owner may also be necessary.

③ I-25 and Frontage Roads
License from NMSHTD is required to construct pedestrian bridge.

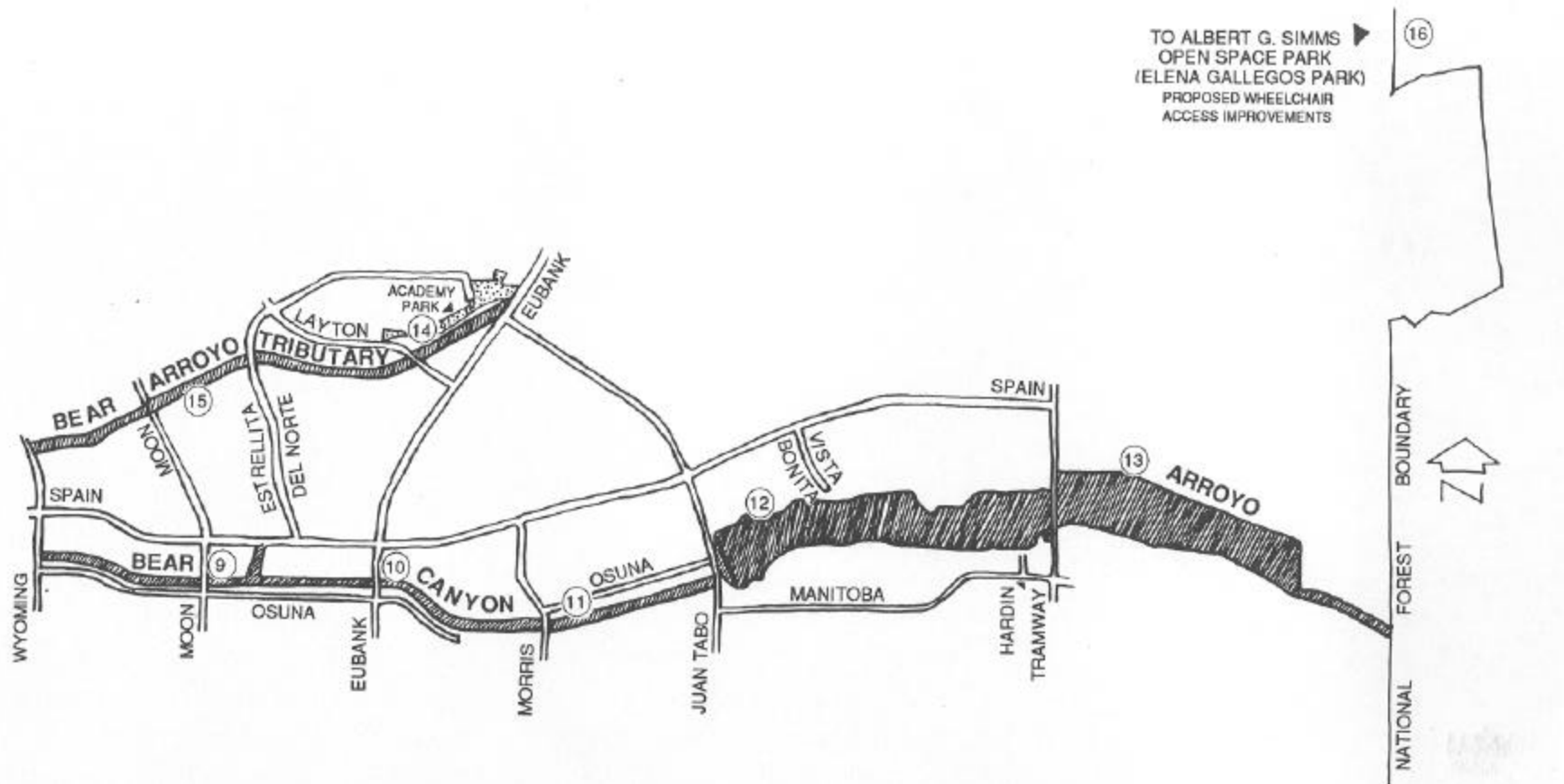
④ I-25 to San Mateo Bear Canyon Arroyo dedicated right-of-way.

⑤ Jefferson to Singer to McLeod to San Pedro to Osuna
Bike route is proposed in Bikeways Master Plan.

⑥ San Mateo to Academy or Osuna to Seagull Lane
public-right-of-way
Proposed pedestrian routes.

⑦ Seagull Lane to Arroyo del Oso Park Bear Canyon Arroyo drainage easement
Additional trail easement may be necessary for trail construction.

⑧ Arroyo del Oso Park and Golf Course
City owned land.



TO ALBERT G. SIMMS
OPEN SPACE PARK
(ELENA GALLEGOS PARK)
PROPOSED WHEELCHAIR
ACCESS IMPROVEMENTS

⑨ Wyoming to Eubank
Bear Canyon Arroyo dedicated right-of-way.

⑩ Eubank to Morris
Bear Canyon Arroyo dedicated easement
City trail was built here recently.

⑪ Morris to Juan Tabo
Bear Canyon Arroyo dedicated right-of-way. City trail was built here recently.

⑫ Juan Tabo to Tramway
Bear Canyon Arroyo floodplain consisting of City owned Open Space, Private Lands (approx. 51+ acres) and Floodway (dedicated right-of-way).

⑬ Tramway to National Forest Boundary
City owned Open Space and Embudito Arroyo drainage and utility easement
A trail easement agreement for the same area covered in the drainage and utility easement is in progress.

⑭ Academy Hills Park
City owned Park.

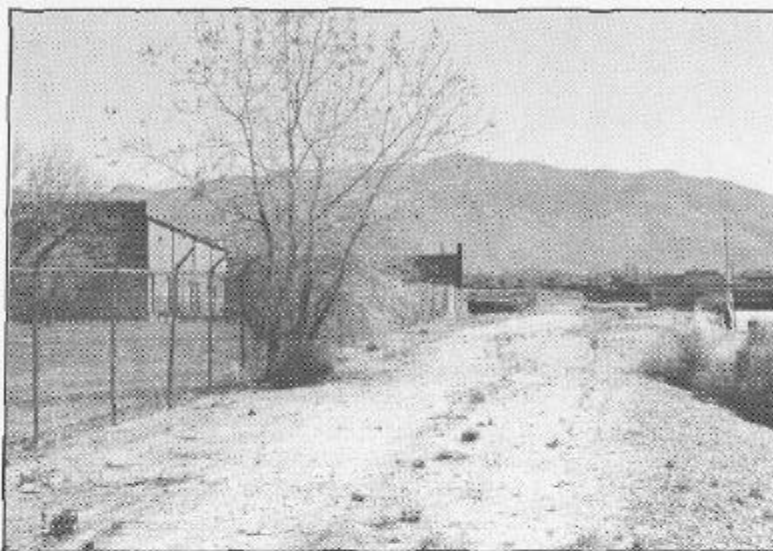
⑮ Layton to Wyoming
Bear Tributary dedicated right-of-way.

⑯ Elena Gallegos City Open Space Park
City owned Park.

North Diversion Channel to Arroyo Del Oso Park



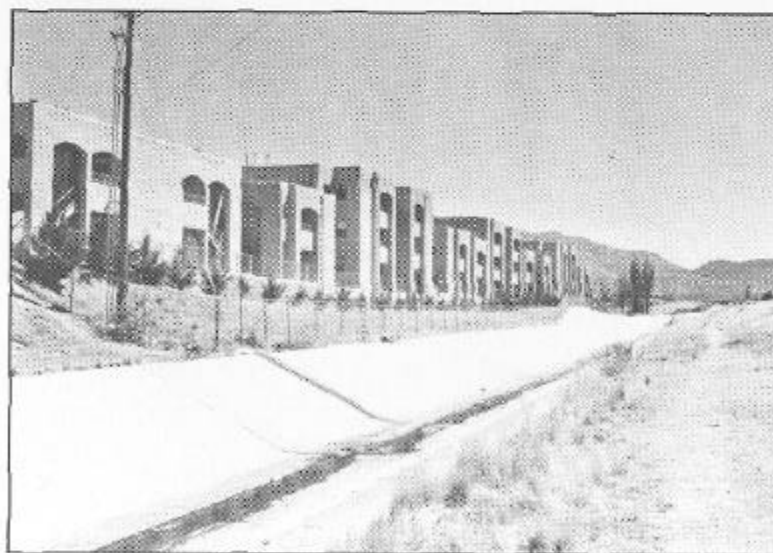
Existing trail between North Diversion Channel and Jefferson



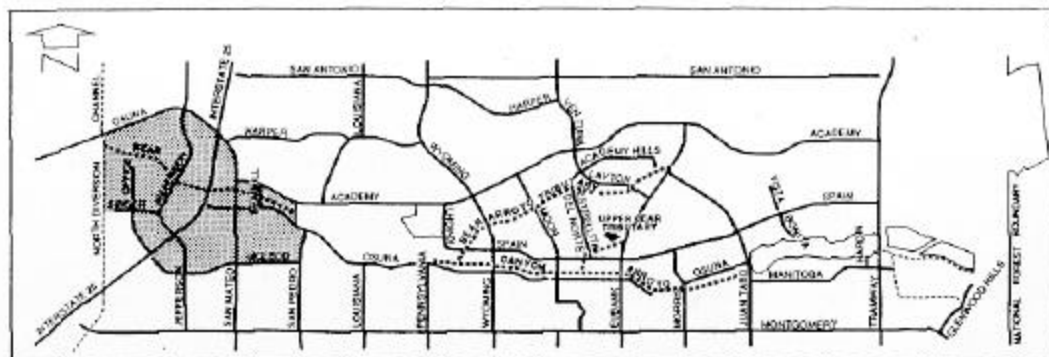
Looking East between Jefferson and I-25



Looking east from arroyo bottom between I-25 and San Mateo

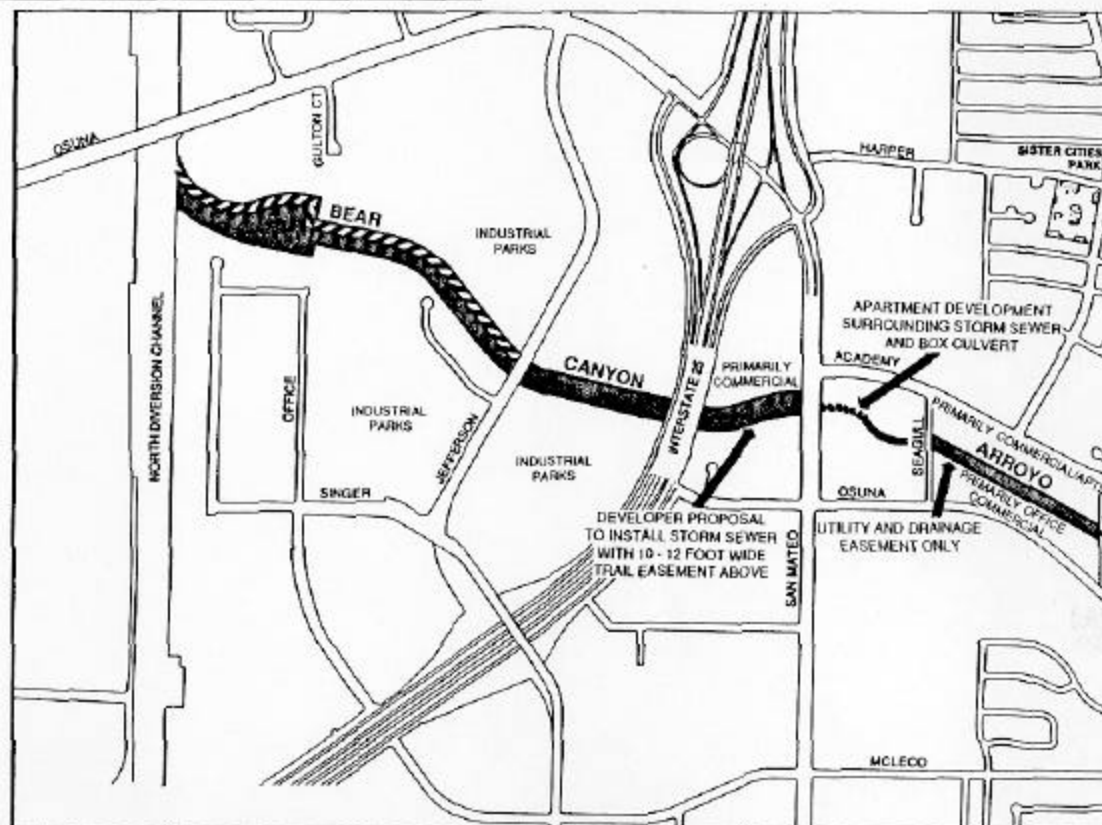


Arroyo and bank between Seagull Lane and Arroyo Del Oso Park



Location Map:
North Division Channel
to Arroyo Del Oso Park

LEGEND:



Approximate Miles

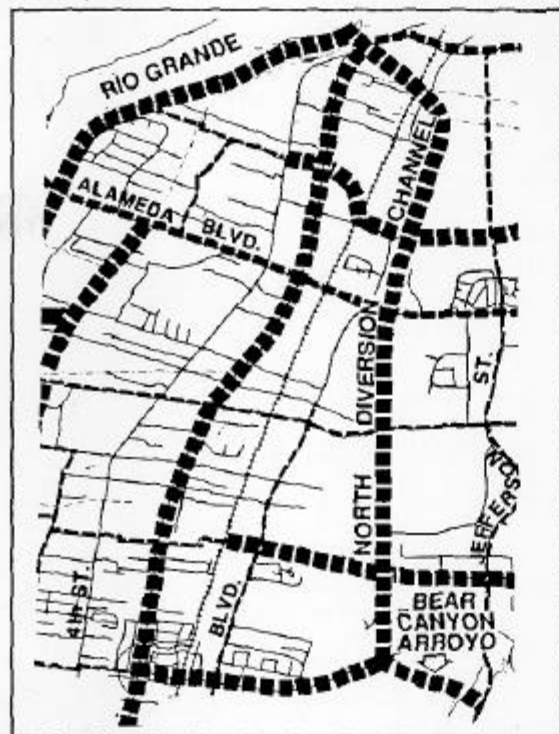


ACROSS I-25 AND
FRONTAGE ROADS
LESS THAN .1

ON STREET ROUTE
FROM THE WEST:
BEAR CANYON ARROYO/
SAN MATEO, TO OSUNA/
SEAGULL, TO THE
BEAR CANYON ARROYO

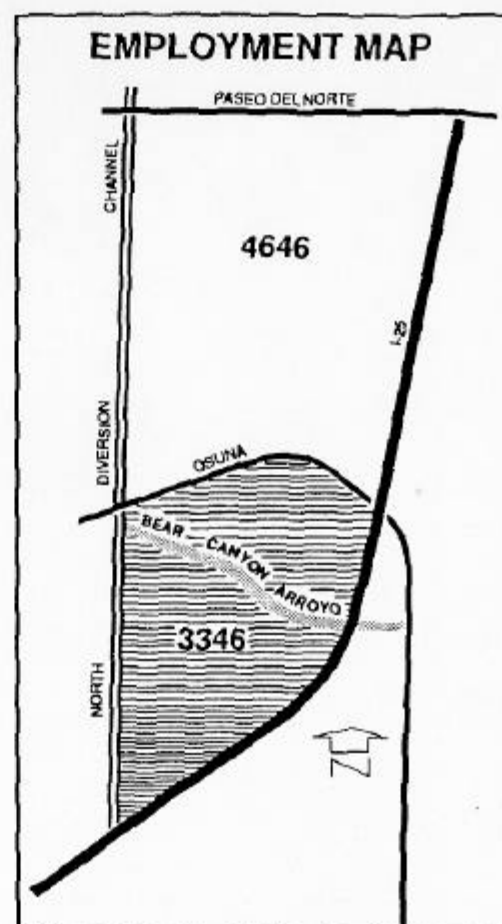
North Diversion Channel

The Bikeways Master Plan's proposed trail along the North Diversion Channel will connect the Bear Canyon Arroyo Corridor to proposed trails in the Rio Grande bosque.



North Diversion Channel to Interstate 25

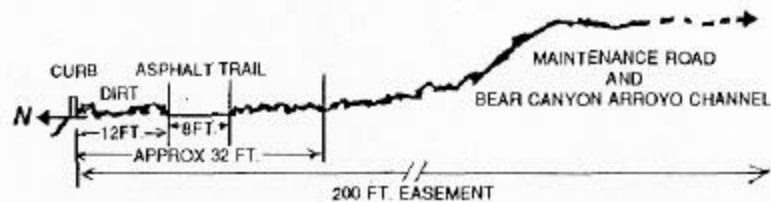
In 1988, 3346 people worked in the area between the North Diversion Channel, Interstate 25 and Osuna. An additional 4646 people were employed north of Osuna between the North Diversion Channel, Paseo del Norte and Interstate 25. (New Mexico Department of Labor 202 File, March 1988.) Bear Canyon Arroyo Corridor trails developed here could be used for recreation, for commuting to work, and for accessing shops and restaurants on San Mateo at lunch time. (See I-25 Employee Trail Use Survey in Appendix C.)



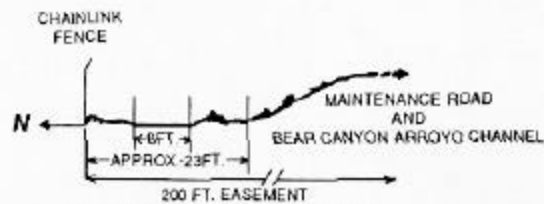
Surrounded primarily by one story buildings with Industrial Park zoning, the high banks of the 200 foot wide Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) drainage easement between the North Diversion Channel and Jefferson afford panoramic views of the Sandia Mountains to the east and volcanoes and west mesa horizon line to the west. The gravel lined banks of this sand bottomed arroyo segment support native grasses and shrubs that attract jackrabbits and roadrunners.

An eight foot wide asphalt trail has already been built on the north side of this arroyo segment. Although the AMAFCA easement outside the arroyo channel includes maintenance roads divided by slopes, several pockets of space exist for adding seating and shade. Trail access from adjacent businesses is obstructed by changes in grade and by fences. Gates and some designated entrances from adjacent parking lots could improve access. A shared parking agreement between adjacent businesses and the City could serve long distance trail users.

Typical Cross Sections



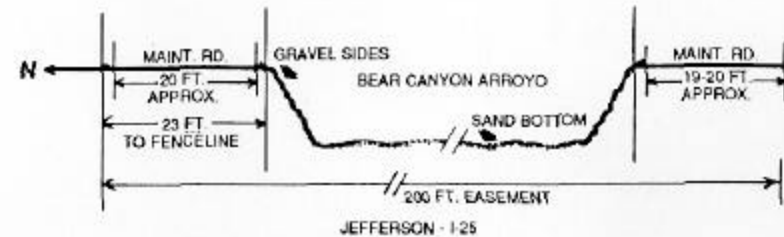
NORTHERN BANK JUST EAST OF NORTH DIVERSION CHANNEL



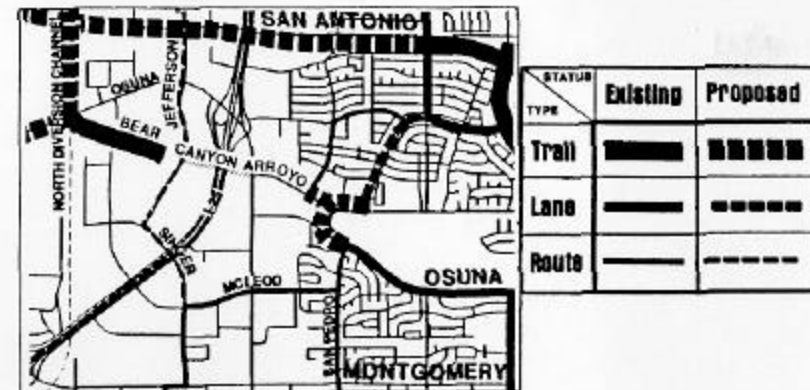
NORTHERN BANK BEHIND GULTON COURT

At Jefferson Street, a street median guard rail now prevents potential mid-block trail crossings. From Jefferson Street to I-25 the 200 foot wide AMAFCA easement includes a fifteen (15) foot wide maintenance road within an approximately twenty (20) foot wide bank on the south side of the channel and another fifteen (15) foot wide maintenance road within an approximately twenty five (25) foot wide bank on the north side of the channel. These banks are sufficiently wide to develop trails, seating and shade. After receiving preliminary corridor construction drawings, AMAFCA normally prepares an

encroachment license agreement allowing trail construction for approval by their Board of Directors and the City. (See Appendix D.) Both northern and southern arroyo banks are used extensively by runners and walkers. (See Appendix C.)



The Bikeways Master Plan describes the on-street network for this area: At the intersection of the Bear Canyon Arroyo and Jefferson, bicyclists can travel south on Jefferson to Singer, southeast on Singer across I-25 to McLeod, west on McLeod to an existing bike route on San Pedro, and north on San Pedro to the existing bike lane on Osuna. This indirect route provides no access from west of Interstate 25 to San Mateo businesses near the Bear Canyon Arroyo.



The Bear Canyon Arroyo Corridor could provide this access if a pedestrian/bike bridge were constructed across Interstate 25. The Interstate 25 and frontage roads' approximately 400 foot wide right-of-way sits above the arroyo, but not high enough to construct a trail underneath. The Interstate's height would necessitate constructing long approach ramps to a bridge that must clear the highway's height requirements for trucks. For cost comparison, a 240 foot long wheelchair accessible pedestrian/ bicycle bridge across a depressed section of Interstate 40 cost \$380,000 in 1989. A licensing agreement with the New Mexico State Highway Department is necessary prior to any bridge construction across highway right-of-way.

Interstate 25 to San Mateo Boulevard

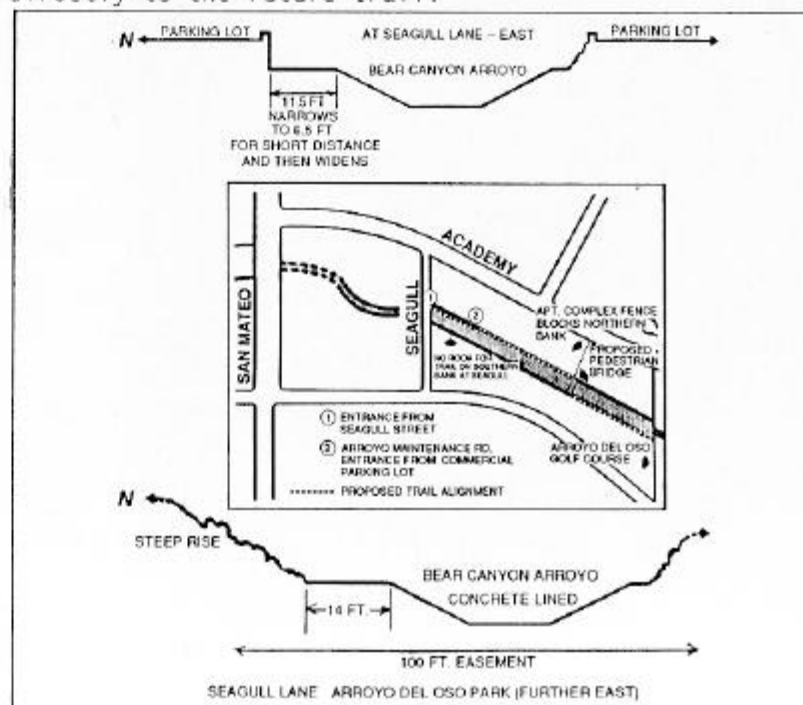
In the 1980's the City agreed to vacate the 200 foot wide Bear Canyon Arroyo right-of-way to allow commercial development. The site plan was to have established a twelve (12) foot wide trail easement above a storm sewer. (See Planning Division case file Z-79-47-(2).) The development proposal, however, has been indefinitely deferred and the time has lapsed for the arroyo right-of-way vacation agreement. If the arroyo right-of-way is not vacated, the City may have the flexibility to more fully plan this portion of the trail corridor.

San Mateo Boulevard to Seagull Lane

The corridor is interrupted once again at San Mateo. The closest San Mateo street crossings are at Osuna and at Academy. Trail development is not possible between San Mateo and Seagull Lane. The Bear Canyon Arroyo just east of San Mateo is contained in a storm drain and narrow open box culvert surrounded by an apartment complex. Future corridor users wishing to continue east of San Mateo can travel across San Mateo and along sidewalks on Osuna or Academy to reach the Bear Canyon Arroyo at Seagull Lane.

Seagull Lane to Arroyo del Oso Golf Course

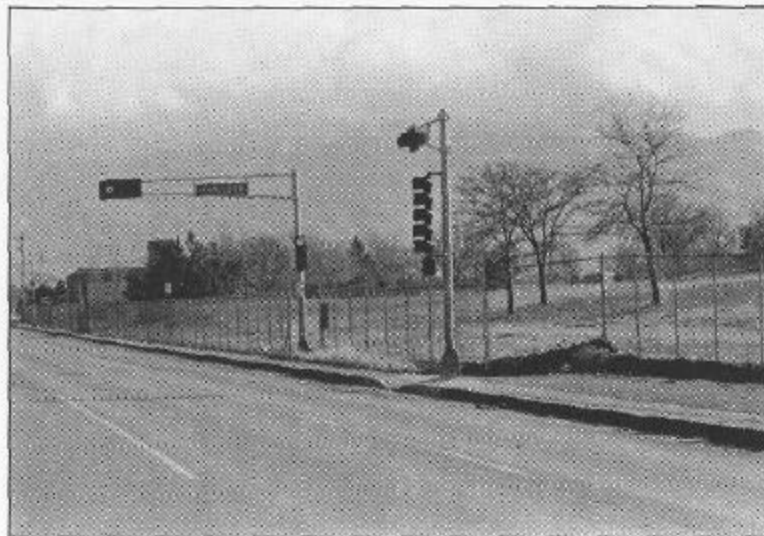
The lack of sidewalks on the east side of the Seagull Lane bridge over the Bear Canyon could make future trail access difficult. The arroyo banks between Seagull Lane and Arroyo del Oso Park could provide direct access to the park's perimeter trails for nearby employees, residents and shoppers. East of Seagull Lane the concrete lined arroyo lies within a 100 foot wide drainage and utility easement. (See Legal Status Map, pp.10 and 11.) A trail easement will be needed to initiate trail development. A six (6) to fifteen (15) foot wide flat area on the northern bank from Seagull Lane is blocked by an apartment complex about 2/3 of the distance to the park. A bridge will be needed to continue the trail on the approximately ten (10) to fifteen (15) foot wide flat area on the southern bank to Arroyo del Oso Park. Steep adjacent slopes leading up to commercial and residential developments from the arroyo banks will need revegetation for erosion control if a trail is located here. Steps down to the arroyo could be constructed to connect commercial developments directly to the future trail.



Arroyo Del Oso Park



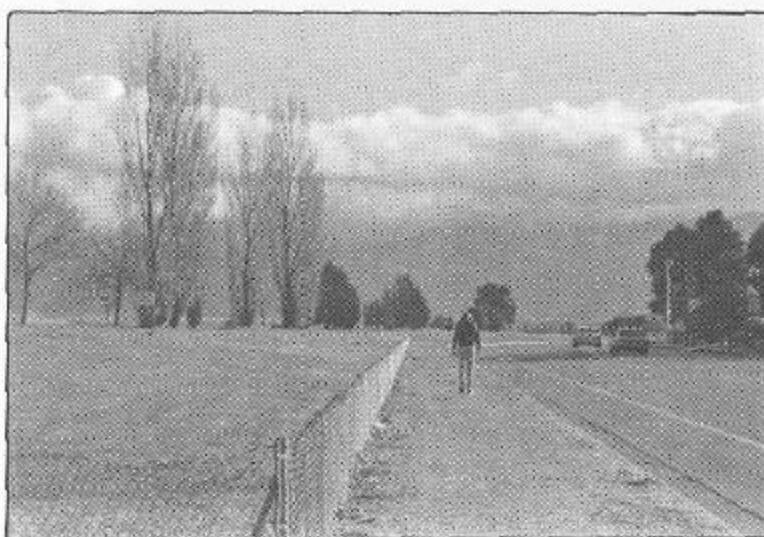
Newly constructed bridge and trail on west end of Arroyo Del Oso Park



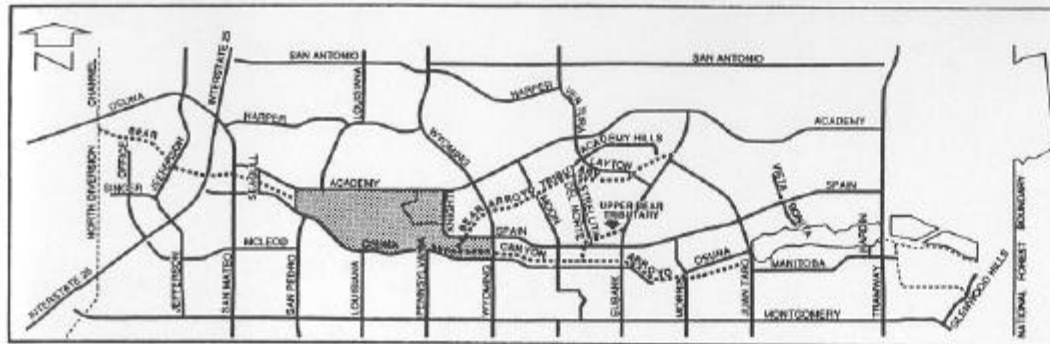
Trail and sidewalk at Academy and Burlison



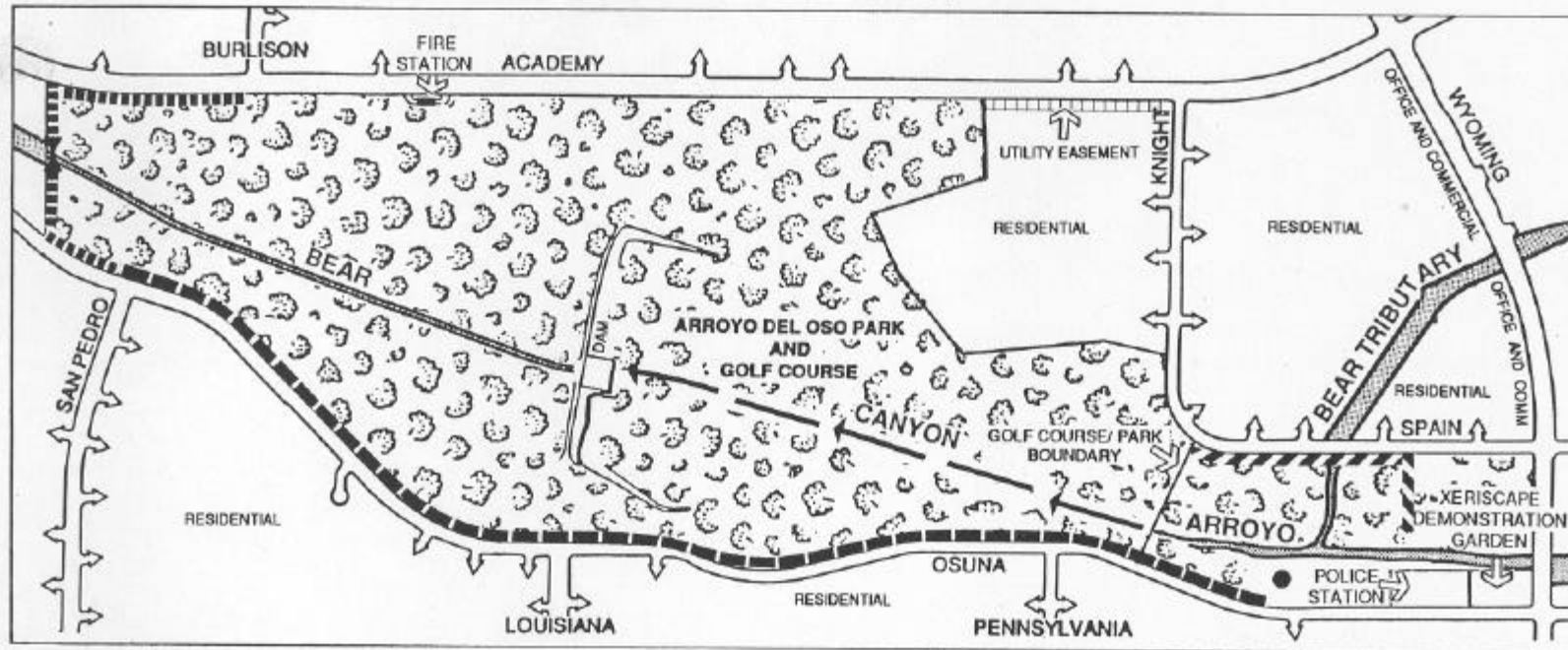
Road adjacent to arroyo in Arroyo Del Oso Park



Trail adjacent to Osuna



Location Map: Arroyo Del Oso Park



Approximate Miles: • South side of Golf Course + Park = 1.7 mi. • North side of Golf Course - Knight - Spain - Wyoming = 1.9 mi.

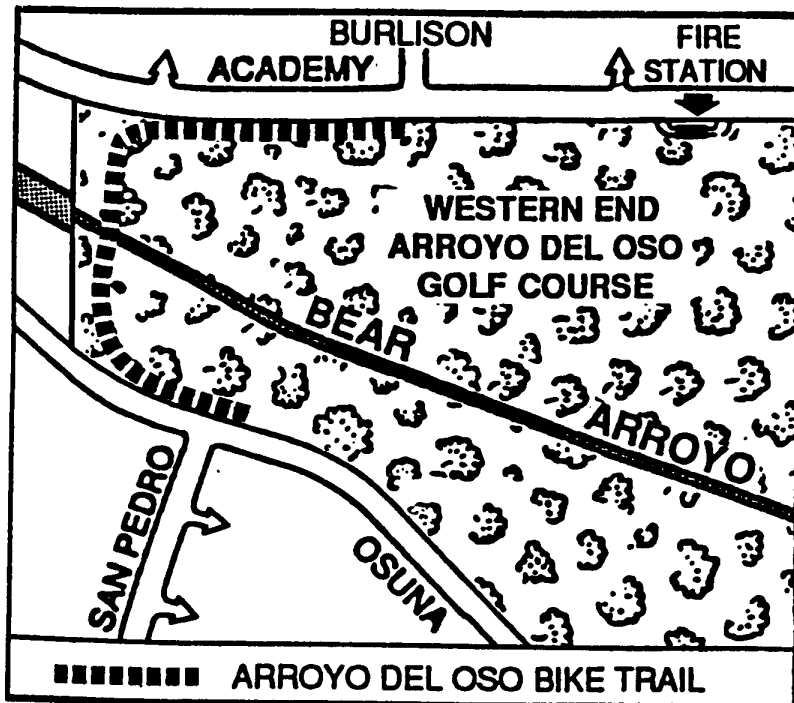
LEGEND:

- EXISTING DIRT TRAIL
- SEVERAL BEATEN PATHS DOWN SLOPE TO ARROYO
- DESIGNED WHEELCHAIR ACCESSIBLE ASPHALT BIKE TRAIL SEGMENT
- DESIGNED BIKE/PEDESTRIAN BRIDGE
- CONCRETE PATHWAYS IN PARK
- ARROYO R.O.W.

Most of the Arroyo del Oso Golf Course and Park is located within the Bear Canyon Arroyo's floodplain. Some trails already follow the golf course and park perimeter and some sidewalks connect areas within the park. Bear Canyon Arroyo Corridor Plan projects and an Arroyo del Oso Park Master Plan could connect these trail fragments to form trail networks for hikers, pedestrians, runners and people who use wheelchairs.

Golf Course Western End

A wheelchair accessible pedestrian/bicycle trail has recently been built at the western end of the golf course. This short trail segment's primary purpose is to connect Osuna bicycle lanes and the San Pedro bicycle route south of Osuna to the Burlison bicycle route north of Academy Boulevard. (See Appendix B.)

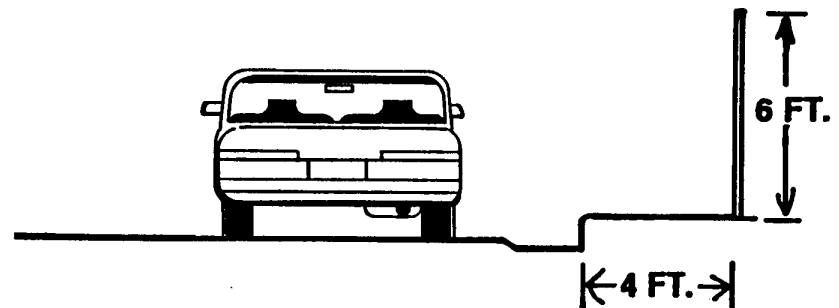


Golf Course and Park South Side

The approximately 1.5 mile long and eight (8) foot wide unimproved dirt trail running along the south side of the golf course to a police substation just west of Wyoming serves pedestrians and runners, but is too uneven for wheelchair use.

Golf Course and Park North Side

A six (6) foot high chain link fence borders the north side of the golf course. Non-vehicular right-of-way outside the fence consists of a four (4) foot wide sidewalk directly adjacent to the fence on one side and the street curb on the other. This constrained space does not attract people who use trails. Consequently some runners and walkers now use golf course service roads although they could be hit by golf balls.



For safety, golf course management wishes to discourage runners and walkers from using the golf course. To construct a dirt trail for running adjacent to Academy Boulevard public right-of-way, the fence must be moved in at least ten (10) feet. Although various tees, greens and a fire station will constrain the trail in some sections, a fairly continuous running trail can be accommodated. The trail outside the fence will have to be especially attractive to persuade walkers and runners to change their route.

An approximately ten (10) foot wide fenced utility easement lies adjacent to Academy Boulevard sidewalks between the golf course's eastern edge and Knight Road. If a trail easement can be obtained within this utility easement, a dirt running trail could be continued almost all the way to Knight Road. From the Knight Road/Academy Boulevard intersection, trail users would be required to access future trails in the park's interior via Knight Road sidewalks and Spain Road. Spain does not have continuous sidewalks on the south side of the street leading to the park and beyond to Wyoming.

Park Interior

An Arroyo del Oso Park Master Plan incorporating future park facilities needs to be developed to serve hikers, runners and pedestrians (including people who use wheelchairs). Now, people on foot may enter the park from Spain at the sidewalk entrance adjacent to the landscaped dirt parking lot. Concrete walkways run partially inside the

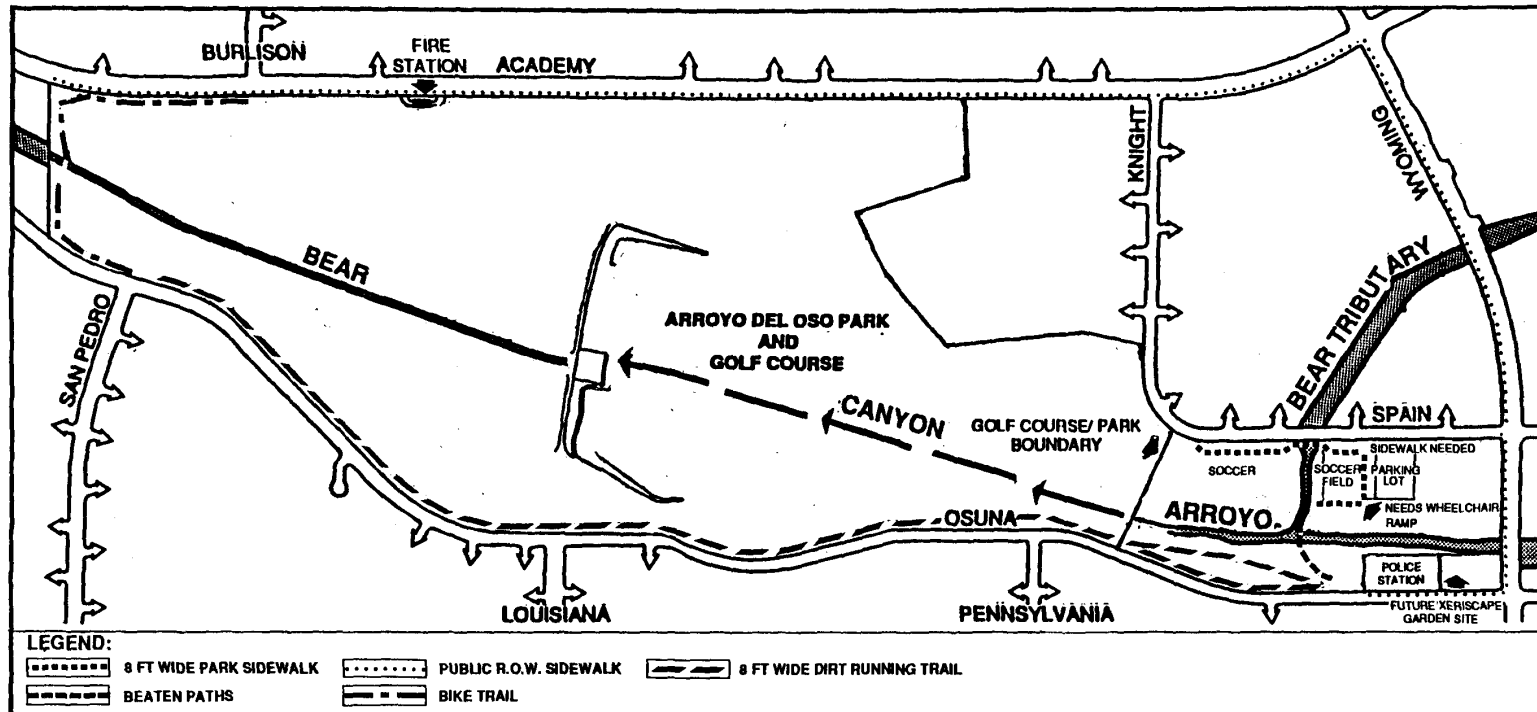
perimeter of the park and turn south adjacent to the parking lot.

The eastern portion of the park lies down slope from Wyoming and Osuna. People presently enter the park from Osuna on several casually made paths, down a tree and shrub covered slope and across the approximately fifty (50) foot wide Bear Canyon Arroyo. The arroyo channel's sides are stabilized with gabions (stone in wire baskets) and piles of broken concrete curbing. The arroyo bottom is earth. The Bear Tributary, which converges with the Bear Canyon Arroyo here, is also stabilized with broken concrete.

Park East Side

Xeriscape (dryland vegetation) demonstration garden construction began in late 1990 on the park's southeastern corner at Osuna and Wyoming, east of the police substation. (See construction drawing in Appendix B.) The garden will be accessible from trails and sidewalks adjacent to Osuna Road. A steep slope separates the garden from the park's interior.

Park and future trail users could either walk or bicycle to the Spain/Wyoming intersection or Osuna/Wyoming intersection and back to mid-block on the east side of Wyoming to access future trails along the Bear Canyon Arroyo east of Wyoming. The Bear Tributary can be reached by walking or bicycling north on Wyoming.

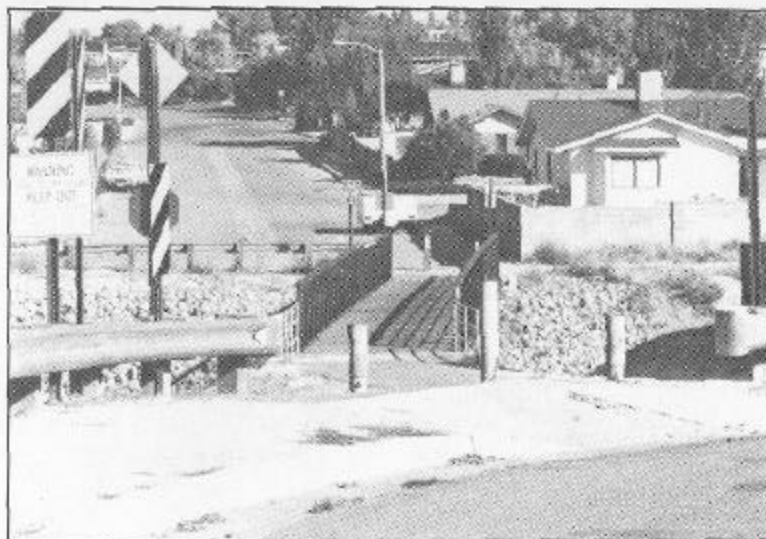


Arroyo Del Oso Park and Golf Course
Existing and Designed Trails

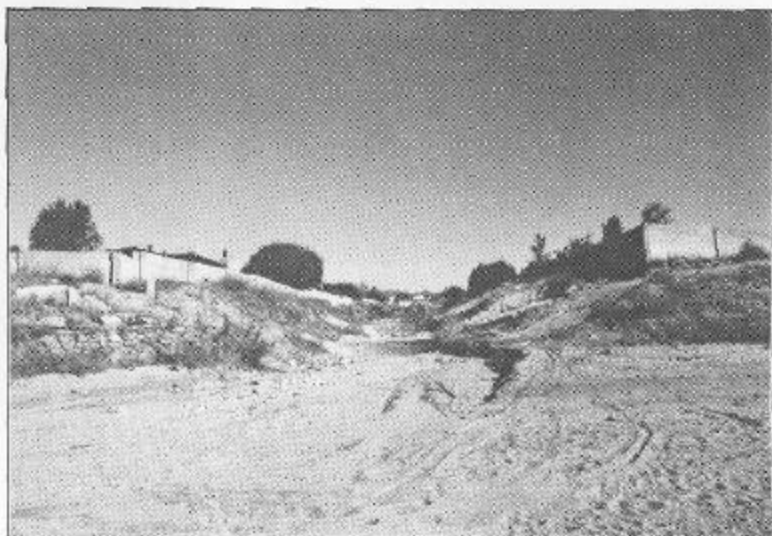
Wyoming to Eubank



Southern bank of arroyo between Wyoming and Moon



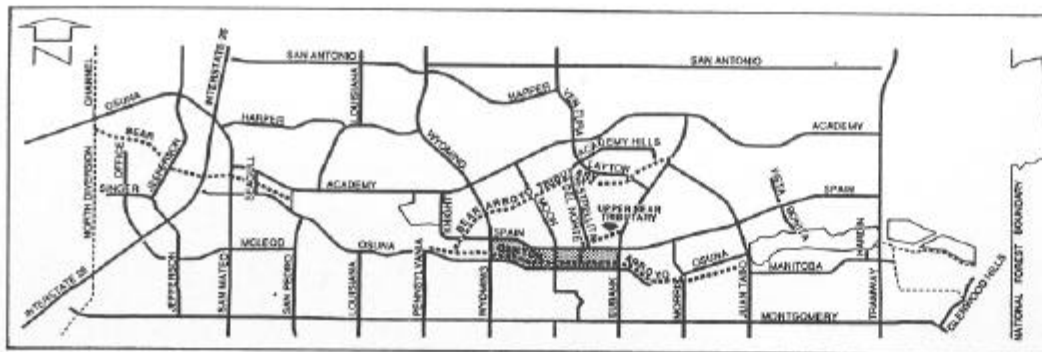
Looking North, bridge over Bear Canyon Arroyo at Moon St.



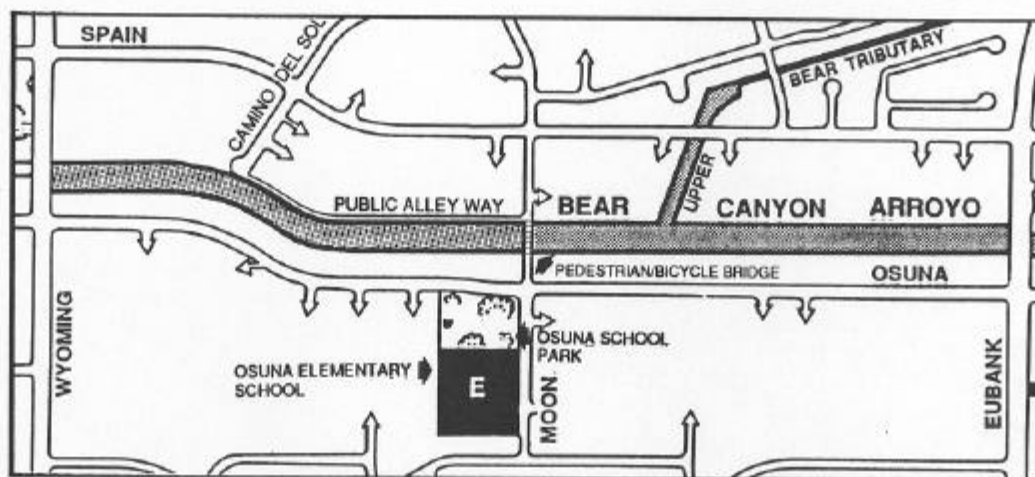
Confluence of Upper Bear Tributary and Bear Canyon Arroyo



Northern bank of arroyo between Moon and Eubank



Location Map:
Wyoming to Eubank



Approximate Miles:

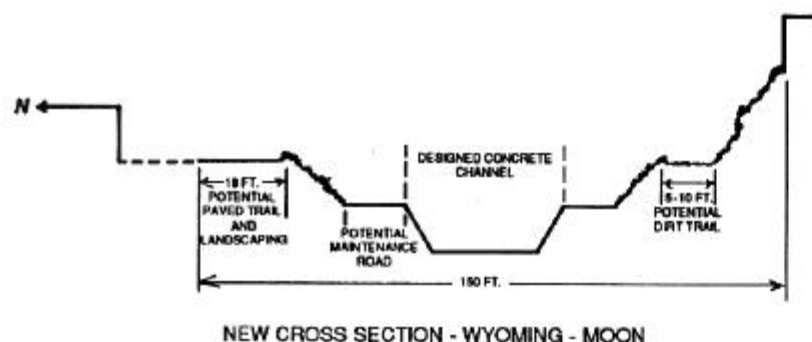
.5	.5
WYOMING - MOON	MOON - EUBANK
WYOMING - MOON (CHANNEL TO BE CONCRETE LINED.)	MOON - EUBANK AND UPPER BEAR TRIBUTARY EARTHEN CHANNEL WITH DROP STRUCTURES.

LEGEND:

 ARROYO R.O.W.

Wyoming Boulevard to Moon Street

The Bear Canyon Arroyo between Wyoming and Moon should be concrete lined by late 1992. (See Appendix B.) Construction plans reserve a flat eighteen (18) foot wide space along the north side of the channel for developing a future wheelchair accessible pedestrian/bicycle trail and a ten (10) foot wide space with one short five (5) foot wide section along the south side for developing a dirt running trail. A bicycle/ pedestrian bridge at Moon now connects bicyclists to the bicycle network and neighborhood children to a street crossing for Osuna Elementary School.



Moon Street to Eubank Boulevard

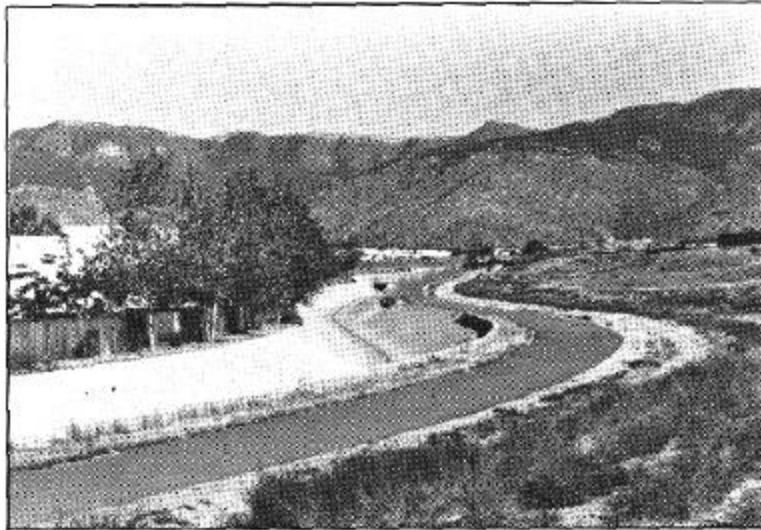
From Moon to Eubank, most of the 150 foot wide right-of-way is consumed by an earthen arroyo section containing drop structures reinforced with rip rap (stones). The narrow south bank is steeply sloped and unsuitable for trail development. Bank widths vary from twelve (12) to twenty five (25) feet on the north side of the arroyo. Even in the bank's narrowest stretches, sufficient width exists to build a multiple purpose trail. Wider stretches can accommodate seating, shade and vegetation next

to a trail. Grasses and shrubs can be grown on the arroyo slopes to beautify this corridor segment. (See Appendix F.)

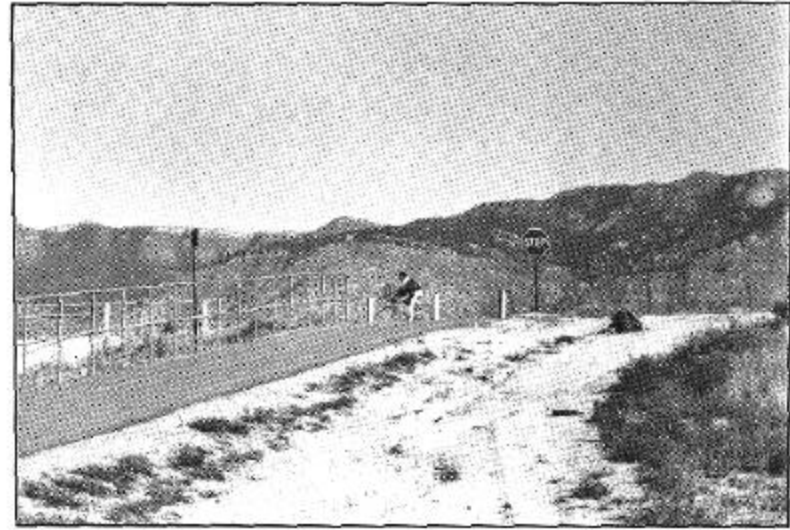
An apartment complex parking lot between El Corte Miramar and the arroyo now encourages direct vehicular access to the bank and arroyo. A broken drainage rundown from the parking lot to the arroyo has caused considerable bank erosion. The arroyo bank will need examination to determine how much stabilization is necessary to accommodate trail construction here and in its narrow stretches.

The Upper Bear Tributary's earthen channel converges with the Bear Canyon Arroyo between Moon and Eubank. The twelve (12) foot wide eastern bank can accommodate a trail connecting the Bear Canyon Arroyo trail to Spain Road. The maintenance road gate located at Spain, which now prevents people from entering, can be redesigned to allow access to pedestrians, bicyclists and people who use wheelchairs. A pedestrian/bicycle bridge across the 75 foot wide tributary right-of-way will be needed to connect the east/west Bear Canyon Arroyo trail.

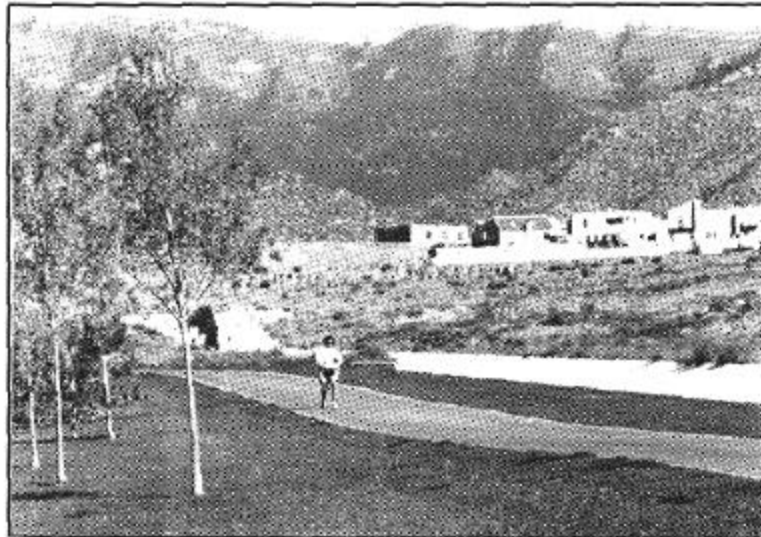
Eubank to Juan Tabo



Looking East, existing trail from Eubank to Morris



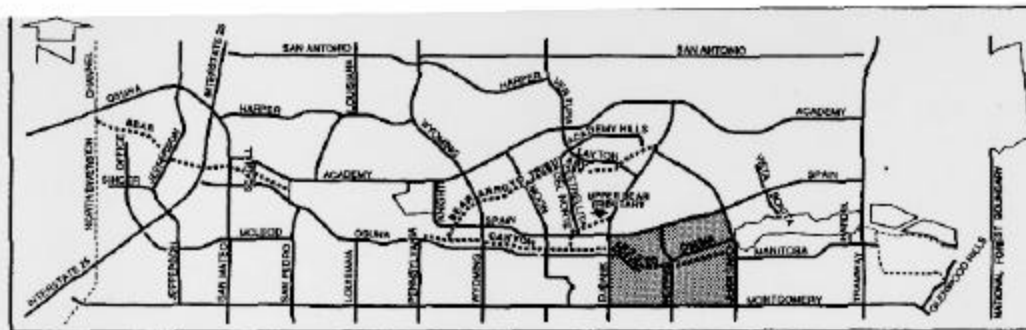
Looking East, intersection of existing trail and Morris



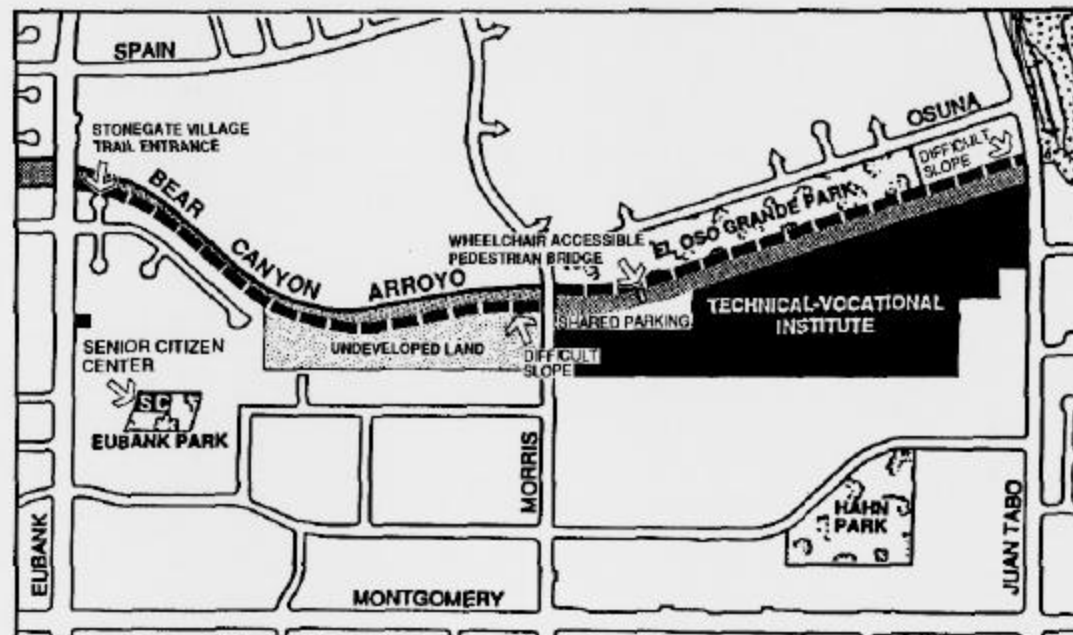
Trail running through El Oso Grande Park



Trail, looking west from Juan Tabo



Location Map:
Eubank to Juan Tabo



Approximate Miles:

.5

.5

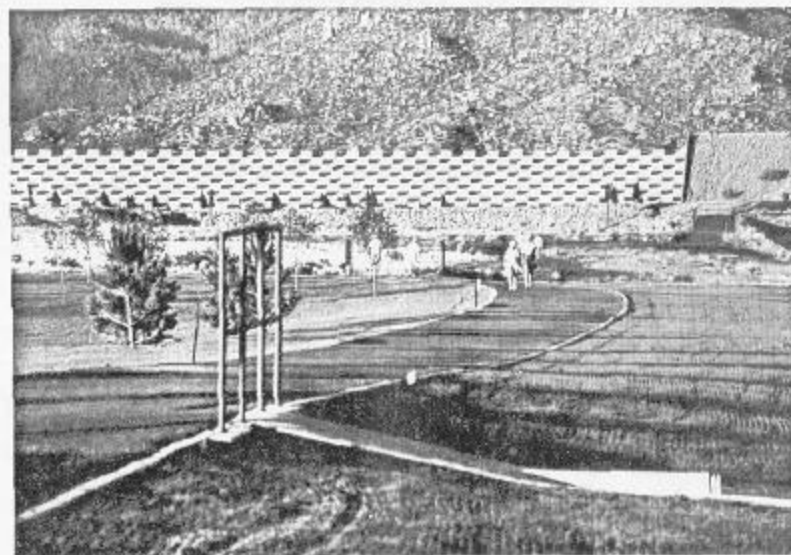
LEGEND:

 EXISTING 12 FT. WIDE ASPHALT PEDESTRIAN/BICYCLE TRAIL

 ARROYO R.O.W.

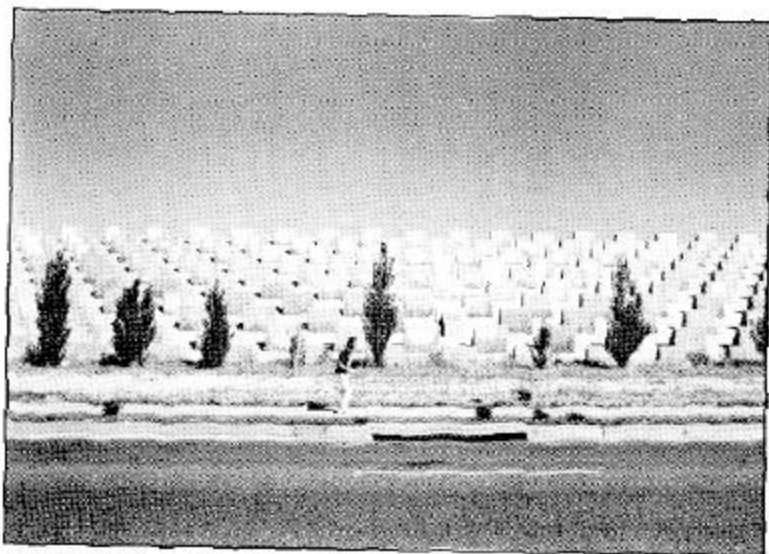
If mid-block crossings are prohibited at Eubank, pedestrians and bicyclists will need to cross Eubank at Spain. A twelve (12) foot wide asphalt trail runs from Eubank to Juan Tabo. Although the overall running slope of the recently constructed trail is generally under 5%, severe slopes just west of Morris and just west of Juan Tabo prevent uninterrupted wheelchair travel. Additional easements or rights-of-way may be necessary to correct this trail deficiency. From Eubank to Morris limited space will allow some small rest stops. A trail entrance exists at Stonegate Village, but is not paved for wheelchairs. Another trail entrance may be possible when the land between Stonegate Village and Morris is developed.

A wheelchair accessible pedestrian/bicycle bridge connects El Oso Grande Park and the Bear Canyon Arroyo Corridor trail to a new parking lot south of the arroyo. The parking lot was built to be jointly used by people accessing Albuquerque Technical-Vocational Institute, the park and the trail. The trail is connected to pathways in the park. El Oso Grande Park has become a trail destination with benches, shelter, a water fountain, and playing fields. A park nature trail will be added in the future.



The median at Juan Tabo has been reconstructed to facilitate mid-block street crossings.

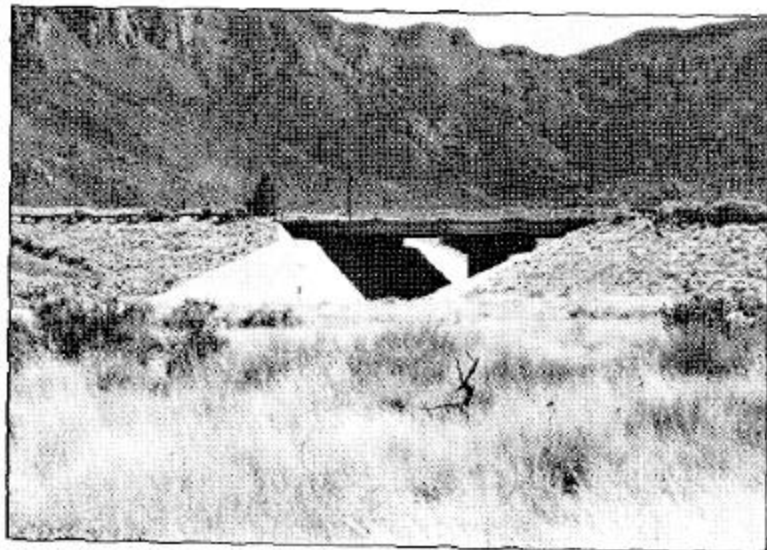
Juan Tabo to Tramway



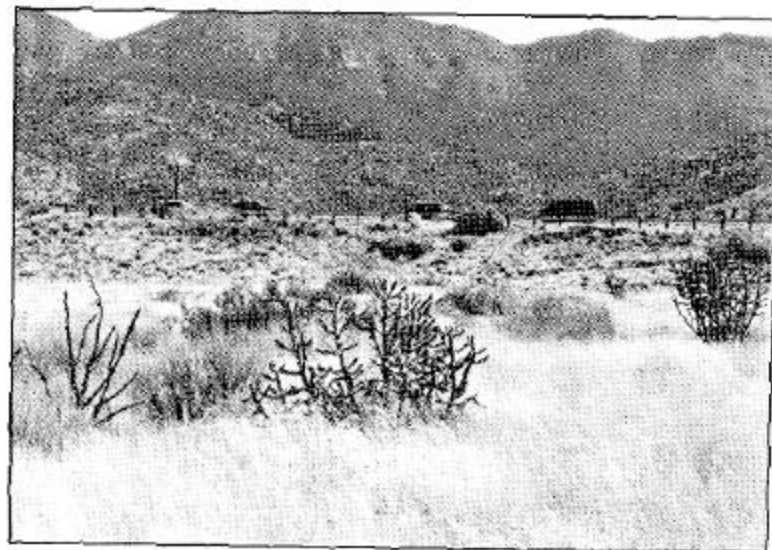
John B. Robert Dam spillway East of Juan Tabo Boulevard



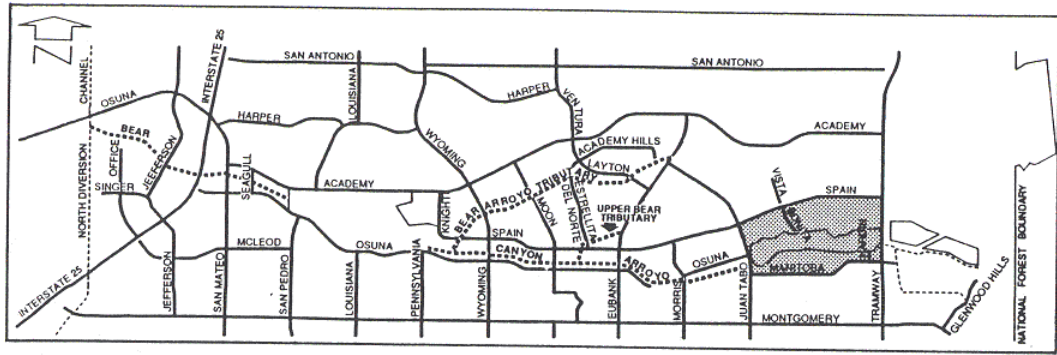
Maintenance road, North side of John B. Robert Dam



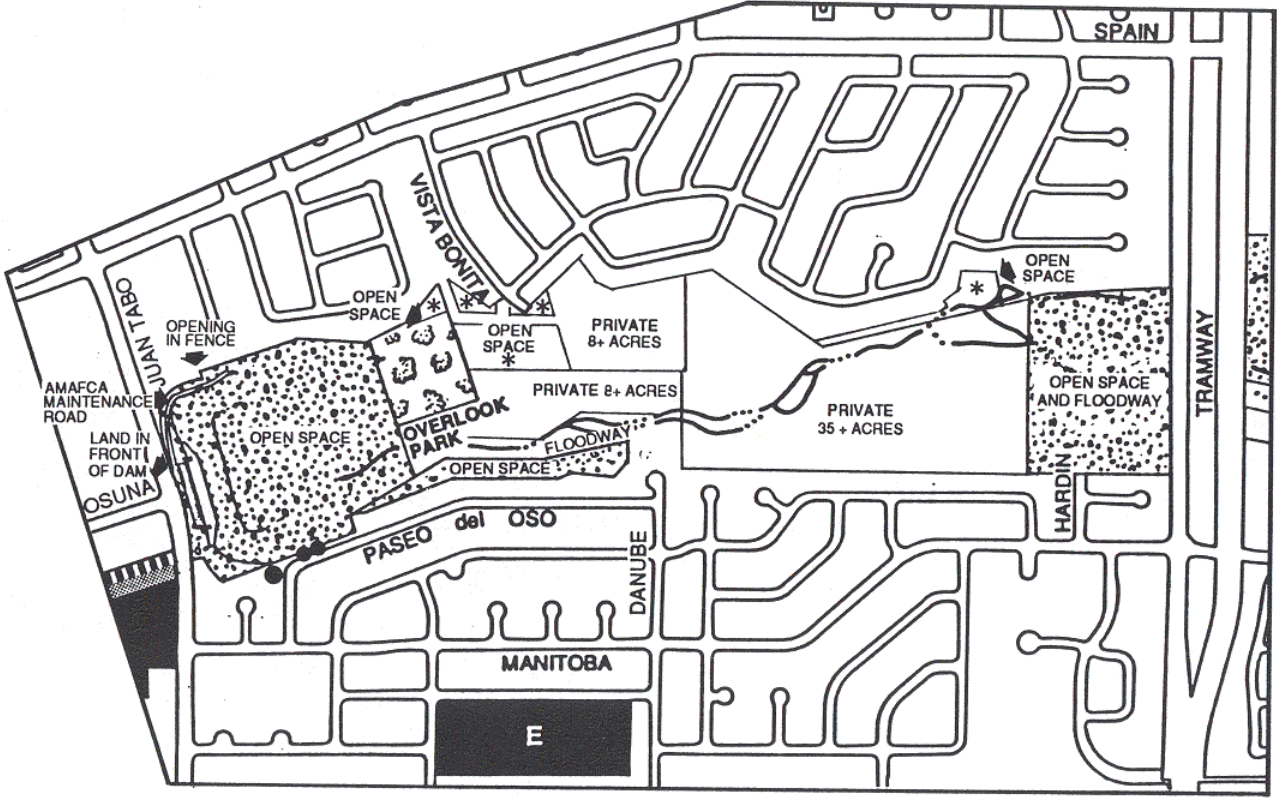
Just West of Tramway bridge



Arroyo floodplain West of Tramway










Location Map:
Juan Tabo to Tramway



Approximate Miles:

1

LEGEND:

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
|  EXISTING 12FT WIDE PEDESTRIAN/ BICYCLE TRAIL |  * OPEN SPACE REQUIRING DEEDS TO THE CITY |
|  AMAFCA MAINTENANCE EASEMENT |  PARK LAND (NOT DEVELOPED) |
|  TRAIL EASEMENT AS A CONDITION FOR DEVELOPMENT |  CITY OWNED OPEN SPACE |
|  ARROYO R.O.W. | |

The John B. Robert Dam rises high above the east side of Juan Tabo. The land at street level between the dam and Juan Tabo is sufficiently wide to become a trailhead for trail users entering the area to the east from the dam maintenance road. Between Juan Tabo and Tramway, the floodplain is approximately 800 to 900 feet wide. When most of this floodplain is acquired as public open space and trail easement, an equestrian/hiking trail, a wheelchair accessible bike trail, rest stops and vegetation can be planned and designed. Approximately fifty one (51) acres of the floodplain are now privately owned.

Activities in the Floodplain

Many surrounding residents hike and observe wildlife in the floodplain. They also help clean up trash there. Hang glider pilots occasionally land in the open space and park areas near Vista Bonita Drive. These activities appear to be appropriate for this City Open Space land.

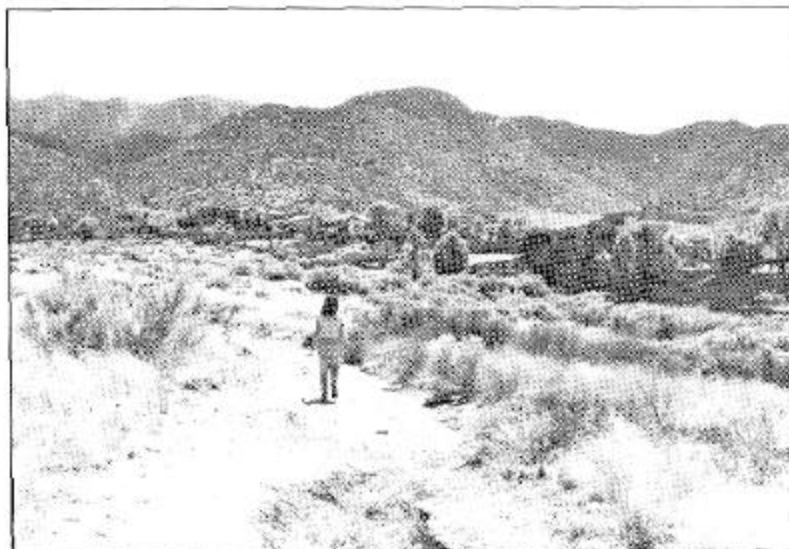
Potential Trail Entrances

Potential trail entrances from residential neighborhoods located high above the floodplain exist on the north from the maintenance road, from a fence opening between the maintenance road and an undeveloped lot, and from Vista Bonita Street. Potential southern entrances are Hardin Drive, Paseo del Oso across an AMAFCA easement and the dam structure to the maintenance road on the north, and an easement over a portion of undeveloped property. (See case file #DRB-88-530 in the Planning Department.)

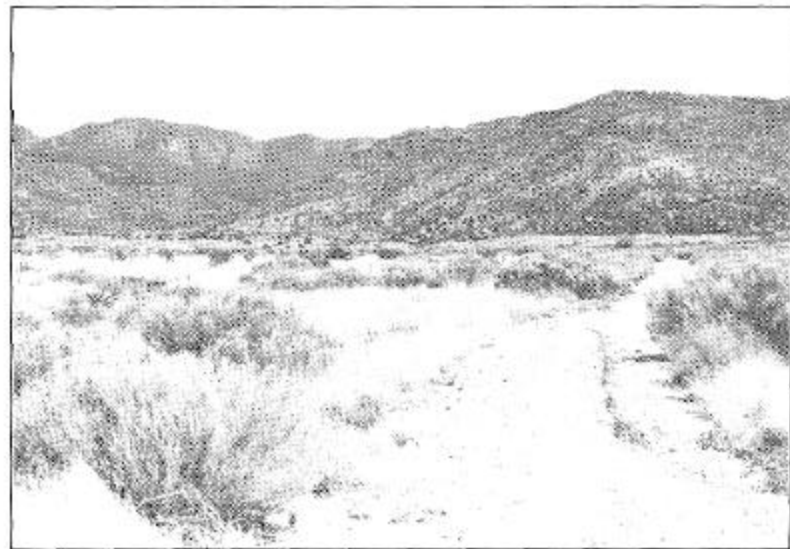
Wheelchair Accessibility

Sufficient space exists within City Open Space at the Hardin Drive entrance to construct a wheelchair accessible entrance and trail down into the floodplain. To construct a wheelchair accessible entrance and trail to the north, an easement agreement may be required along one edge of the vacant lot adjacent to the northern maintenance road. This entrance has the gentlest grade for potential wheelchair access. A parking lot adjacent to this entrance could also improve potential wheelchair access.

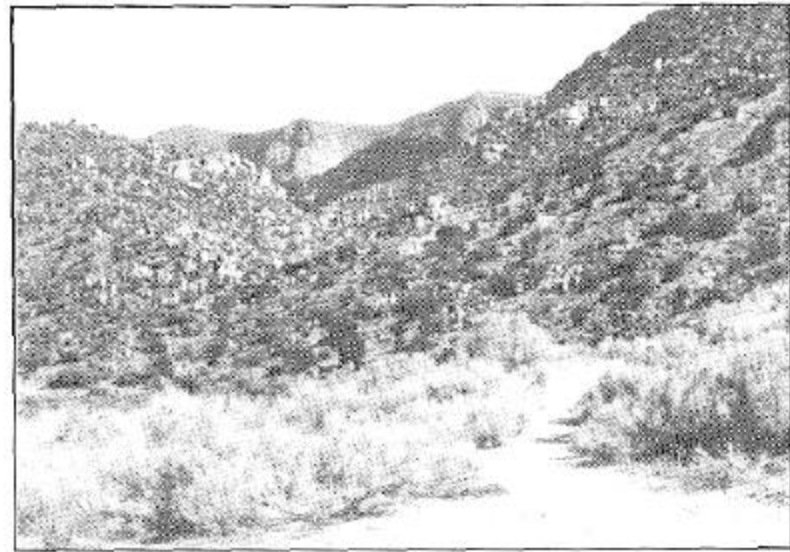
Tramway to the National Forest Boundary



Looking East between Tramway and National Forest Boundary

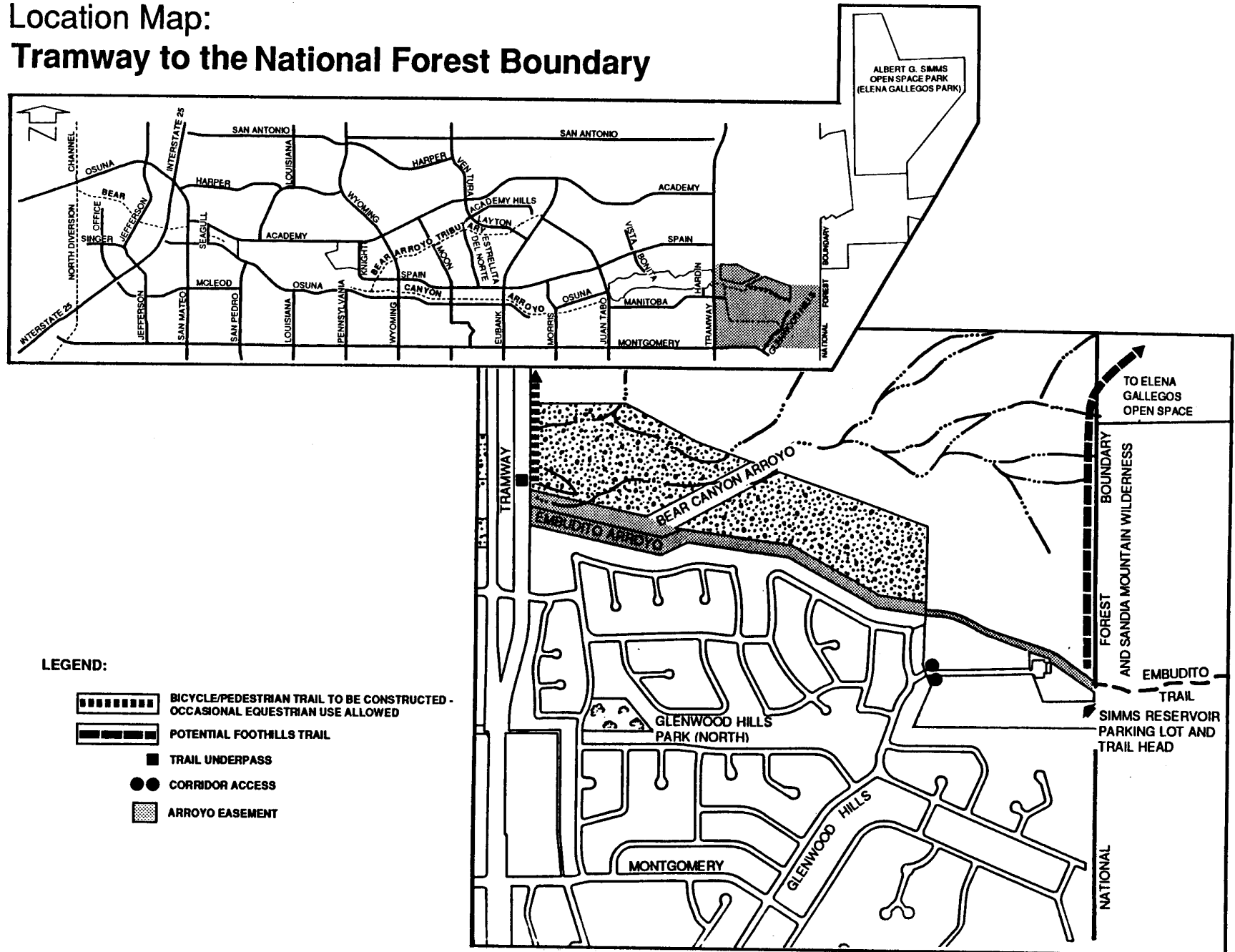


Potential foothills trail alignment



Near Simms Reservoir

Location Map: Tramway to the National Forest Boundary

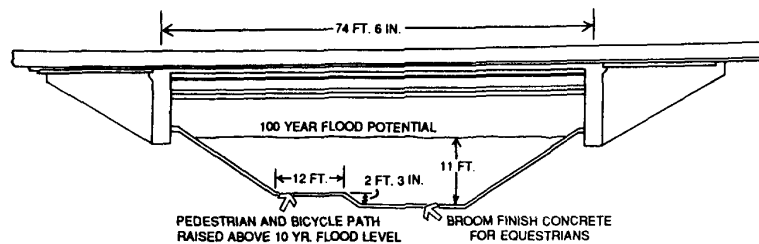


Trail User Options

The Embudito and Bear Canyon arroyos located between the National Forest boundary and Juan Tabo Boulevard are in a nearly natural state. Water absorbed here allows trees and shrubs to grow in the floodplain. For areas like this the Trail Standards recommend below grade street crossings when possible. (See Appendix G-11.)

The design for the County Public Works Department's Tramway Widening Project includes a bridge structure over the arroyo. The bridge floor will be designed to allow equestrians, bicyclists and pedestrians to travel beneath Tramway. From this point corridor users will have two trail options: 1) to leave the corridor for the future north/south Tramway trail extension or 2) to continue east through City Open Space and an 80 foot wide Embudito Arroyo trail easement to the Simms Reservoir parking lot.

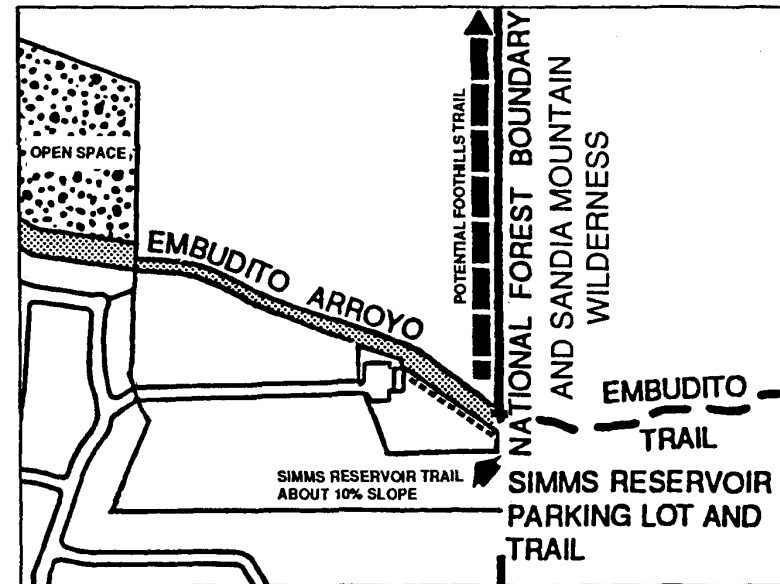
Both trail options lead to other trail choices. From the Tramway trail, people will be able to continue east on Simms Park Road to the Elena Gallegos Open Space Park and National Forest trails beyond or to travel west in a culvert under Tramway Boulevard to an equestrian route. The Simms Reservoir site is the trailhead for the National Forest Embudito Trail to the east and will become a connection to a future north/south foothills trail that passes through the Elena Gallegos Open Space Park to the Sandia Pueblo boundary. The foothills trail will serve hikers, equestrians and mountain bicyclists. (See Appendix D.)



TRAMWAY/ BEAR CANYON BELOW GRADE CROSSING

Corridor Access

The only corridor access point from the Glenwood Hills neighborhood to the south is from Glenwood Hills Drive to the Simms Reservoir Parking Lot. The privately owned land primarily to the north of the Embudito is not yet developed. The Simms Reservoir parking lot and trailhead have been designed and will be constructed on the Simms Reservoir site for Forest Service and Bear Canyon Arroyo trail users.



Wheelchair Access

The ten percent running slope in this corridor segment is too steep to accommodate wheelchair users without considerable engineering. Because this is a fairly undisturbed area primarily in City Open Space and leading to National Forest Wilderness, engineering for trail construction will be kept to a minimum. To provide people who use wheelchairs with a wilderness experience on the west side of the Sandias, this plan recommends that the Albert Simms (Elena Gallegos) Open Space Park's minimal wheelchair access be expanded and improved.

The Bear Tributary



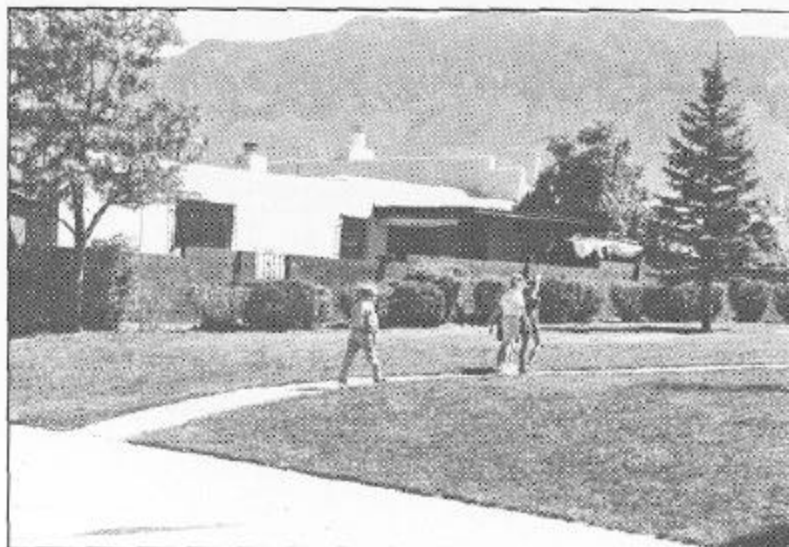
Trail between Moon and Estrellita Del Norte



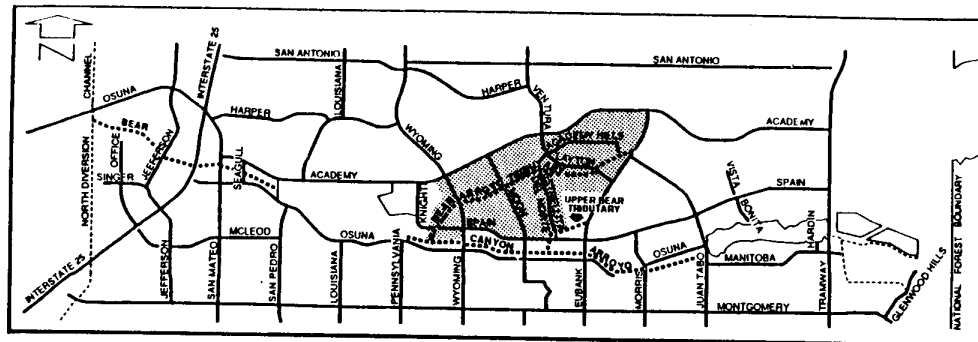
Maintenance road between Estrellita Del Norte and Layton



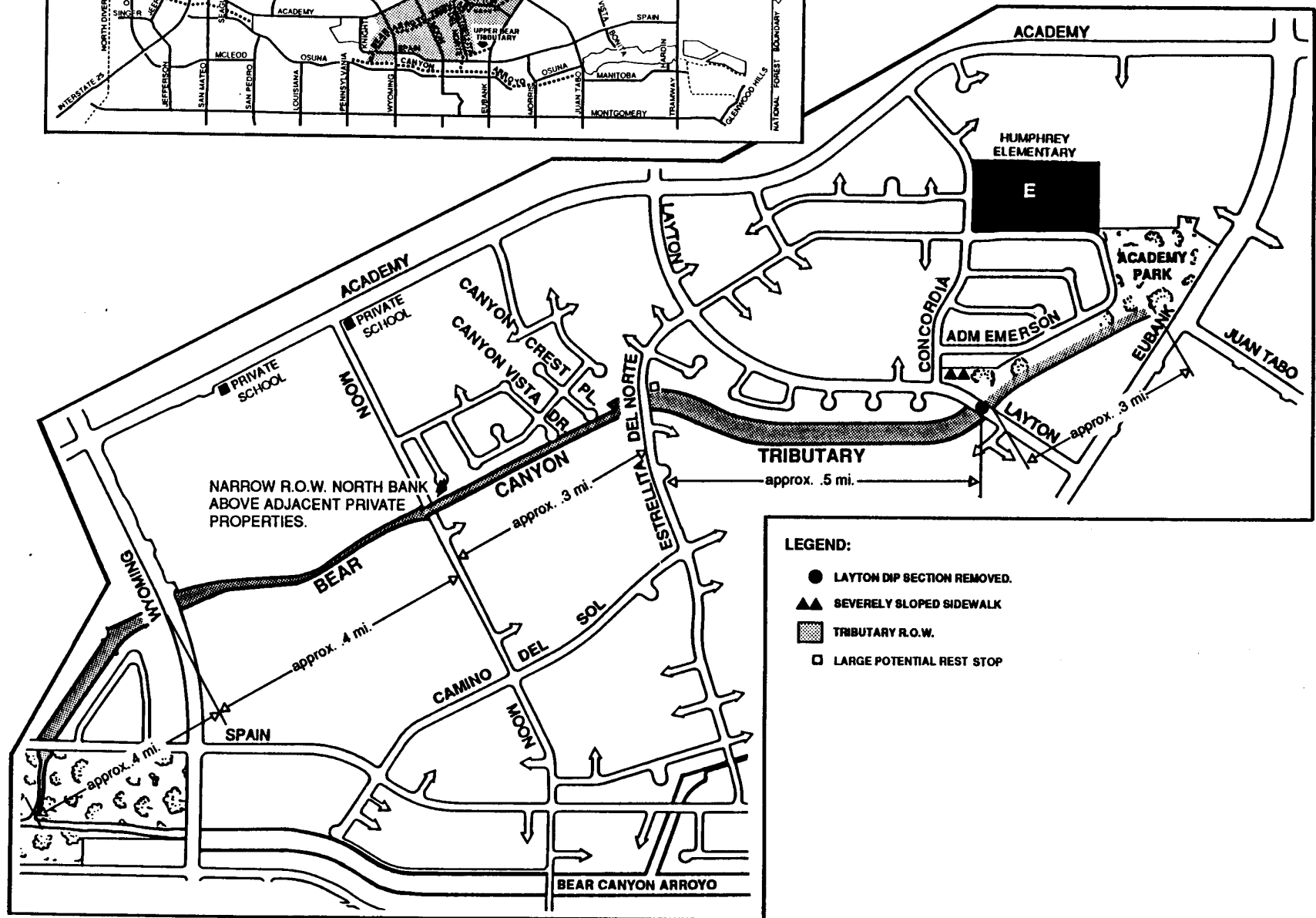
Academy Hills Park, South side



Academy Hills Park, North side



Location Map: The Bear Tributary



Corridor Interruptions and Constraints

Only three streets intersect the Bear Tributary as it runs southwest from Academy Park: Layton, Estrellita del Norte and Wyoming. Wyoming would probably serve as the Tributary's western trail terminus because arroyo banks between Wyoming and Arroyo del Oso Park slope too steeply for trail development. The City and AMAFCA currently have no plans for improvements to this arroyo reach. Trail construction, however, is not being proposed along the Bear Tributary at this time because of neighborhood concerns about privacy between Estrellita del Norte and Moon.

The tributary's concrete lined trapezoidal channel lies in a 150 foot wide right-of-way from Layton to Estrellita del Norte, an approximately 70 foot wide right-of-way from Estrellita del Norte to Moon and a 150 foot wide right-of-way from Moon to Wyoming. Along much of the tributary's length chamisa and asters grow without encouragement. The tributary banks' gentle running slope from the park downstream to Wyoming could accommodate wheelchair travel with some additional engineering at street intersections if a trail were built here.

Academy Park

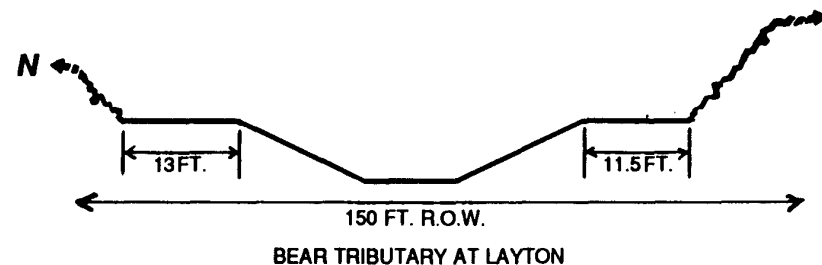
A sidewalk located on the northern perimeter of Academy Park and a beaten path located adjacent to the Tributary's low flow channel serve as park walkways. The western portion of the park sidewalk is currently too steep to be negotiated by most people using wheelchairs. To become wheelchair accessible, this sidewalk slope would need redesigning and wheelchair accessible curb ramps would need to be built at street crossings.

Layton Avenue to Estrellita del Norte Road

From Layton to Estrellita del Norte, the approximately eighteen (18) foot wide northern bank

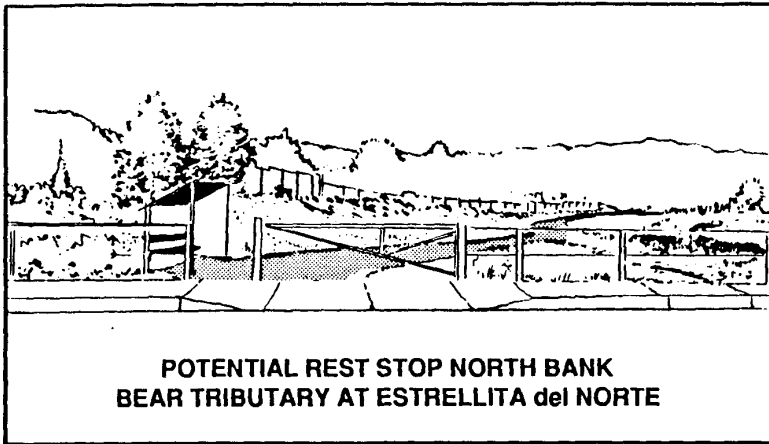
has an approximately thirteen (13) foot wide flat area where a paved trail with narrow rest stops could be developed. An existing gravel maintenance road could be resurfaced and incorporated into the trail. A large area adjacent to a City well site on the northeastern corner of the tributary and Estrellita del Norte could easily be designed to serve as a major neighborhood trail entrance and rest stop.

Neighborhood runners and hikers now access the southern bank from a drainage rundown at Regal Ridge Road. The approximately fifty (50) foot wide southern bank has an approximately twelve (12) foot wide flat area that narrows and slopes steeply at Estrellita del Norte. A dirt running trail could be developed here. The steep slopes between the arroyo banks and adjacent properties on the south ensure privacy for adjacent residents. The slopes need some additional vegetation to prevent erosion and to contribute to the corridor's appearance. (See Appendix F for Soil Conservation Service planting recommendations.)

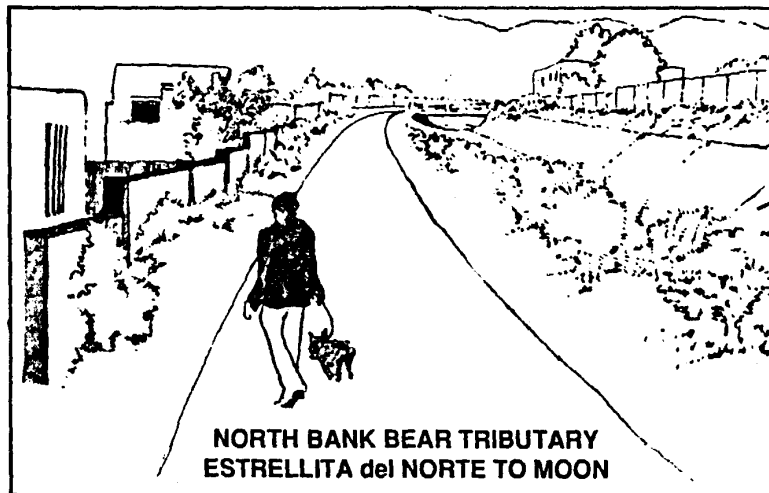


Estrellita del Norte Road to Wyoming Boulevard

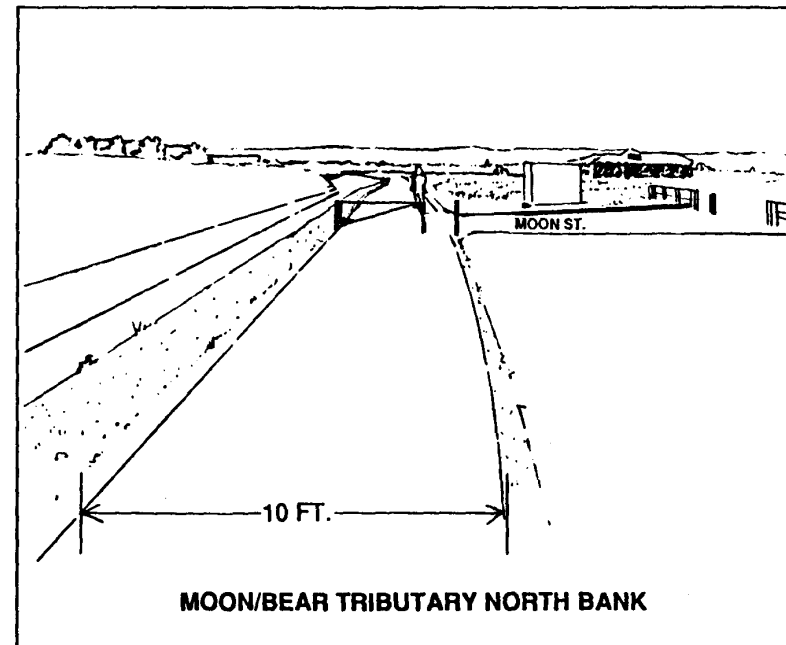
From Estrellita del Norte to Wyoming the steeply sloped southern bank is unacceptable for trail development. The approximately fourteen (14) foot wide northern bank could be developed as a multiple purpose trail.



The northern bank between Estrellita del Norte and Moon sits above adjacent properties that presently have no direct access to the arroyo. Design solutions would need to be introduced here to ensure trail user safety and to protect residents' privacy. On October 10, 1990, City staff and residents from the Canyon Run Estates neighborhood agreed to de-emphasize the trail along the Bear Tributary for now. (See project proposals for the Bear Tributary starting on page 80.)



Moon dead ends on both the southern and northern sides of the tributary. A pedestrian/bicycle bridge constructed at Moon would serve trail users from both neighborhoods, but because the trail is being de-emphasized, a bridge is not being recommended. Instead, pedestrian accessible maintenance road gates or removable bollards could be installed at Moon and at Wyoming to prevent illegal vehicular access.



From Moon to Wyoming a twelve (12) foot wide raised maintenance road on the north side of the tributary can serve as a trail for now until the neighborhood requests a paved trail. Most of the land zoned R-2 and C-2 north of the arroyo between Moon and Wyoming is undeveloped. Senior housing is located just south of the tributary on Wyoming.

The Plan



THE PLAN

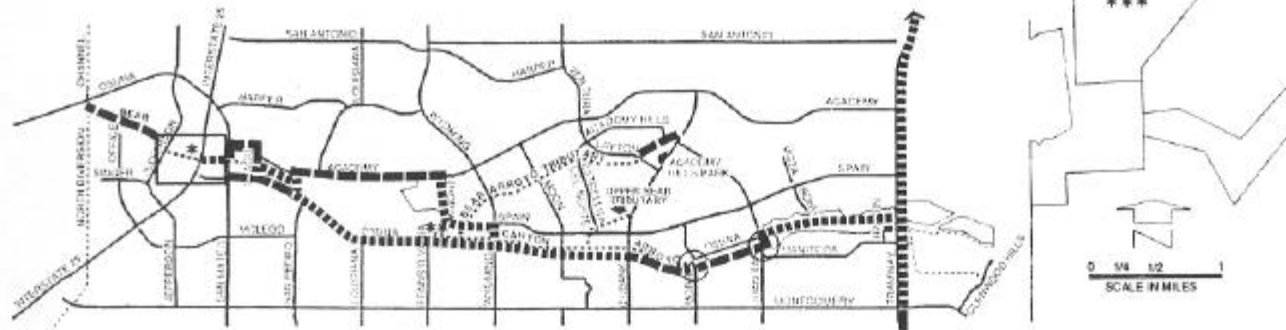
POLICIES, REGULATIONS AND GUIDELINES

The following plan policies, regulations and guidelines will be applied to the trail corridor and adjacent lands. Policy topics are (1) Establishing Trail Networks, (2) Land Acquisition and Easements, (3) Drainage, (4) Safety and Education, (5) Promoting Multiple Uses, (6) a Design Overlay Zone for private properties adjacent to the Corridor and (7) Corridor Design and Materials.

ESTABLISHING TRAIL NETWORKS

1. THE FOLLOWING TRAIL NETWORKS ARE ESTABLISHED FOR WHEELCHAIR ACCESSIBILITY, BICYCLING, HIKING, RUNNING, AND HORSEBACK RIDING BY ADOPTION OF THIS PLAN AND SHALL BECOME PART OF A REGIONAL TRAILS MASTER PLAN.

Wheelchair Accessible Network



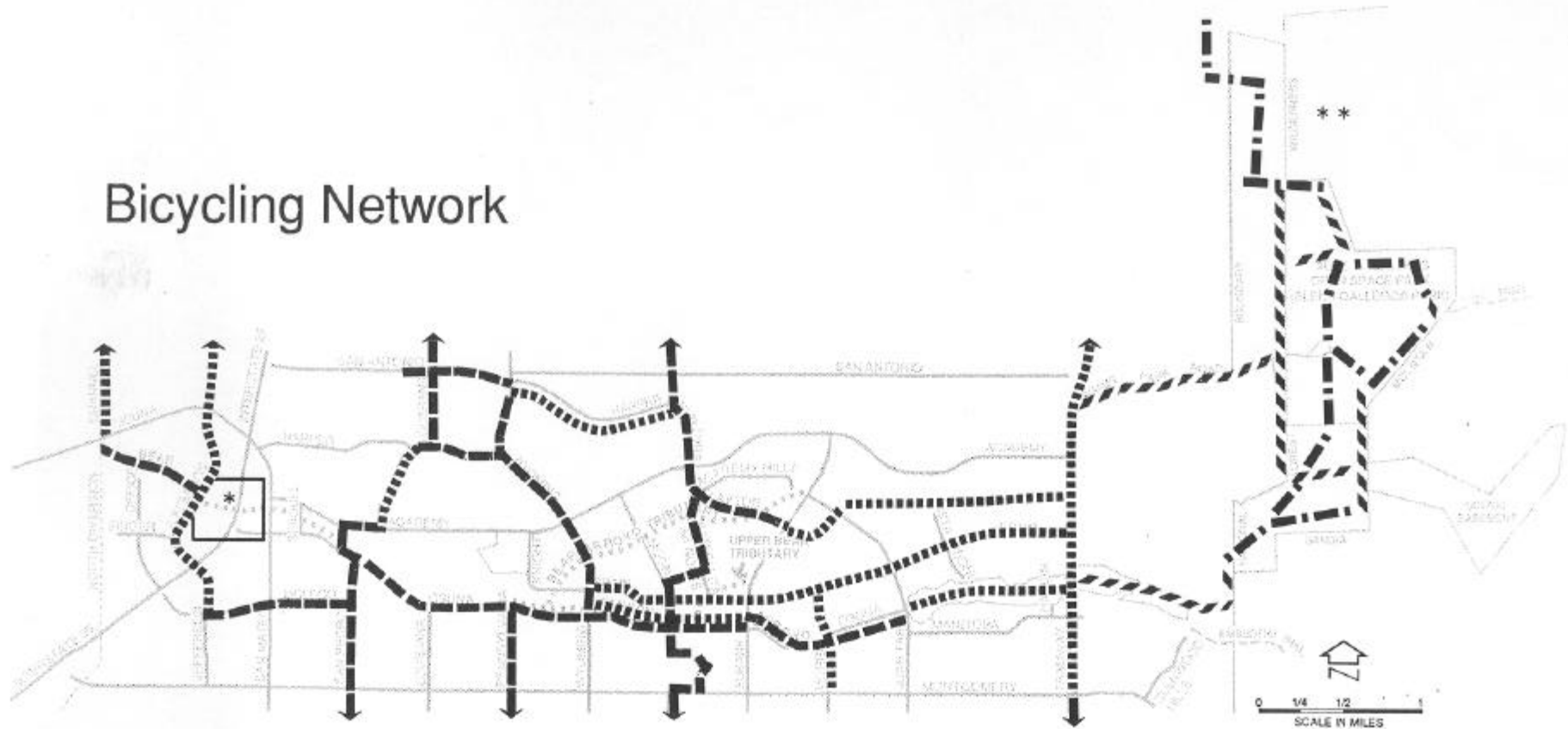
----- Proposed Trails

----- Existing Sidewalks and Trails

Notes:

- * See walking network trail options.
 - ** Albuquerque Parks and Recreation Department will develop interconnected wheelchair accessible walkways as part of a Master Plan for the Park's interior.
 - *** Some wheelchair accessible trails exist in Simms Park and others will be developed upon adoption of this plan.
- Long trail segments exceeding 5% slope do not meet American National Standards Institute (ANSI) standards for wheelchair accessibility, but may be accessible to some people who use wheelchairs. Signs at trail entrances will alert users to the existence of slopes over 5%. At Morris and Juan Tabo existing trail slopes may be re-engineered.

Bicycling Network



- Proposed Trails and On-street Facilities (from 1989 Bikeways Master Plan)
- ////// Proposed Trails for Mountain Bicycles
- . - . Existing Multiple Use Trails for Mountain Bicycles
- ===== Existing Trails, On-street Routes and Lanes

Notes:

- * See Walking Network Trail Options
- ** Bicycles are not permitted in the Sandia Mountain Wilderness

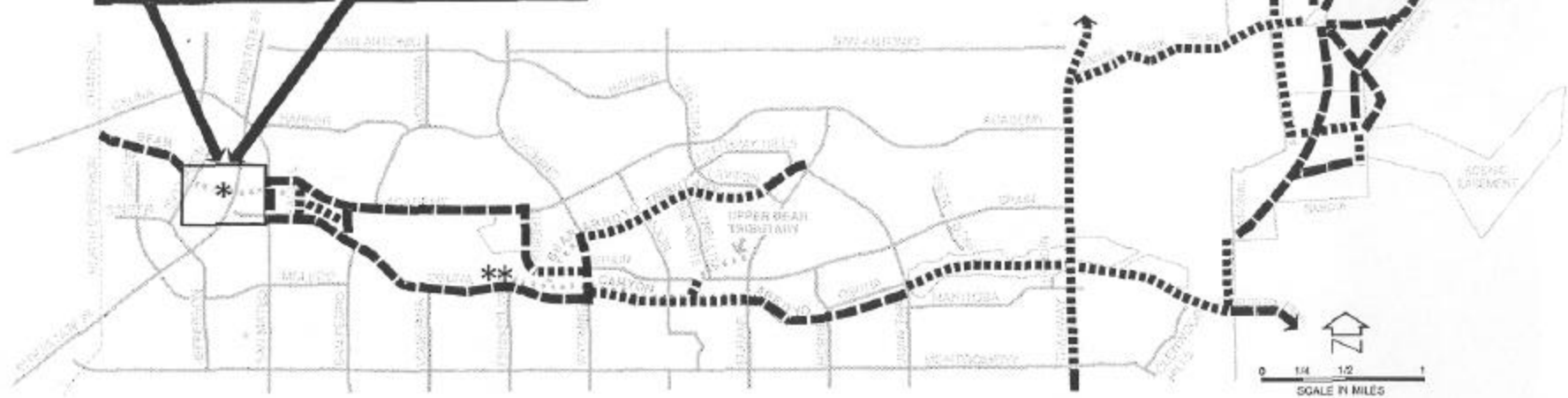
Trail Loop Option



Continuous Trail Option



Walking Network



- Proposed Trails
- ===== Existing Sidewalks and Trails

Notes:

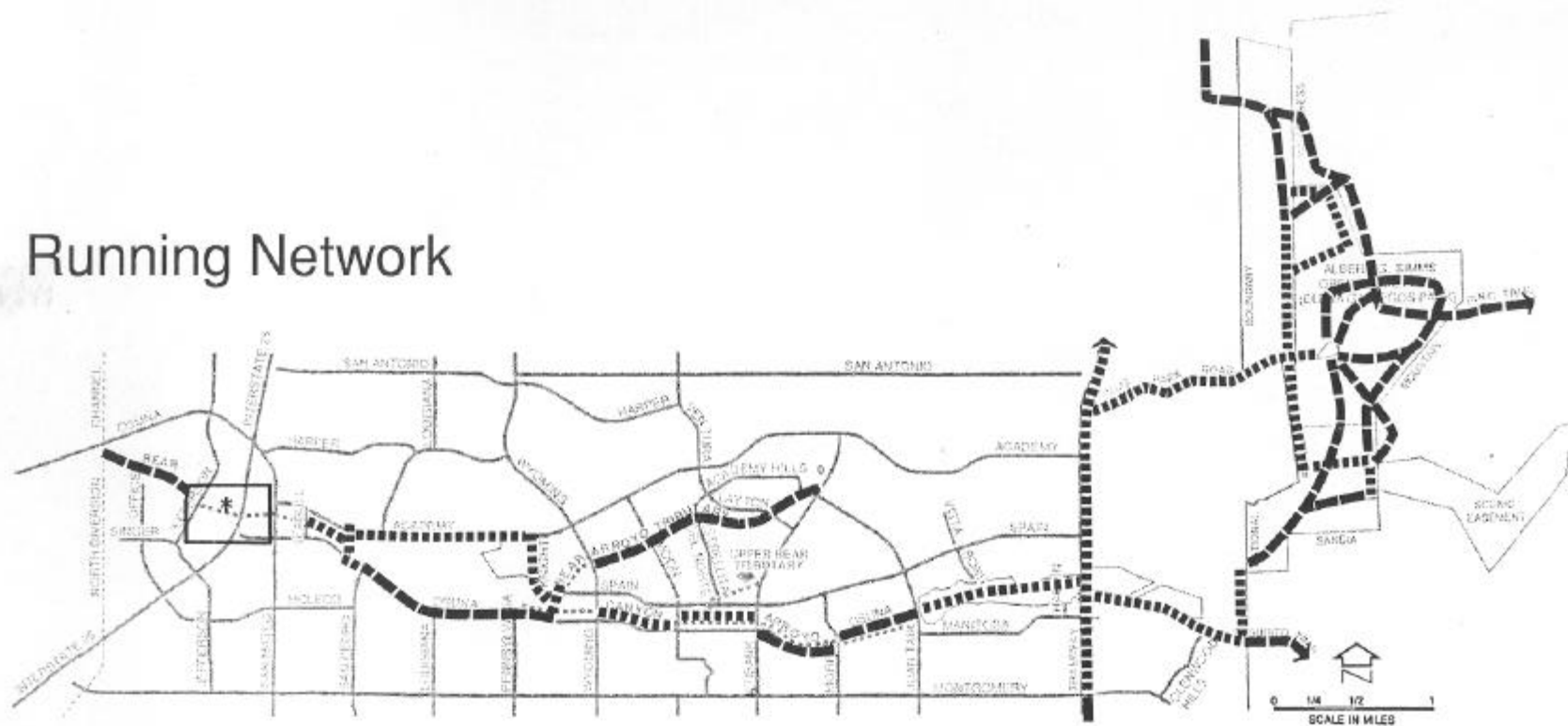
Sidewalks exist within most public rights of way.
All connections have not been shown.

* See two trail options.

** Albuquerque Parks and Recreation Department will develop interconnected wheelchair accessible walkways as part of a Master Plan for the park's interior.



Running Network



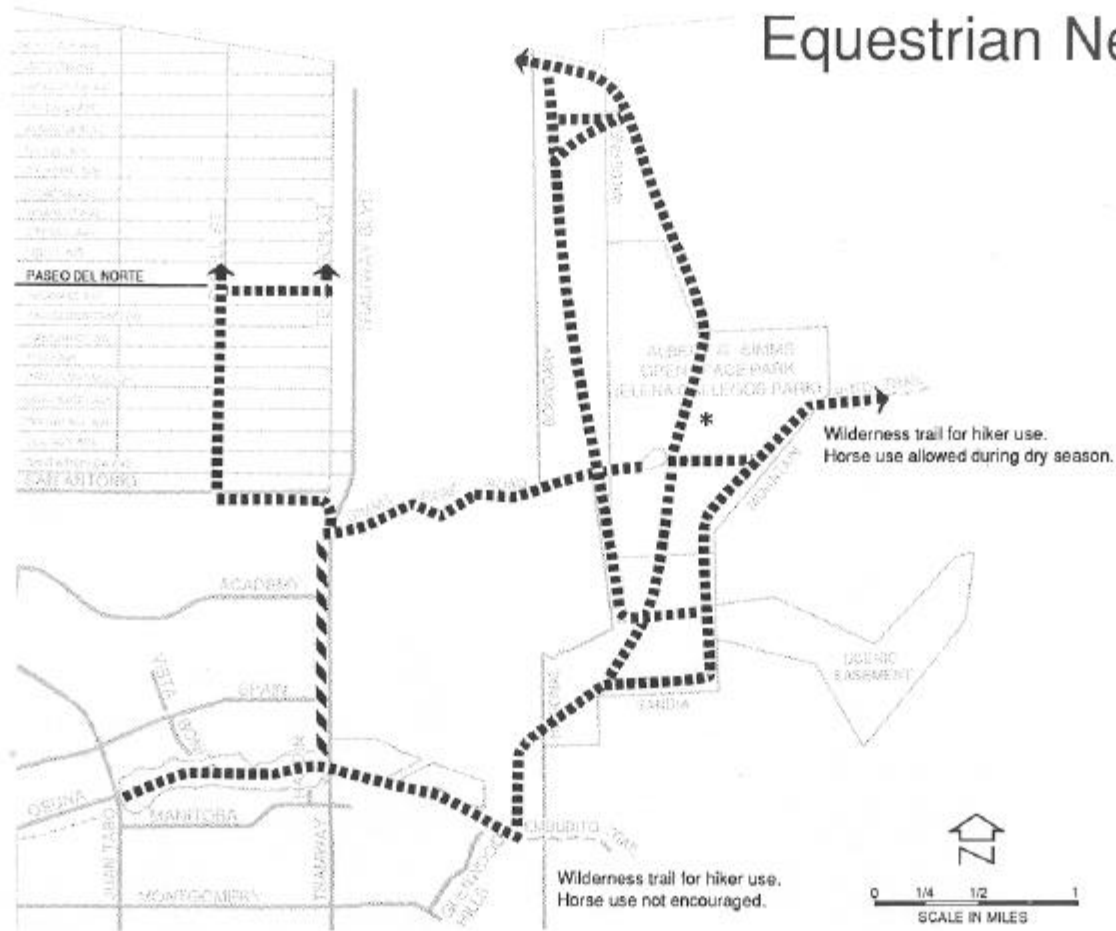
- Proposed Trails
- Existing Sidewalks, Trails and Maintenance Roads

Notes:

Trails may be hard surfaced or dirt.

* See walking network trail options.

Equestrian Network



--- Not dedicated as an Equestrian Trail, but equestrian use permitted per New Mexico Statute 67-3-62

..... Proposed Trails

Notes:

Equestrians now use unpaved roads in the county. This use is allowed, but roads other than those shown as proposed trails are not designated as equestrian routes.

* A network of trails exists in Simms Park.

2. THE CITY SHALL PLAN, LOCATE, DESIGN AND CONSTRUCT TRAIL CONNECTIONS FROM THE BEAR CANYON ARROYO CORRIDOR TO OTHER EXISTING AND PROPOSED HIKING, RUNNING, BICYCLING, EQUESTRIAN AND WHEELCHAIR ACCESSIBLE TRAILS, ROUTES AND PUBLIC RIGHTS-OF-WAY.

Regulations

- 2A. The City shall identify and acquire land or easements required to develop trail networks for different trail users.
- 2B. Public sidewalks, medians and other portions of the public right-of-way shall be constructed or reconstructed to provide access for designated trail users from the public right-of-way, other trails and nearby Bear Canyon Arroyo Corridor trail segments.
3. INTERSTATE 25 CROSSING LOCATIONS FOR THE BEAR CANYON ARROYO CORRIDOR, OTHER TRAIL CORRIDORS AND BICYCLE COMMUTER ROUTES WILL BE DETERMINED IN A TRAILS MASTER PLAN.
4. THE CITY SHALL PROVIDE SAFE PEDESTRIAN AND BICYCLE ROUTES FOR SCHOOL CHILDREN EITHER WITHIN THE ARROYO CORRIDOR OR OTHER NEARBY PUBLIC RIGHTS-OF-WAY.
5. THE CITY SHALL COORDINATE TRAIL DESIGN, CONSTRUCTION TIMING AND PUBLIC INFORMATION FOR THE BEAR CANYON ARROYO CORRIDOR EAST OF TRAMWAY AND CONNECTING NATIONAL FOREST TRAILS WITH THE SANDIA RANGER DISTRICT OF THE CIBOLA NATIONAL FOREST SERVICE .

LAND ACQUISITION AND EASEMENTS

6. EAST OF JUAN TABO BOULEVARD THE CITY SHALL ACQUIRE SUFFICIENT RIGHTS-OF-WAY AND EASEMENTS TO CONSTRUCT TRAILS ADJACENT TO ARROYOS PRESERVED IN THEIR NATURAL STATE.

7. THE CITY SHALL ACQUIRE AT LEAST 35+ ACRES OF THE FLOODPLAIN BETWEEN THE JOHN B. ROBERT DAM AND TRAMWAY AS CITY OPEN SPACE. (See January 20, 1991 Open Space Advisory Board minutes in Appendix H.)

DRAINAGE

Several parcels of City owned Open Space lie within the corridor from Juan Tabo east to the National Forest boundary. Drainage policies for adjacent lands should protect these Open Space lands and prevent the future need for drainage engineering that will detract from the natural appearance of the area.

The following drainage policies shall apply to the corridor and to properties adjacent to it from Juan Tabo east to the National Forest boundary. These drainage policies reiterate and reference the general policies for Open Space arroyo corridors in the Facility Plan for Arroyos.

8. DRAINAGE FACILITIES IN CITY-OWNED OPEN SPACE WITHIN THE BEAR CANYON ARROYO CORRIDOR SHALL REMAIN IN A NATURAL OR SEMI-NATURAL CONDITION BY ALLOWING ONLY NATURALISTIC TREATMENTS DESCRIBED IN THE FACILITY PLAN FOR ARROYOS. (SEE APPENDIX E-15.)
9. DRAINAGE FROM NEW DEVELOPMENT ADJACENT TO THE ARROYO CORRIDOR SHALL BE MANAGED TO PREVENT UNNATURAL EROSION OR OTHER UNNATURAL DEGRADATION OF DRAINAGEWAYS ON OPEN SPACE LANDS AND SHALL NOT NECESSITATE DRAINAGE CONSTRUCTION IN VIOLATION OF FACILITY PLAN FOR ARROYOS OPEN SPACE REGULATIONS AND GUIDELINES.
10. APPLICANTS FOR BUILDING PERMITS, GRADING PERMITS AND SUBDIVISION PLAT APPROVALS FOR NEW DEVELOPMENTS THAT MAY IMPACT DRAINAGE ON CORRIDOR OPEN SPACE LANDS WILL BE REQUIRED TO OBTAIN

APPROVAL OF SPECIAL DRAINAGE STUDIES THEY SUBMIT, IN ADDITION TO NORMAL DRAINAGE DESIGN REVIEW, TO DETERMINE DRAINAGE TREATMENT OPTIONS.

Guideline

10A. To maintain visual and functional continuity, this plan recommends natural and semi-natural drainage treatments for lands contiguous with or affecting open space portions of the corridor.

SAFETY AND EDUCATION

11. THE CITY SHALL LOCATE, DESIGN AND CONSTRUCT SAFE AND CONVENIENT STREET CROSSINGS FOR TRAIL USERS. (See Corridor Design and Materials, p.61 and Trail Standards, Appendix G.)
12. ADJACENT NEIGHBORHOODS SHALL RECOMMEND CORRIDOR LOCATIONS WEST OF JUAN TABO FOR INSTALLING, MONITORING AND EVALUATING THE EFFECTS OF VANDAL RESISTANT LIGHTING.

Guidelines

- 12A. Solar powered lighting shall be considered for these locations.
- 12B. Lighting shall not shine directly onto properties adjacent to the corridor.
13. TO ASSIST BLIND WHITE CANE USERS AND WHEELCHAIR USERS, 2" HIGH CURBS OR OTHER DISTINCT, RAISED EDGES SHALL BE INSTALLED ALONG PORTIONS OF THE TRAIL DIRECTLY ADJACENT TO HAZARDS, ESPECIALLY DROPS IN ELEVATION. (See Trail Standards, Appendix G.) CURBING MATERIALS AND DESIGN SHALL NOT PREVENT RESCUE OPERATIONS.

THE CITY SHALL LOCATE TRAILS AS FAR FROM ARROYO EDGES AS POSSIBLE. WHERE SPACE IS ADEQUATE AND WATER CAN BE MADE AVAILABLE, THE CITY SHALL LANDSCAPE BETWEEN TRAILS AND CHANNELS.

14. THE CITY SHALL INSTALL FLOOD DANGER SIGNS IN AREAS SPECIFIED BY THE OFFICE OF EMERGENCY PREPAREDNESS AND SHALL COAT CONCRETE ARROYOS WITH A NON-SLIP SURFACE (i.e. swimming pool deck coating) AT RESCUE STATIONS SPECIFIED BY THE OFFICE OF EMERGENCY PREPAREDNESS.

THE CITY OF ALBUQUERQUE FIRE DEPARTMENT, PLANNING DEPARTMENT, HYDROLOGY DIVISION OF THE CITY PUBLIC WORKS DEPARTMENT AND THE ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY SHALL WORK TOGETHER TO COORDINATE THE DEVELOPMENT AND INSTALLATION OF A FLOOD WARNING SYSTEM THAT PROVIDES VISUAL AND AUDIBLE WARNING TO TRAIL USERS ENTERING BELOW GRADE CROSSINGS LOCATED WITHIN THE ONE HUNDRED YEAR FLOODPLAIN. THE DEVICE MAY ALSO ACTIVATE A WARNING DEVICE AT THE FIRE DEPARTMENT DISPATCH CENTER.

15. THE CITY SHALL INSTALL INTERPRETIVE MARKERS EXPLAINING FLOOD CONTROL DEVICES, THE HYDROLOGY OF THE WATERSHED AND NATIVE AND NATURALIZED VEGETATION AND WILDLIFE HABITATS IN THE CORRIDOR.
16. THE CITY SHALL INSTALL SIGNS INDICATING PROHIBITED AND ALLOWED TRAIL USES.
17. NEIGHBORHOODS WITHIN THE CORRIDOR SHALL BE ENCOURAGED TO INITIATE NEIGHBORHOOD WATCH PROGRAMS. PORTIONS OF THE CORRIDOR WITHIN CITY OPEN SPACE SHALL BE PATROLLED BY OPEN SPACE OFFICERS.
18. THE CITY SHALL PROHIBIT ALL MOTORIZED VEHICLES ON BEAR CANYON ARROYO CORRIDOR TRAILS EXCEPTING MAINTENANCE AND EMERGENCY VEHICLES AND POWERED WHEELCHAIRS.

PROMOTING MULTIPLE USES

19. THE CITY SHALL DETERMINE WHETHER HANG GLIDER LANDING IS APPROPRIATE NEAR THE JOHN B. ROBERT DAM.

Guidelines

19a. The Open Space Division will work with the hang glider associations to determine the exact location and extent of improvements necessary for this activity.

19b. The City and the Sandia Soaring Association shall initiate an agreement explaining the responsibilities of both parties. (See Appendix D for an agreement example.)

DESIGN OVERLAY ZONE

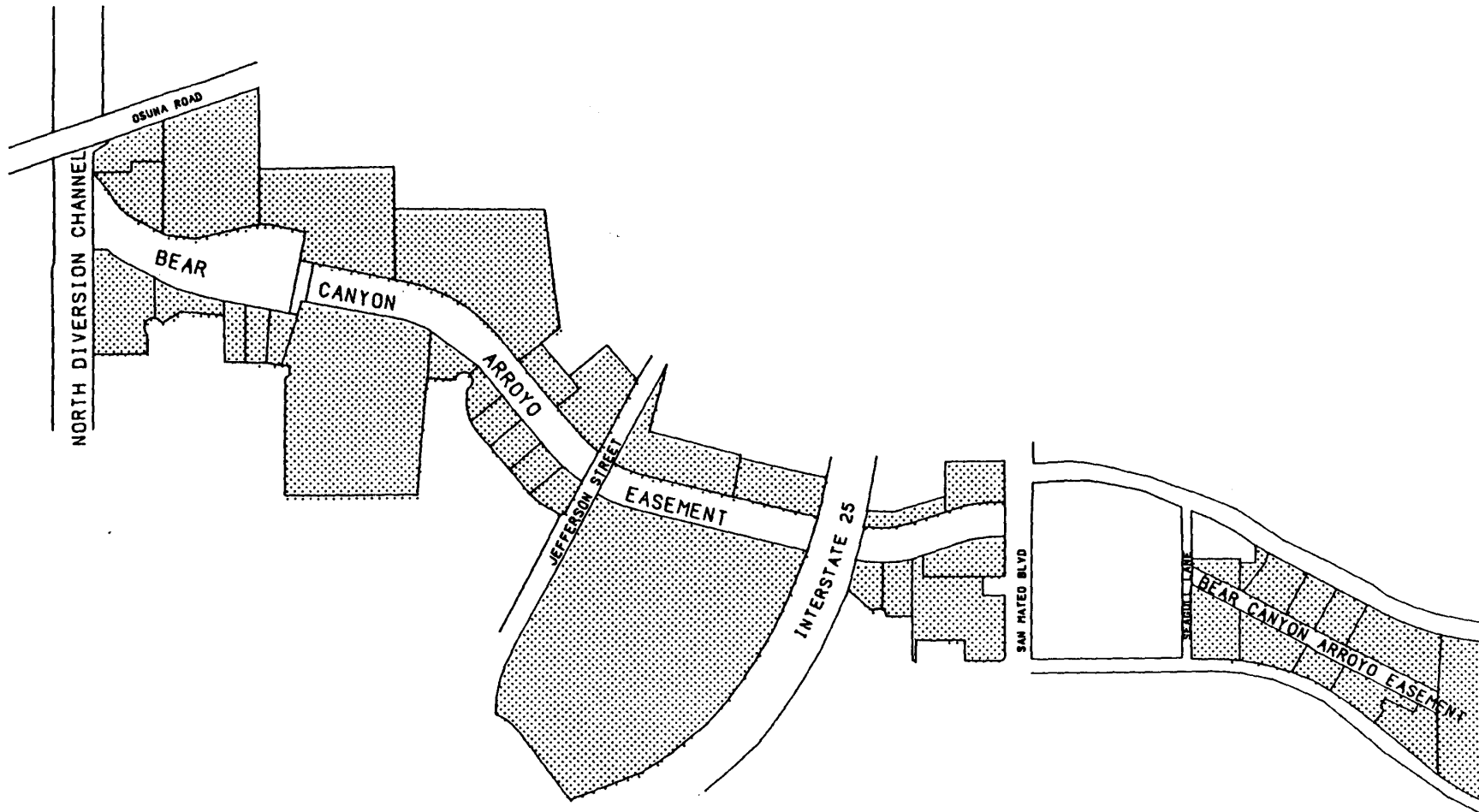
The City of Albuquerque Comprehensive Zoning Code and the Bernalillo County Comprehensive Zoning Ordinance authorize using a Design Overlay Zone for any size area specified by a controlling Rank III Sector or Neighborhood Development Plan which meets at least two of the following three conditions:

1) contains highly scenic natural features or views; 2) has development potential which is likely to require unusually complex coordination of flood control, transportation, open space and urban land uses; and 3) has a strong role in the development of the form of the metropolitan area.

The Bear Canyon Arroyo Corridor meets all three conditions. Design Overlay Zone regulations are mandatory and are in addition to those already in the City of Albuquerque Comprehensive Zoning Code and the Bernalillo County Comprehensive Zoning Ordinance. Guidelines shall be incorporated into development proposals unless they are clearly unworkable. Design Overlay boundaries are drawn to include entire pieces of platted property adjacent to the trail corridor. Most of the regulations and guidelines, however, apply only to the property edge adjacent to the corridor. Drainage regulations 8, 9 and 10 found in the plan's general regulations apply to entire properties. (See pp.44-45.)

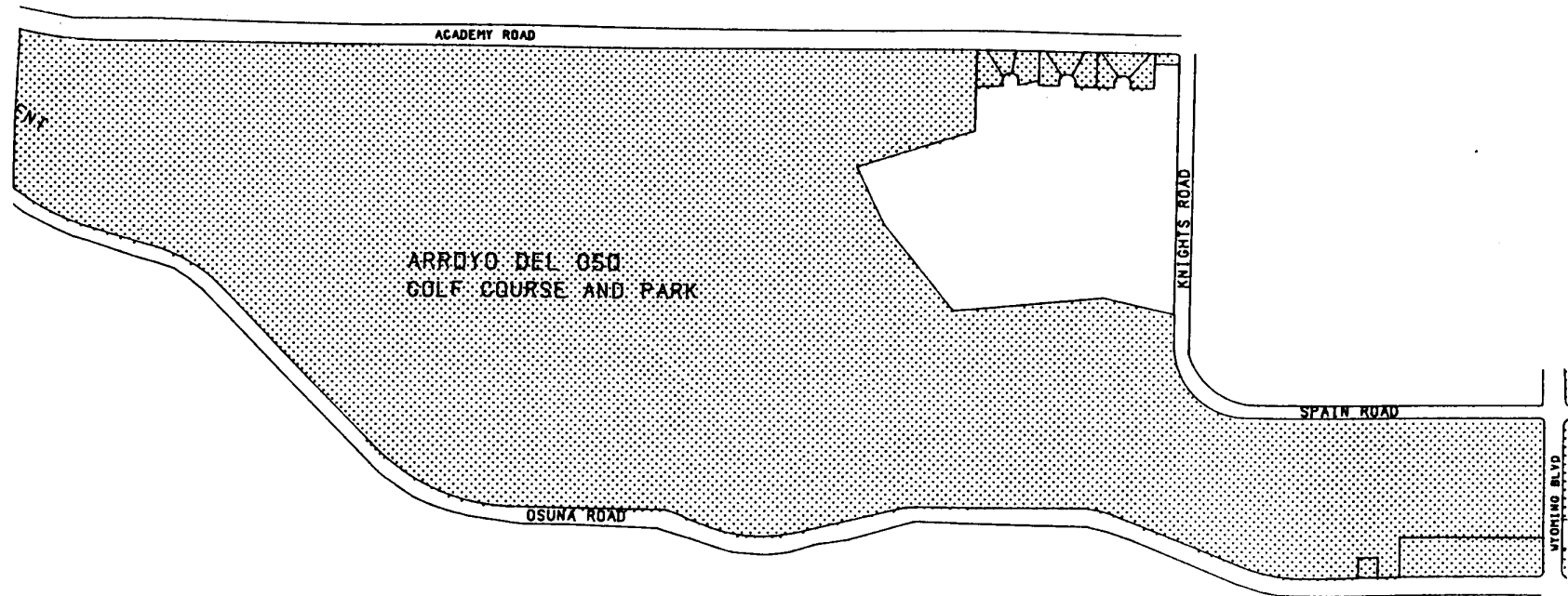
Design Overlay Zone

North Diversion Channel to Arroyo Del Oso Golf Course



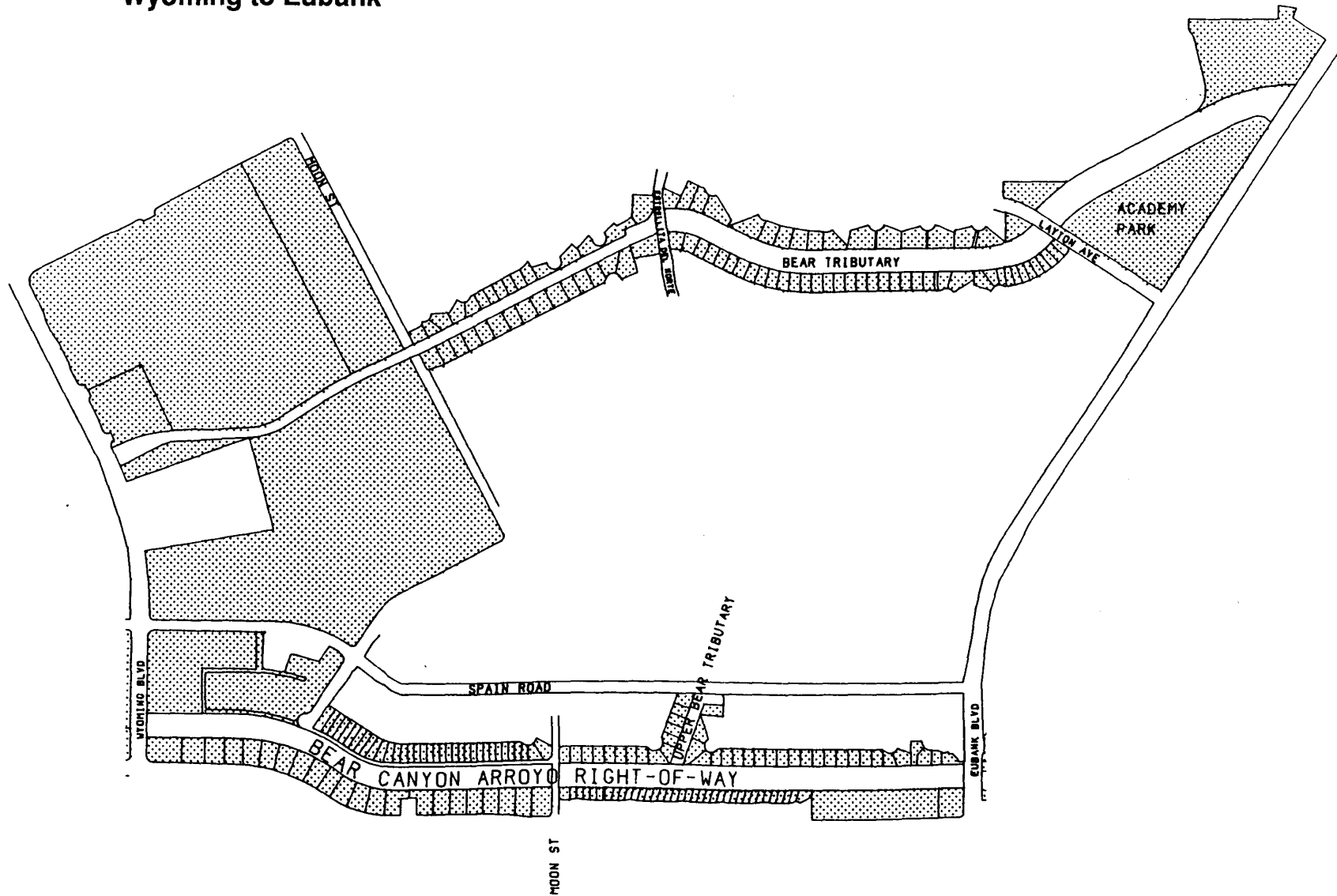
Design Overlay Zone

Arroyo Del Oso Golf Course and Park



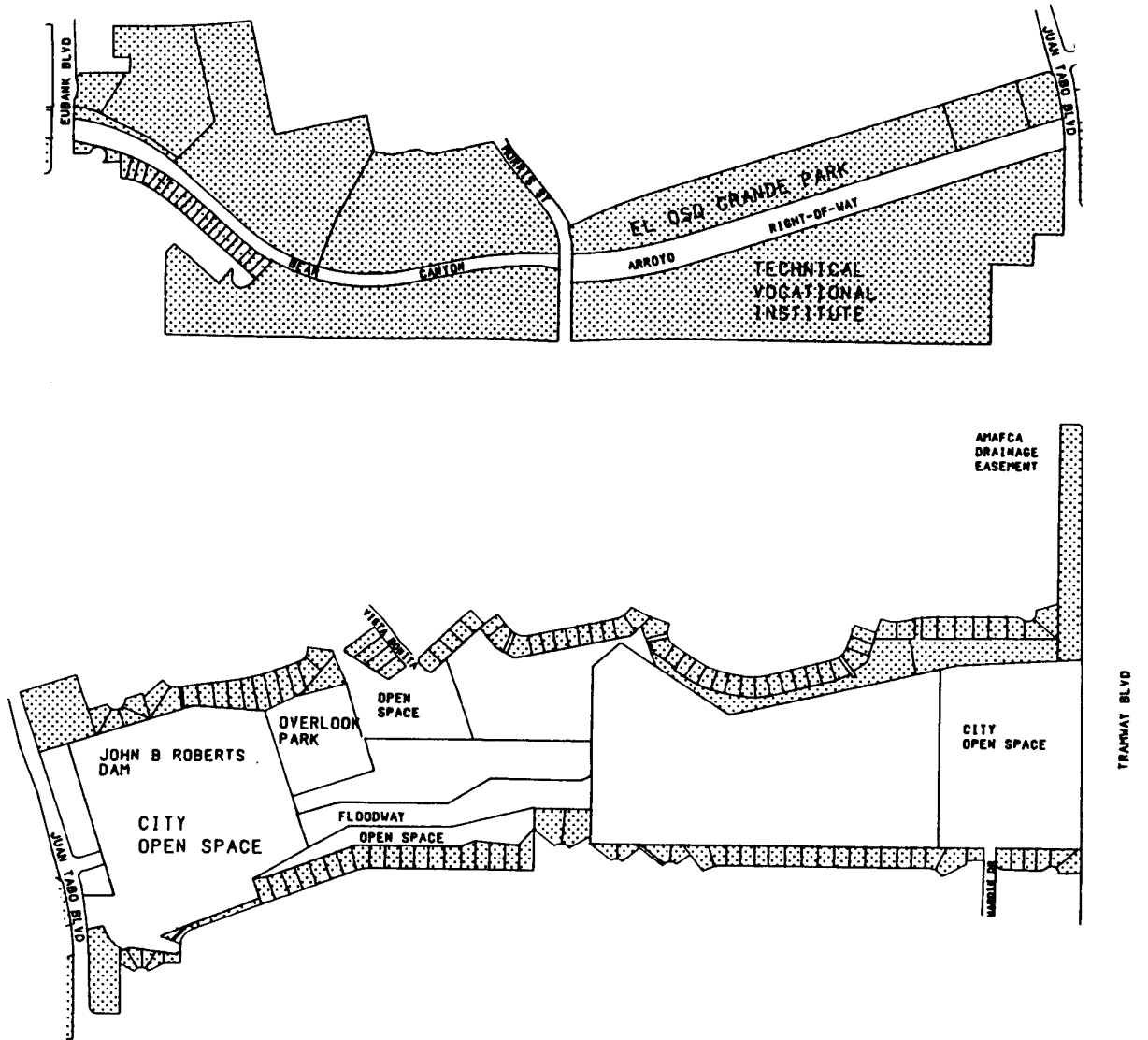
Design Overlay Zone

Wyoming to Eubank



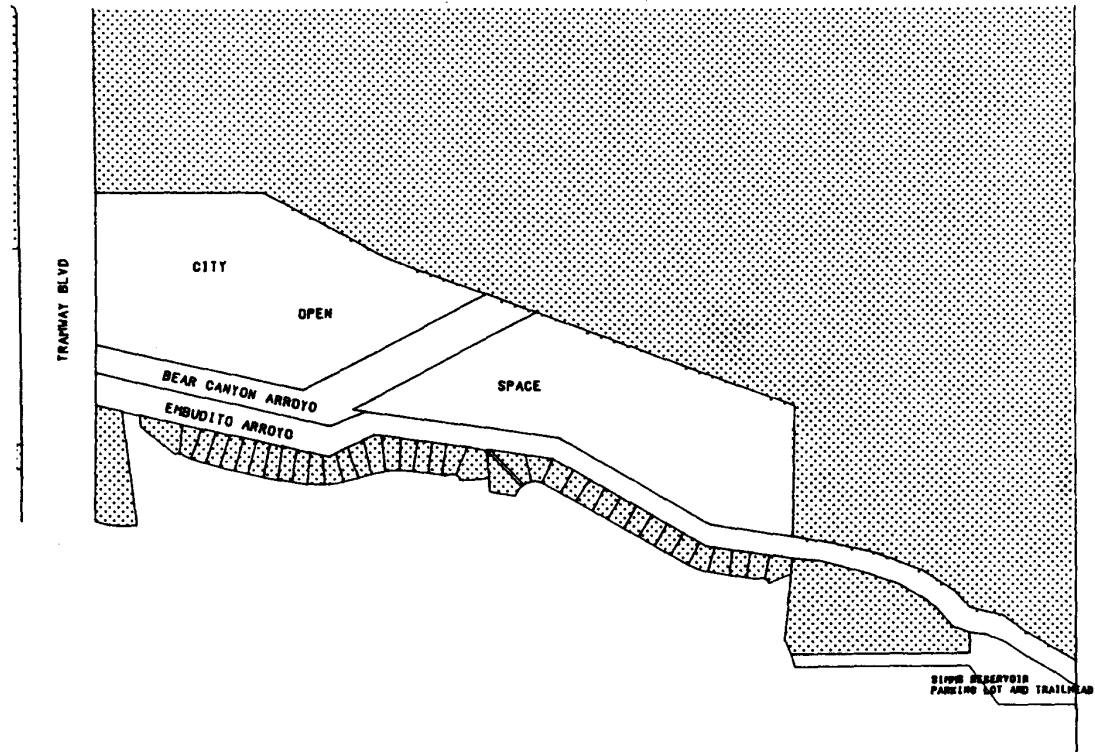
Design Overlay Zone

Eubank to Tramway



Design Overlay Zone

Tramway to National Forest Boundary



20. THIS PLAN ESTABLISHES A DESIGN OVERLAY ZONE FOR ALL PROPERTIES ABUTTING THE BEAR CANYON ARROYO CORRIDOR AS SHOWN ON PAGES 47 - 51.

Regulations

- 20A. All submittals for subdivisions, redevelopment and new development within the Design Overlay Zone shall comply with the design regulations of this section.
- 20B. Site development plans, building elevations and other items required to obtain building permits shall be checked for compliance with Bear Canyon Arroyo Corridor Design Overlay Zone requirements during the normal submittal processes for the City and County.
- 20C. Site development plans for SU-1 zoned properties shall continue to be approved by the Environmental Planning Commission. Site development plans for properties in the County with Special Use Permits (SU-P) shall continue to be approved by the County Planning Commission.
- 20D. All projects on public land adjacent to the corridor shall be checked for compliance with the plan through established City processes.
21. THE EXISTING TOPSOIL AND VEGETATIVE COVER WITHIN EXISTING ARROYO RIGHTS-OF-WAY, EASEMENTS, AND OTHER PORTIONS OF THE TRAIL CORRIDOR SHALL BE PRESERVED AND ENHANCED TO THE GREATEST EXTENT FEASIBLE.

Regulations

- 21A. Unless substantial grading is necessary to accommodate trails, prior to beginning construction on private land adjacent to the corridor, the property owner shall construct a temporary barricade at the site

boundary adjacent to the corridor right-of-way or easement edge to protect it from heavy equipment and to preserve groundcover.

Site development plans shall indicate all measures which will be undertaken during construction to comply with this provision. The property owner shall mitigate any damage that does occur by reseeding. The property owner shall maintain the revegetated area for two years according to a maintenance plan approved by the City Parks and Recreation Department or the City Open Space Division depending upon location.

- 21B. On sites adjacent to arroyo rights-of-way or easements, grading plans shall be reviewed to determine that cut and fill has been kept to a minimum.
22. WALLS AND FENCES ARE GENERALLY DISCOURAGED ADJACENT TO THE TRAIL CORRIDOR, HOWEVER, WHERE WALLS AND FENCING ARE REQUIRED FOR PRIVACY OR SECURITY, THE FOLLOWING REGULATIONS SHALL APPLY:

Regulations

- 22A. Solid wall and fence height shall not exceed six feet as measured from the lowest grade on the lowest side. See-through fences shall not exceed eight feet. Unless a variance is granted, walls and fences shall not exceed the heights allowed in the underlying land use zone.
- 22B. Solid walls and fences are allowed in residentially zoned areas only, except as provided in 22E. and 23A. below.
- 22C. Solid walls and fences shall consist of stucco over concrete block, stained concrete block, brick, stone, split-faced or fluted block, adobe, or wood.

22D. See-through fences shall consist of wood, painted or coated pipe, wrought iron, or smooth wire pasture fence material. Chain link fencing may be used if planted with shrubs, vines or trees sufficient to screen the side of the fence facing the corridor.

22E. Low solid walls, not to exceed four feet in height, combined with one of the see-through treatments described in 22D. above, are allowed in non-residential areas. The total height may not exceed eight feet.

22F. Continuous solid site perimeter walls or fences over four (4) feet high facing the Bear Canyon Arroyo Corridor shall contain at least one opening, recess or other form of horizontal relief every twenty five (25) feet or less to break the sense of barricade and monotony for trail users.

Guideline

22G. Access gates for pedestrians, equestrians and bicyclists are encouraged for developments adjacent to the trail corridor, particularly for multi-family, office development, commercial service areas and manufacturing plants.

23. PARKING LOTS AND SERVICE AREAS LOCATED ADJACENT TO THE TRAIL CORRIDOR SHALL BE SCREENED FROM VIEW ACCORDING TO THE FOLLOWING REGULATIONS.

Regulation

23A. Four (4) foot high solid walls, fences or dense hedges shall be required for parking lot and service area perimeters located adjacent to the trail corridor.

24. AN ACCESSORY BUILDING SETBACK IS ESTABLISHED TO COMPLY WITH THE HEIGHT LIMITATION FOR WALLS.

Regulation

24A. For lots abutting the trail corridor, accessory buildings shall be set back from the lot line two (2) feet for each foot of building height in excess of six (6) feet. For example, an eight foot high accessory building would require a four foot setback from the lot line.

25. SITE PLANS FOR MULTIPLE FAMILY RESIDENTIAL AND NON-RESIDENTIAL DEVELOPMENTS ARE ENCOURAGED TO PROVIDE LANDSCAPED AREAS DIRECTLY ADJACENT TO THE TRAIL CORRIDOR AND TO ORIENT SECONDARY BUILDING ENTRIES, SOME BUILDING WINDOWS AND OUTDOOR RECREATIONAL FACILITIES ASSOCIATED WITH THEIR DEVELOPMENT TOWARD THE TRAIL CORRIDOR.

Guidelines

25A. Access should be provided from multiple family residential and non-residential developments to the trail corridor.

25B. Open areas adjacent to the trail corridor should be landscaped with native and/or naturalized shrubs and trees.

25C. All multiple family and non-residential buildings should be designed with some windows facing the corridor.

26. PLATS AND SITE DEVELOPMENT PLANS SHALL PROVIDE DEDICATED ACCESS TO THE TRAIL CORRIDOR IN ACCORDANCE WITH THE FOLLOWING REGULATIONS:

Regulations

26A. Access to the trail system shall be provided at intervals of approximately one-fourth (1/4) mile adjacent to unpaved trails and one-eighth (1/8) mile adjacent to paved trails.

26B. Access to wheelchair accessible paved trails shall comply with ANSI 117.1-1986 Handicap Accessibility Standards. This means that pathways shall be made of a hard surfaced, non-slip material and shall not consist of slopes greater than 5% unless

they are designed as wheelchair accessible ramps. Ramps shall not exceed 8.3% slope, shall contain railings of specified ANSI height, a curb or other low edge next to drops in elevation and 5X5 foot landings for every 30 inches of vertical rise. (See Trail Standards, Appendix G.)

CORRIDOR DESIGN AND MATERIALS

27. CONSTRUCTION PLANS FOR PUBLIC PROJECTS IN THE CORRIDOR SHALL BE REVIEWED BY THE CITY PLANNER OR HIS/HER DESIGNEE TO ENSURE COMPLIANCE WITH CORRIDOR POLICIES.

28. DESIGN TREATMENTS SPECIFIED FOR THE BEAR CANYON ARROYO CORRIDOR ARE IN ADDITION TO THE TRAIL STANDARDS. PROPOSED TREATMENTS ARE REPEATED THROUGHOUT THE CORRIDOR TO REINFORCE IDENTITY AND TO FACILITATE THE PROPOSED TRAIL USES: WALKING, RUNNING, BICYCLING, USING A WHEELCHAIR AND RIDING A HORSE.

29. ALL HARD SURFACED CORRIDOR TRAILS DESIGNATED FOR PEDESTRIANS SHALL BE BARRIER FREE AND USABLE TO MOST PEOPLE WHO USE WHEELCHAIRS.

30. THE FOLLOWING CORRIDOR LOCATIONS ARE DESIGNATED TO MEET ALL AMERICAN NATIONAL STANDARDS INSTITUTE A117.1-1986 CRITERIA FOR WHEELCHAIR ACCESSIBILITY:

- North Diversion Channel to I-25 (along the Bear Canyon Arroyo)
- Pedestrian bridge over I-25 (See Walking Network Map, p. 41.)
- I-25 to San Mateo (along the Bear Canyon Arroyo)

- Arroyo del Oso western and northern park perimeter, park interior and public right-of-way on Spain from Knight to Wyoming and on Knight from Spain to Academy
- A pathway in the Arroyo del Oso xeriscape demonstration garden connected to public sidewalk on Osuna
- Wyoming to Juan Tabo (along the Bear Canyon Arroyo)
- Academy Park sidewalks

The southern side of Arroyo del Oso Park and the proposed trail between Juan Tabo and Tramway shall be designed for wheelchair access, but probably will not be hard surfaced.

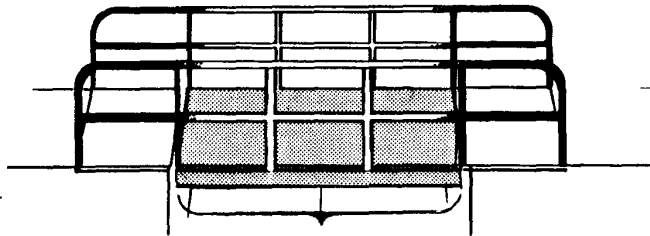
31. TRAIL SEGMENTS MEETING ANSI STANDARDS SHALL BE IDENTIFIED WITH THE INTERNATIONAL HANDICAP ACCESS SYMBOL. SIGNS EXPLAINING WHEELCHAIR USER TRAIL CHALLENGES SHALL BE POSTED AT ENTRANCES TO OTHER TRAIL SEGMENTS FAILING TO COMPLETELY MEET ANSI STANDARDS.

32. THE FOLLOWING TREATMENTS SHALL BE USED ON WHEELCHAIR ACCESSIBLE TRAILS:

32A. **BRIDGED RUNDOWNS** (See Trail Standards)

Material Guidelines

Install brushed voided core slabs tinted the same color as adjoining trail.

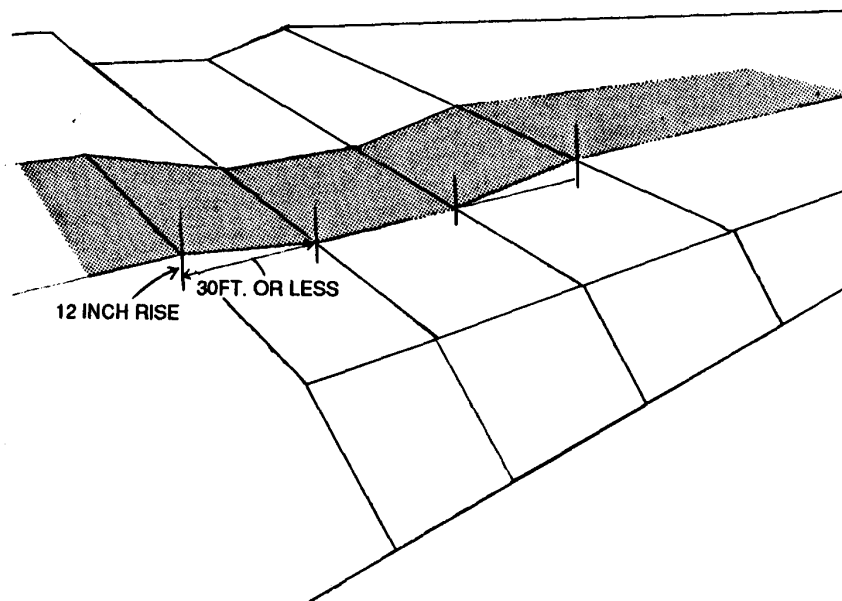


VOIDED CORE SLAB

32B. **UNBRIDGED RUNDOWNS** (See Trail Standards, Appendix G for design specifications)

Material Guidelines

Tint brushed concrete rundowns to match trails. Paint handrails blue.



32C. **WHEELCHAIR CURB RAMPS** (See Trail Standards, Appendix G for these requirements and other requirements for longer ramps with landings.)

32D. **HANDRAILS**

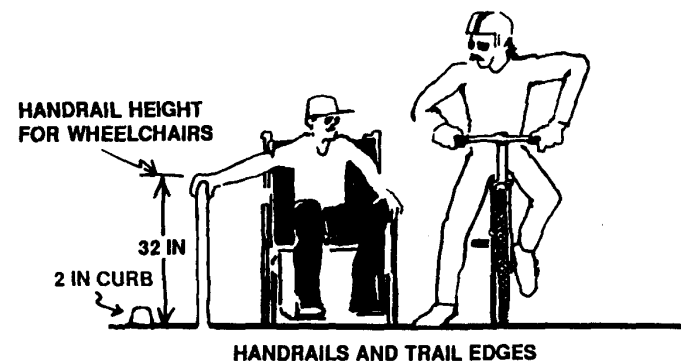
Material Guidelines

Construct pipe handrails for all trail portions either exceeding 5% slope or directly adjacent to a drop in elevation. Paint the same blue as railings in other Albuquerque park projects. (See Trail Standards, Appendix G and ANSI A117.1-1986 American National Standard Institute for height and other specifications.)

32E. **TRAIL EDGES**

Material Guidelines

(See policy 13, p.45.) Trail edges for wheelchair and white cane users may consist of extruded 2 inch high asphalt curb, large stones extending at least 2 inches above the trail or other appropriate materials.



33. **TRAIL SURFACE MATERIALS, ARROYO CHANNEL TREATMENTS AND LANDSCAPING MATERIALS SHALL BE CHOSEN TO GIVE THE CORRIDOR A NATURAL APPEARANCE.**

- 33A. **PAVED TRAILS** include 8 to 10 foot wide wheelchair accessible pedestrian/bicycle trails, 6 to 8 foot wide wheelchair accessible pedestrian trails, and 8 foot wide bicycle trails. Test strips of paving surfaces that blend aesthetically with other corridor materials shall be applied and evaluated for durability.

Material Guidelines

A wheelchair accessible surface that approximates adjacent soil color should be used for trail segments within designated City Open Space or where no landscaping is proposed. (See Trail Standards, Appendix G for design.)

One possible treatment consists of sealing asphalt trails with epoxy and coating with sand. This treatment has been used successfully in some National Parks in Arizona. The trails blend well with the natural surroundings while providing a wheelchair accessible surface with some grip for hiking up or downhill. Another method consists of adding volcanic scoria to asphalt for color.

33B. **ARROYO TREATMENTS**

Materials

Avoid using tied rip rap in portions of the arroyo allowing horse travel.

Large pieces of recycled concrete being used as rip-rap for stabilization shall be removed and replaced with stone rip-rap or one foot long or shorter pieces of recycled concrete. All rebar shall be removed.

New sections of concrete channel shall be tinted to match surrounding soil.

Arroyo segments within the corridor east of Juan Tabo shall be left primarily in their natural state.

33C. **TREES**

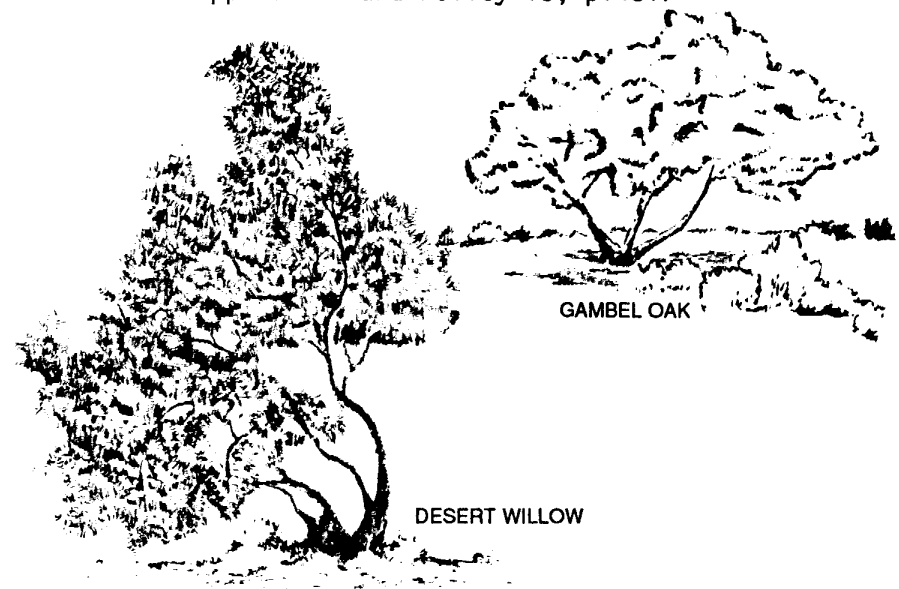
Material Guidelines

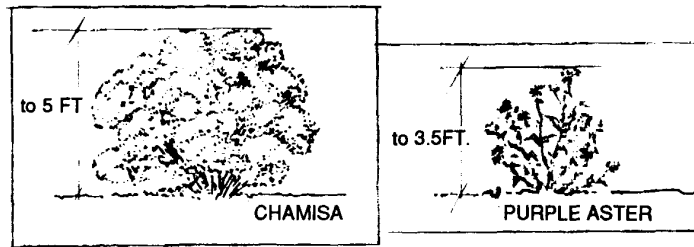
Shade trees west of Juan Tabo shall be drought tolerant species appropriate to a mesa location. (A grouping of Desert Willow is one example.)

Shade trees east of Juan Tabo shall be drought tolerant species appropriate to a foothills location. (Gambel Oak or Rocky Mountain Juniper are two possible choices.)

33D. **OTHER PLANT MATERIALS**

Drought tolerant plant materials such as chamisa and asters or other plants commonly found in the Pinyon-Juniper Belt (approximately 4500 - 6500 foot elevation) shall be planted between the arroyo and trail and between the trail and private property wherever right-of-way is adequate. Irrigation necessary for plant establishment shall be installed and maintained. (See details from the Soil Conservation Service in Appendix F and Policy 13, p.45.)





34. THE UNPAVED TRAIL ALONG THE SOUTHERN PERIMETER OF ARROYO DEL OSO PARK (adjacent to Osuna) MAY REMAIN UNPAVED, BUT SHALL BE REHABILITATED TO SERVE PEOPLE REQUIRING A FAIRLY SMOOTH SURFACE FOR MOVEMENT.

- 34A. **UNPAVED TRAILS** may be used by hikers, runners, mountain bicyclists, or equestrians depending on the trail's location and designated use. Where slope is 5% or less, unpaved trails should be designed and surfaced for most wheelchair users. Inspect and maintain unpaved trails regularly where wheelchair accessibility is desired.

Material Guidelines

Use trail stabilizer to prevent erosion. (See Trail Standards, Appendix G for design and materials information.) This treatment has been successful in the Elena Gallegos Picnic Grounds of Albert Simms Open Space Park.

Use crushed stone for areas where wheelchair access is desired. Although crushed stone does not meet American National Standards Institute, A117.1-1986 standards for wheelchair accessibility, many wheelchair users can negotiate this surface if the following steps are taken:

- Clear and clean subgrade 6 inches below finished grade.
 - Compact to 95% density.
 - Sterilize soil.
 - If required by unstable subgrade:
Lay 4 inch base course of 3/4 inch crushed stone and compact to 95% density.
 - Bind with 2/3% Portland Cement, water and gravel.
 - Lay 2 inch surfacing course of crusher fines rolled and compacted to 95% density.
 - Bind with cement.
- (See Accessible Fishing: A Planning Handbook, prepared for the Resource Management and Development Division of the New Mexico Natural Resources Department, by Richard S. Nordhaus, Min Kantrowitz and William J. Siembieda, pp. 54, 55.)

35. A CONSISTENT DESIGN THEME SHALL BE USED FOR ALL SIGNS, SHADE STRUCTURES AND SEATING IN THE CORRIDOR.

Regulations

- 35A. **ALL TRAIL SIGNS** To increase general sign legibility use a matte finish with strong contrast between characters and background.

Corridor signs with safety information shall be in both English and Spanish.

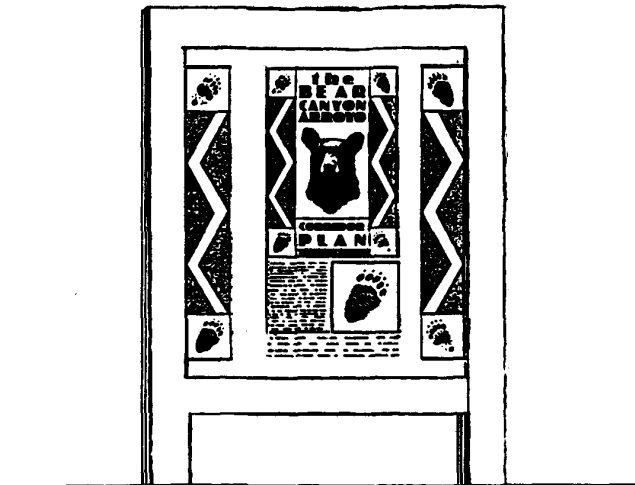
To increase sign legibility for people with visual impairments use characters without serifs and raise them at least 1/32 inch from sign background.

- 35B. **TRAILHEAD SIGNS** shall be located at major street intersections and other major trail entrance points identified in corridor projects lists.

Information

Trailhead signs shall include the following information:

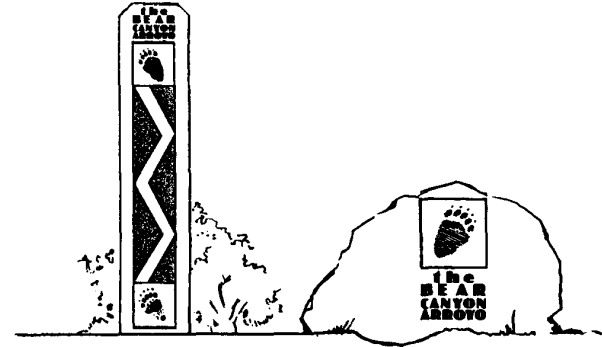
- Bear logo and trail name
- A trail context map showing the reader's location in the trail network, distances to other trails and locations of trail connections
- Rules and use limitations applicable to connecting trails
For example:
 - Please do not ride horses on soft dirt trails during wet seasons
 - Mechanized equipment is prohibited on National Forest Wilderness trails
- The international symbol of accessibility for all complete trail segments meeting ANSI standards. If a trail segment does not meet ANSI Standards, but is accessible to many people with physical disabilities, explain trail design limitations. For example, the running slopes of trails located within arroyo rights-of-way often exceed ANSI standards.
- Trail regulations
- Safety information about seasonal flooding
- Some signs should include information about arroyo design and function.



- 35C. **TRAIL IDENTIFICATION SIGNS** shall be located at neighborhood trail entrances.

Required Materials

Trail identification signs shall include a Bear Logo and the trail name.



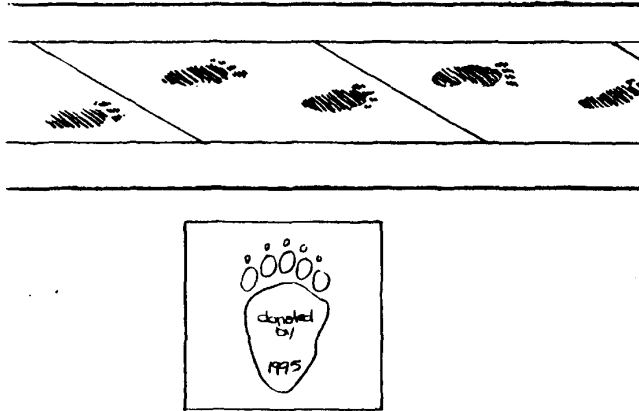
- 35D. **INTERPRETIVE MARKERS** shall be placed to identify significant plant specimens, geologic and geomorphic features and drainage features. (This information can be incorporated into outdoor education programs developed by schools or other groups.)
- 35E. **TRAIL DIRECTION SYMBOLS** shall be painted on existing sidewalks and inlaid, or impressed into new sidewalks connecting trail segments.

Material Guidelines

Paint bear paws on existing sidewalks and streets.

For new concrete sidewalk sections either imprint or inlay a bear paw pattern.

- Press bear paw molds into concrete. Either leave unfilled or fill with colored concrete. If imprint is not filled, do not exceed 1/4 inch depth to ensure compliance with ANSI 117.1-1986.
- Inlay metal bear paws as part of an Adopt-a-Trail program. Engrave metal paws with donor's name. Install to comply with ANSI 117.1-1986.



35F. REST STOPS All wheelchair accessible trails shall have wheelchair accessible rest stops located every 1/8 mile. On other trails rest stops should be located approximately 1/4 mile apart.

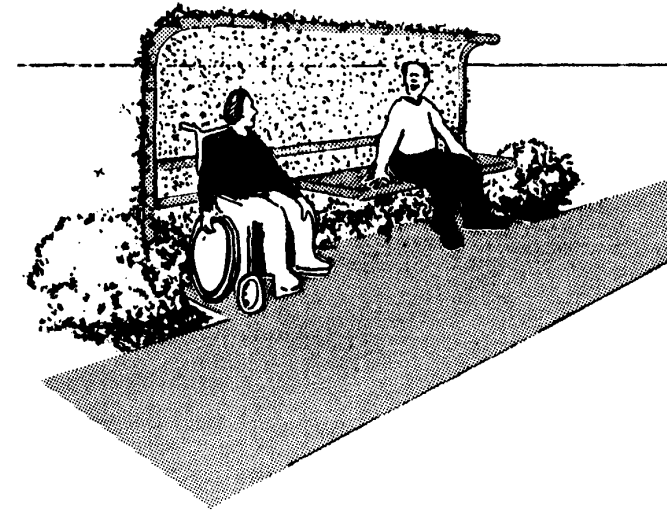
Required Materials

All rest stops shall contain seating. Wheelchair accessible rest stops shall also be hard surfaced and include at least a 3 x 3 foot space for wheelchair users to rest and a 5 x 5 foot clear level space for wheelchair maneuvering.

Shade shall be provided at intermittent rest stops (at least every 1/2 mile) with either shade structures or trees. (See 33C. for tree recommendations.)

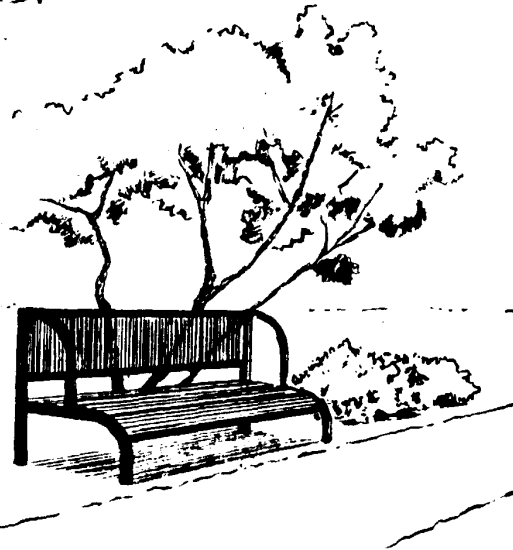
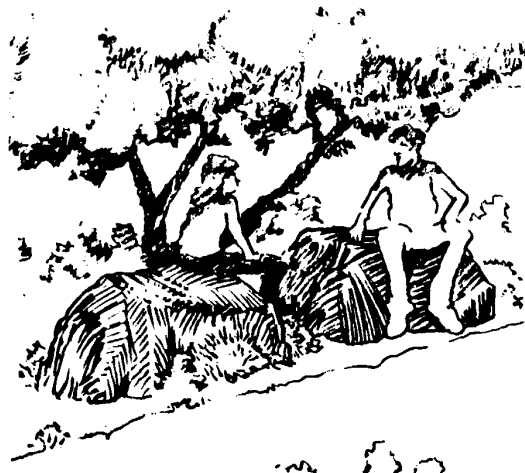
35G. SHADE STRUCTURES

Simple, functional, unobtrusive designs shall be chosen for shade structures. Materials shall be easy to maintain and vandal-resistant. Some suggested construction materials are treated wood or colored, coated wire mesh and curved pipe metal.



35H. SEATING

Seating may consist of boulders or benches. A simple, functional bench style that coordinates well with shade structure design and materials should be chosen either for the entire corridor or for each corridor segment. Boulders should be of geologic materials that are the same as or similar to those found in the Sandia Mountains.



36. TRAIL ALIGNMENT AND LANDSCAPING SHALL BE USED TO FRAME VIEWS OF THE VOLCANOES TO THE WEST AND THE SANDIA MOUNTAINS TO THE EAST.
37. TRAIL LOCATION, DESIGN AND CONSTRUCTION THROUGHOUT THE CORRIDOR SHALL PRESERVE EXISTING VEGETATION AND WILDLIFE HABITATS TO THE GREATEST EXTENT POSSIBLE. REMOVED OR DAMAGED VEGETATION SHALL BE RE-ESTABLISHED ADJACENT TO TRAILS.

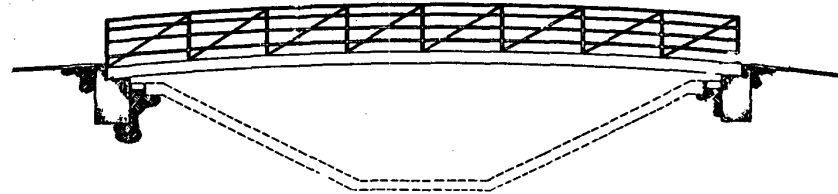
38. **PEDESTRIAN/BICYCLE BRIDGES** SHALL BE CONSTRUCTED AT THE FOLLOWING LOCATIONS:

- across I-25 at the Bear Canyon Arroyo or other nearby location indicated in the Trails Master Plan.
- across the Bear Canyon Arroyo just east of Seagull Street and just west of Arroyo del Oso Golf Course
- across the Upper Bear Tributary at its junction with the Bear Canyon Arroyo

Specifications

Bridges shall be 6 to 10 feet wide. Bridges under 150 feet long may be prefabricated. The bridge style used across the Bear Canyon Arroyo at Moon shall be repeated at other locations in the corridor.

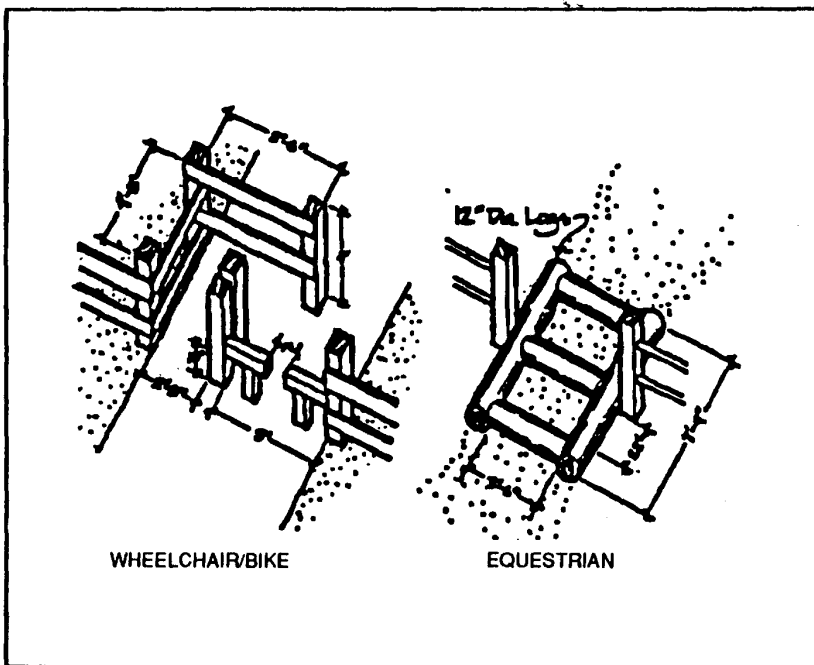
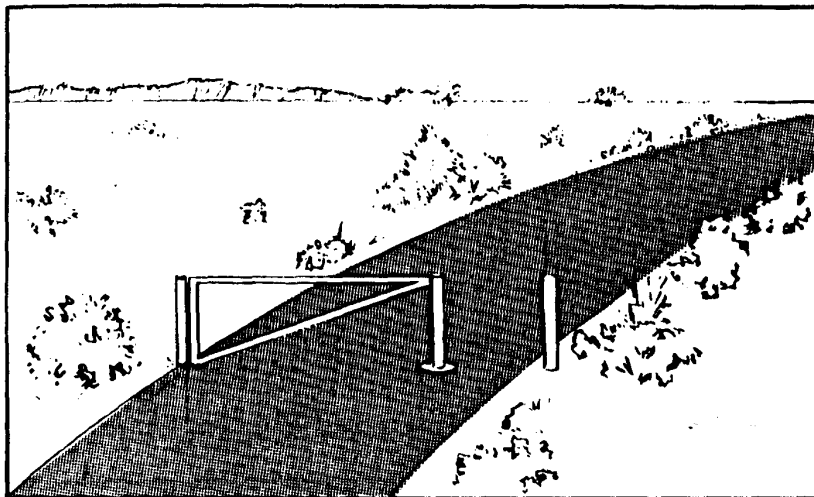
Bridging I-25 will require special design.



39. **TRAIL ENTRANCE GATES** THAT PREVENT MOTORCYCLES FROM ENTERING WHILE ALLOWING LEGITIMATE TRAIL USERS SHALL BE ERECTED WHERE MOTOR VEHICLE INTRUSION IS A PROBLEM.

Regulation

- 39A. Existing maintenance road pipe gates shall be reconstructed to allow trail users to enter. Paint blue to match other corridor pipe rail fixtures.



40. THE CITY SHALL USE VANDAL RESISTANT MATERIALS FOR TRAIL CONSTRUCTION AND TRAIL FURNITURE.

41. **MID-BLOCK STREET CROSSINGS** shall be designed for the safety of the slowest trail users.

Regulations

41A. Install pedestrian crossing signs at each mid-block crossing.

41B. Install pedestrian signs in advance of mid-block crossings.

41C. Conduct an engineering study to determine if a crosswalk should be striped. (Source: Manual of Uniform Traffic Control Devices, 1988 ed., 2C-32 and 3B-18.)

41D. Cut street medians for bike and wheelchair access at mid-block crossings.

42. **EQUESTRIAN FIXTURES** MAY INCLUDE 5 TO 6 FOOT WIDE LOG WALKOVERS AT PARKING LOTS ADJACENT TO EQUESTRIAN TRAILS AND HITCHING POSTS, WATER SPOUTS AND SHADE AT SELECTED HORSE REST AREAS.

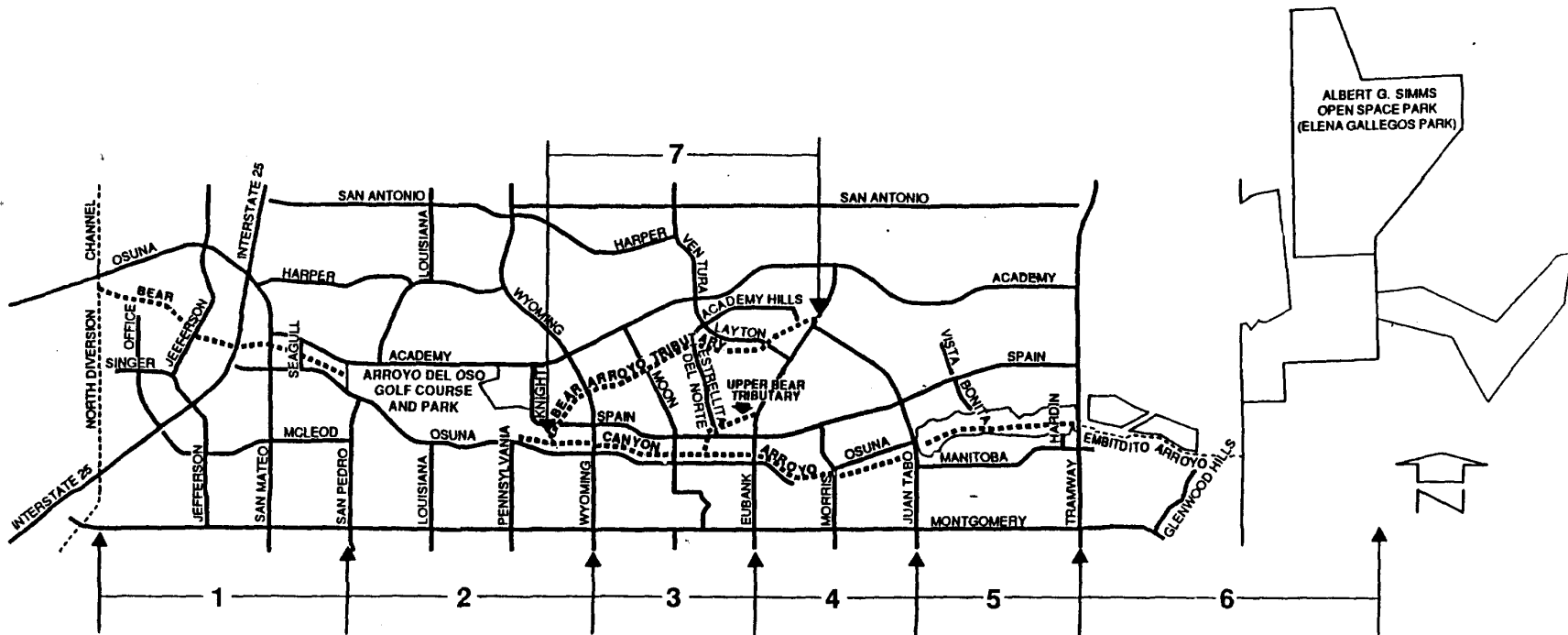
Guideline

42A. Hitching posts can be made of old drill piping buried 3 feet deep in concrete.

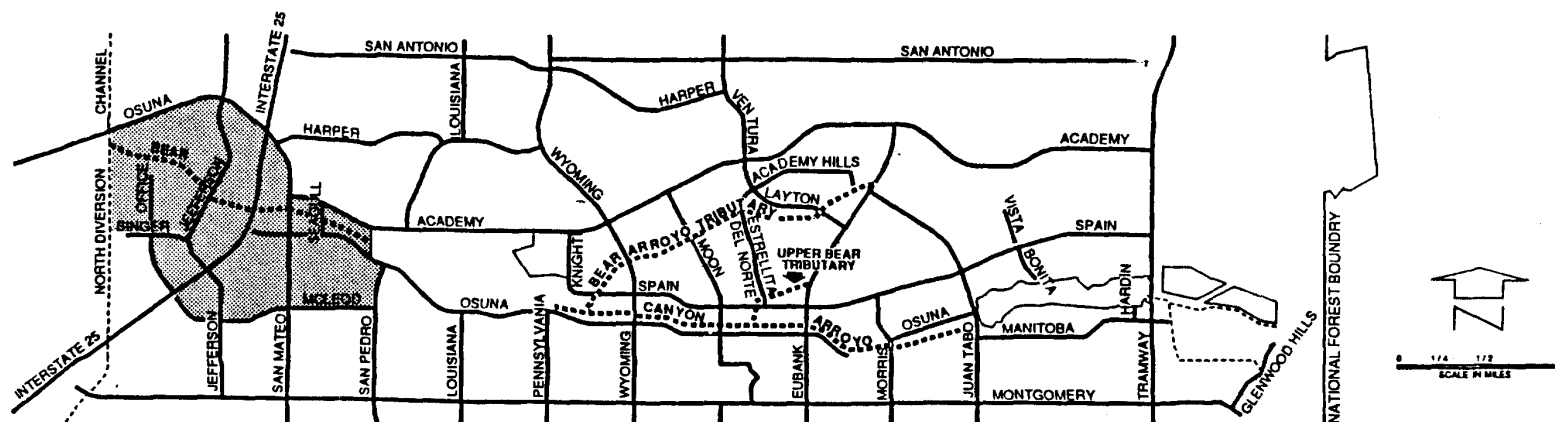
PROPOSED PROJECTS

Proposed construction projects are organized by corridor segment. Six segments are located along the Bear Canyon Arroyo. From the west they are (1) the North Diversion Channel to Arroyo del Oso Park, (2) Arroyo del Oso Park perimeter and interior, (3) Wyoming to Eubank, (4) Eubank to Juan Tabo, (5) Juan Tabo to Tramway, and (6) Tramway to the National Forest boundary. Segment 6 also includes trail projects in the Albert Simms (Elena Gallegos) Open Space Park. (7) The Bear Arroyo Tributary from Academy Hills Park to Wyoming is treated as one corridor segment.

City Departments implementing plan projects may slightly modify quantities of trail furniture, landscaping and rest stops and may test types of trail surfaces other than sealed sand coat to determine effectiveness. (See 33A, p. 56.) The visual effect of these changes for adjacent properties and the functional effect for different trail user groups must be taken into account when making these decisions. Neighborhood residents' acceptance of trails adjacent to their backyards will depend heavily on how well trails are constructed, landscaped and maintained. Most of the project items included are based on trail standards meant to improve trail function for different types of trails users.



SEGMENT 1
NORTH DIVERSION CHANNEL - ARROYO DEL OSO PARK



Alternative one, a trail loop from Jefferson Street to I-25, includes wheelchair accessible, multiple purpose trails on both sides of the arroyo and a bridge across the arroyo just west of the I-25 frontage road. Building this bridge will be deferred until treatment of the arroyo reach between San Mateo Boulevard and Interstate 25 is resolved. If the reach is placed in a box culvert, a shorter bridge might be possible west of the frontage road.

Between Interstate 25 and San Mateo Boulevard, the arroyo was to have been placed underground in a storm drain to allow commercial development. Since the arroyo right-of-way and easement vacation agreement has expired, greater trail development may be possible for this portion of segment one. San Mateo Boulevard will become a trail terminus for bicyclists and an on-street trail connection for pedestrians.

Between San Mateo Boulevard and Seagull Lane the arroyo crosses private property in an open box culvert and storm drain. Hikers wishing to continue along the corridor will proceed on public sidewalks south or north on San Mateo Boulevard to Osuna Road or Academy Boulevard, east on Osuna or Academy to Seagull, along Seagull to the Bear Canyon Arroyo and east to Arroyo del Oso Park.

PROJECT LOCATION

DESCRIPTION

1. NORTH DIVERSION CHANNEL/OSUNA
South side of Osuna

1. INSTALL TRAILHEAD SIGN.

2. NORTH DIVERSION CHANNEL TO JEFFERSON
Existing trail north side of arroyo
Approx. 3800 linear ft. or .72 miles

- 2a. COAT ENTIRE WHEELCHAIR ACCESSIBLE ASPHALT BIKE TRAIL WITH A SURFACE THAT APPROXIMATES THE SURROUNDING SOIL COLOR.

- 2b. CONSTRUCT WHEELCHAIR ACCESSIBLE REST STOPS EVERY 1/8 MILE. (Approximately 6)

- 2c. ACQUIRE EASEMENTS FOR ADDITIONAL TRAIL ACCESS FROM ADJACENT INDUSTRIES. (every 1/4 mile if possible)

- 2d. ARRANGE FOR SHARED PARKING WITH BUSINESS PARK OWNERS.

- * THE CITY OBTAINS A LICENSE FROM ALBUQUERQUE METROPOLITAN FLOOD CONTROL AUTHORITY BEFORE PROJECTS 3, 4 AND 5 MAY BE INITIATED.

3. JEFFERSON/ BEAR CANYON ARROYO

- 3a. INSTALL TRAILHEAD SIGN ON ONE SIDE OF THE STREET.

- 3b. TO ALLOW WHEELCHAIR ACCESSIBLE MID-BLOCK CROSSING, REDESIGN MEDIAN AND GUARDRAIL AND CONSTRUCT WHEELCHAIR CURB RAMPS ON EAST AND WEST SIDES OF JEFFERSON.

4. ALTERNATIVE ONE: TRAIL LOOP JEFFERSON TO I-25

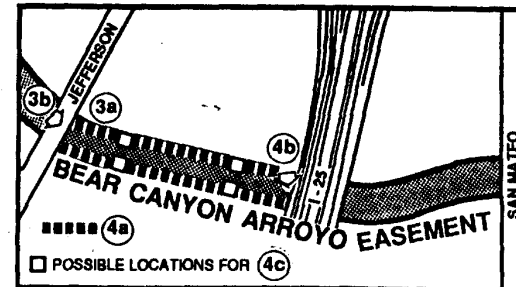
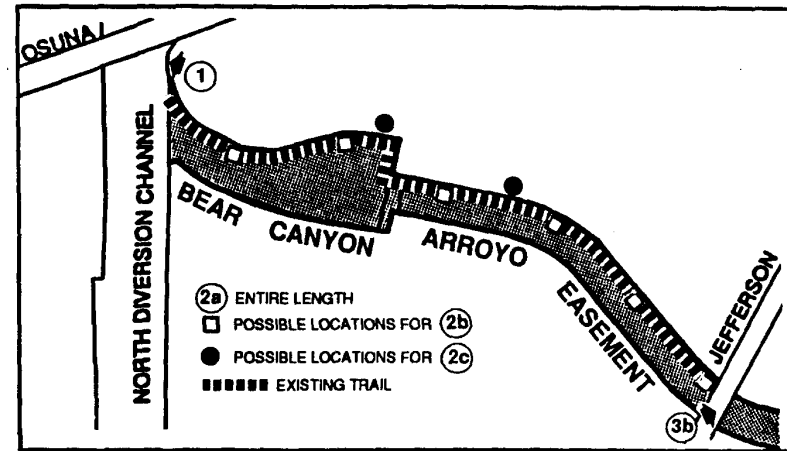
- 4a. On both sides of the arroyo
Approx. 2800 linear ft. or .5 miles

- 4a. CONSTRUCT 8 TO 10 FOOT WIDE MULTIPLE PURPOSE TRAIL PER ANSI A117.1, 1986.

CONSTRUCT WHEELCHAIR ACCESSIBLE REST STOPS EVERY 1/8 MILE. (approximately 4)

- 4b. Across arroyo just west of I-25 frontage road
Approx. 150 linear ft.

- 4b. BUILD 8 TO 10 FOOT WIDE PEDESTRIAN/ BIKE BRIDGE AFTER DRAINAGE SOLUTION WEST OF I-25 IS RESOLVED.



PROJECT LOCATION**DESCRIPTION****5. ALTERNATIVE TWO:
CONTINUOUS TRAIL
JEFFERSON TO SAN MATEO**

5a. Jefferson to I-25 frontage road
North side of arroyo
Approx. 1400 linear ft. or
.27 miles

5a. CONSTRUCT 10 FOOT WIDE
MULTIPLE PURPOSE TRAIL PER
ANSI A117.1-1986.

CONSTRUCT WHEELCHAIR ACCESS-
IBLE REST STOPS EVERY 1/8
MILE. (Approximately 2 - 3)

* THE CITY OBTAINS LICENSING
AGREEMENT FROM NEW MEXICO
STATE HIGHWAY DEPARTMENT
BEFORE 5b. MAY BE UNDERTAKEN.

5b. Over I-25 and frontage roads
to Bear Canyon Arroyo Trail
Easement
Approx. 400 linear ft. or
.08 miles

5b. CONSTRUCT PEDESTRIAN/BICYCLE
BRIDGE.

5c. Bear Canyon Arroyo Easement
from eastern frontage road
to San Mateo
Approx. 950 linear ft. or
.18 miles

5c. CONSTRUCT 8 TO 10 FOOT WIDE
MULTIPLE PURPOSE TRAIL PER
ANSI HANDICAP ACCESS STANDARDS.

CONSTRUCT WHEELCHAIR ACCESS-
IBLE REST STOPS EVERY 1/8
MILE. (Approximately 1-2)

6. BEAR CANYON ARROYO
EASEMENT/SAN MATEO, SOUTH ON
SAN MATEO TO OSUNA, OSUNA
EAST TO SEAGULL LANE, THEN
NORTH TO BEAR CANYON ARROYO
Approx. 2200 linear ft. or
.4 miles

6. SIGN AS PART OF BEAR CANYON
ARROYO CORRIDOR OR PAINT
EXISTING SIDEWALKS WITH BEAR
PAW PRINTS AND INLAY METAL
BEAR PAWS ENGRAVED WITH
DONOR'S NAME IN NEW SIDEWALKS.

7. SEAGULL LANE/BEAR CANYON
ARROYO

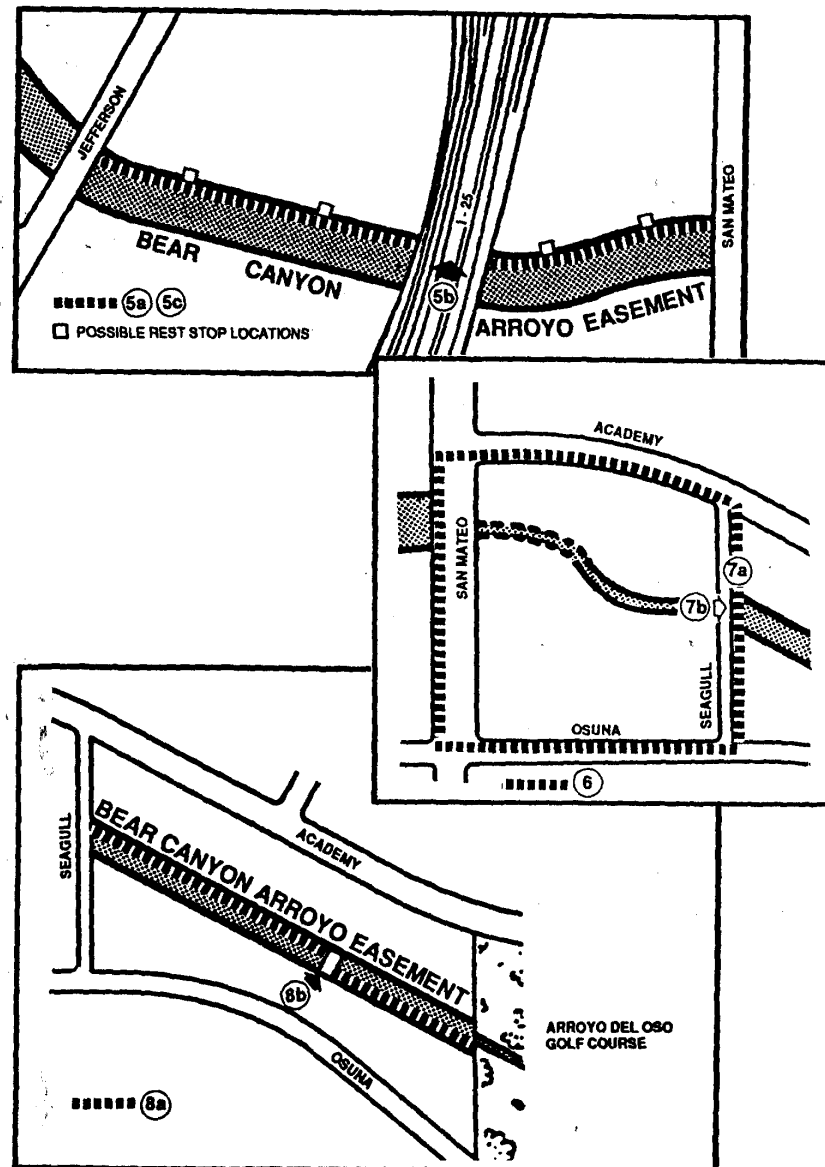
7a. INSTALL TRAIL IDENTIFICATION
SIGN.

7b. INSTALL SIDEWALK ON EAST SIDE
OF STREET. (This may involve
bridge redesign.)

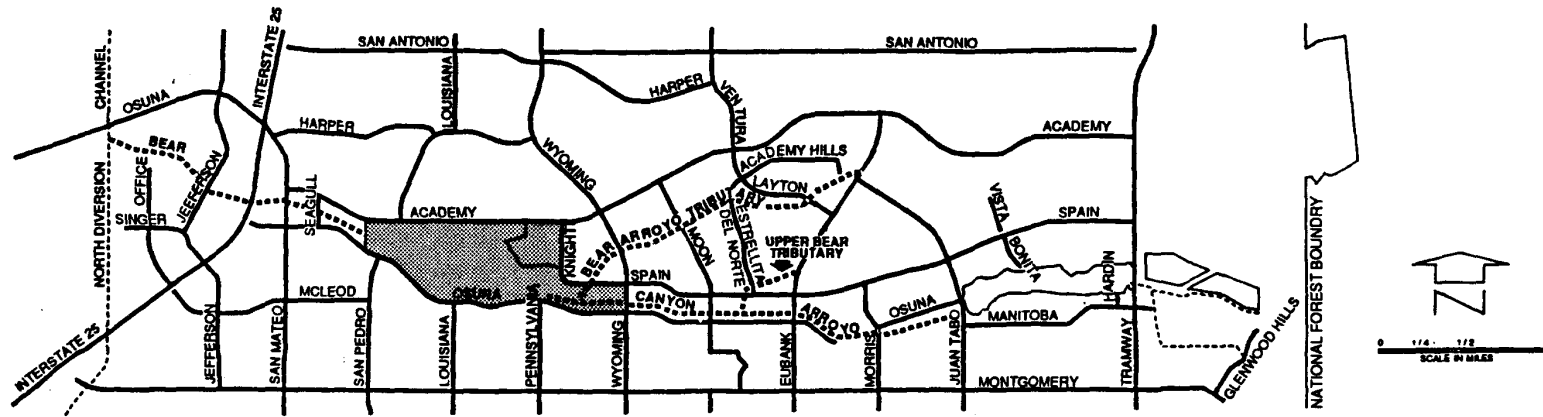
8. SEAGULL LANE EAST TO WESTERN
EDGE OF GOLF COURSE
(Starting on north side of
arroyo at Seagull Lane until
right-of-way narrows, then
on south side to Arroyo del
Oso Golf Course)
Approx. 1600 linear ft. or
.3 miles)

8a. CONSTRUCT 8 FOOT WIDE
PEDESTRIAN/ BIKE TRAIL PER
ANSI A117.1-1986.

8b. CONSTRUCT 8 FOOT WIDE BRIDGE
ACROSS ARROYO. (Approx. 75 ft.
long)



SEGMENT 2 ARROYO DEL OSO PARK



Portions of the perimeter of this 243.2 acre park and golf course already serve runners and hikers. A bicycle trail connecting existing on-street lanes on Osuna to bike routes north of Academy has recently been built on the western end of the golf course. When all trail projects for this corridor segment are complete, runners and most hikers will have a trail that encircles most of the park's perimeter. People who use wheelchairs will have a useful trail network in the park and a partially paved and partially unpaved perimeter trail.

PROJECT LOCATION

1. **WESTERN END OF GOLF COURSE (Arroyo del Oso Bike and Running Trails)**
on the north from the Burlison intersection to the western edge of the golf course, south to Osuna along the western edge, east along the southern edge to San Pedro
Approx. 2600 linear ft. or .49 miles

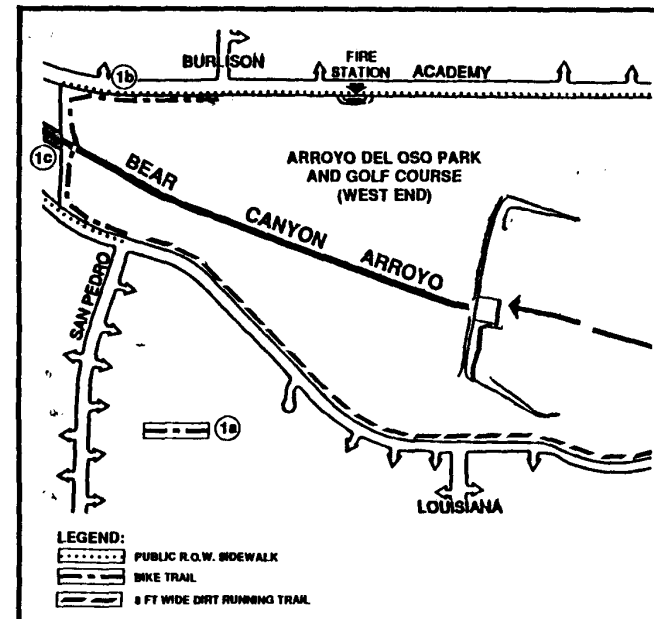
DESCRIPTION

THE FOLLOWING PROJECTS ARE IN ADDITION TO THE DESIGNED WHEELCHAIR ACCESSIBLE BICYCLE TRAIL SEGMENT.

1a. COAT ENTIRE WHEELCHAIR ACCESSIBLE ASPHALT BIKE TRAIL WITH A SURFACE THAT APPROXIMATES THE SURROUNDING SOIL COLOR.

1b. On the trail section adjacent to Academy PLANT DROUGHT RESISTANT PLANTS AND TREES FOR SHADING TRAIL. (inside the golf course fence)

1c. ERECT TRAILHEAD SIGN. (along north/south trail connection west of golf course)



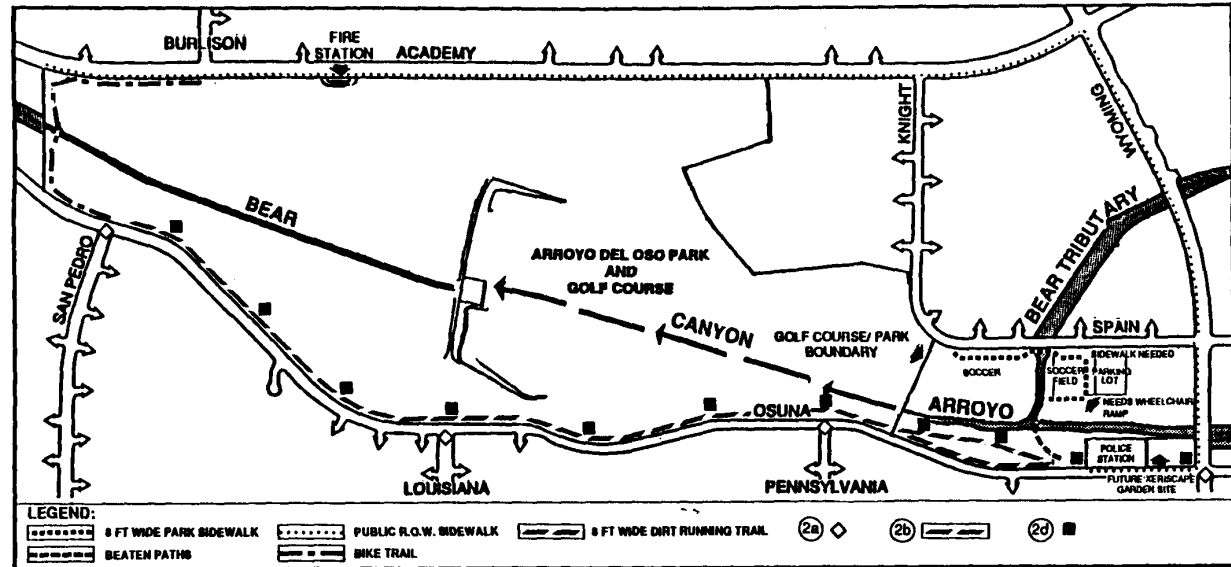
2. SOUTHERN EDGE OF GOLF COURSE AND PARK
Approx. 8000 linear ft. or 1.5 miles)

2a. ERECT TRAIL IDENTIFICATION SIGNS. (at the following locations:
San Pedro, Louisiana, Pennsylvania and Wyoming)

2c. REPAIR GOLF COURSE FENCE AND NETTING WHERE NECESSARY OR REORIENT GOLF TEES AND PLANT TREES TO PROTECT TRAIL USERS. (See Design Overlay Zone Regulations 22A - G, pp.52, 53.)

2b. COMPACT AND ADD MATERIAL TO EXISTING DIRT TRAIL TO PREVENT EROSION AND TO ALLOW WHEELCHAIR USE. (See Corridor Design and Materials, 34A., p 57.)

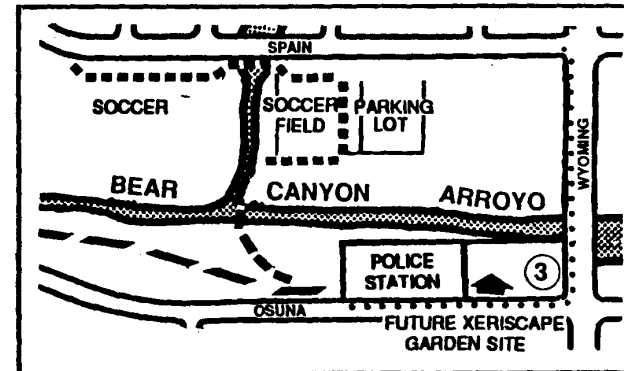
2d. CONSTRUCT WHEELCHAIR ACCESSIBLE REST STOPS EVERY 1/8 MILE. (approximately 12) (move fence back for more room where golf course operations will not be disturbed)



3. XERISCAPE DEMONSTRATION GARDEN
(Northwest corner Osuna/Wyoming)

3. BUILD WHEELCHAIR ACCESSIBLE TRAIL IN THE GARDEN. CONNECT IT TO THE PUBLIC RIGHT-OF-WAY.

4. PARK INTERIOR
This area of the park requires further planning by the Parks and Recreation Department's Design and Development Division. Trails should form a useful park network for hikers, wheelchair users and runners. The Park plan should include projects similar to the following listed examples.



4a. WEST OF THE POLICE STATION,
FROM EXISTING EAST/WEST DIRT
TRAIL, DOWN SLOPE TO BEAR
CANYON ARROYO
Approx. 300 linear ft. or .6
miles

4b. ACROSS BEAR CANYON ARROYO
Approx. 75 linear ft.
ACROSS BEAR TRIBUTARY
Approx. 100 linear ft.

4c. PARK INTERIOR
Approx. 3100 linear ft. or .6
miles

4d. ALONG WHEELCHAIR ACCESSIBLE
PATHS AND TRAILS

4e. ARROYO AND TRIBUTARY SECTIONS
WITHIN PARK
Bear Canyon Arroyo from gabion
section west to golf course
Bear Tributary from Spain
south to intersection with
Bear Canyon Arroyo
Approx. 2600 linear ft. or .5
miles of channel

4f. IN THE PARK'S EXISTING PARKING
LOT

5. PARK ENTRANCE AT SPAIN

6. SPAIN (Adjacent to Park)
Approx. 800 linear feet.

7. SPAIN/WYOMING TO KNIGHT/
ACADEMY
Approx. 3600 linear ft. or .7
miles

8. KNIGHT/ACADEMY INTERSECTION TO
EASTERN EDGE OF GOLF COURSE ON
ACADEMY Approx. 1100 linear
ft. or .2 miles)

4a. CONSTRUCT DIRT TRAIL.

4b. CONSTRUCT TWO 6 TO 8 FOOT
WIDE PEDESTRIAN BRIDGES.

4c. CONSTRUCT 6 TO 8 FOOT WIDE
WHEELCHAIR ACCESSIBLE TRAIL
CONNECTING PUBLIC SIDEWALKS ON
SPAIN, PARKING LOT, PLAYING FIELDS
AND ARROYO PATH.

4d. CONSTRUCT WHEELCHAIR ACCESS-
IBLE REST STOPS EVERY 1/8 MILE.
(approx. 6 rest stops)

4e. REMOVE LARGE RECYCLED
CONCRETE RIP-RAP AND REPLACE WITH
GABION OR FINER TEXTURED RIP-RAP.

4f. CONSTRUCT WHEELCHAIR ACCESS-
IBLE PARKING SPACES.

PAVE PATHWAYS FROM PARKING LOT TO
WHEELCHAIR ACCESSIBLE PATHS IN
PARK PER ANSI A117.1-1986.

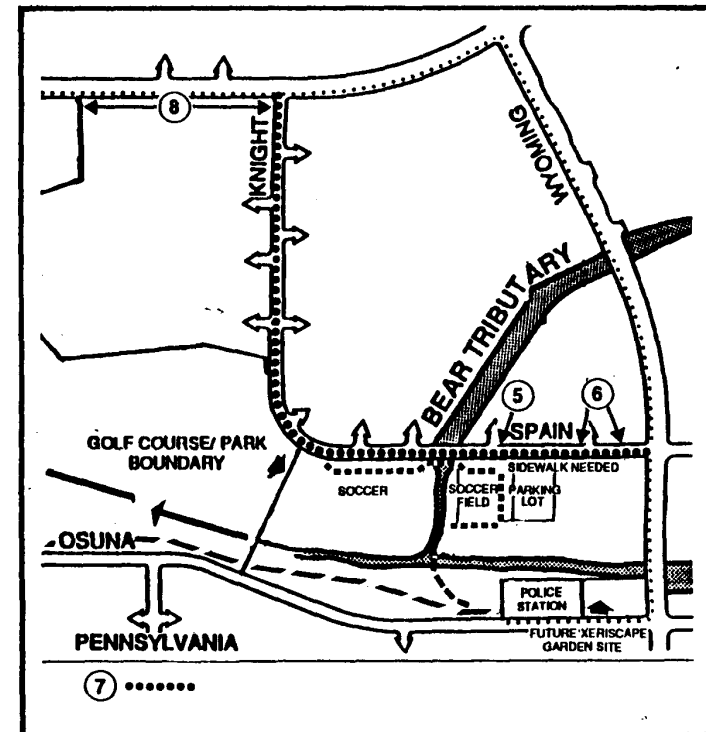
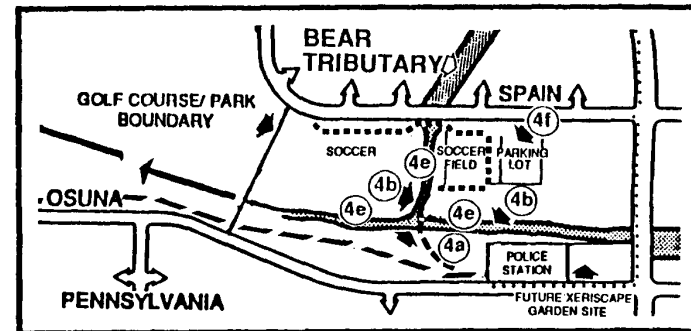
5. ERECT TRAILHEAD SIGN.

6. CONSTRUCT SIDEWALK FROM
WYOMING TO PARK ENTRANCE.

7. PAINT SIDEWALKS WITH BEAR PAW
PRINTS AND INLAY METAL BEAR PAWS
ENGRAVED WITH DONOR'S NAME IN NEW
SIDEWALKS.

* THE CITY DRAFTS AN AGREEMENT
WITH ADJACENT PROPERTY OWNERS TO
USE UTILITY EASEMENT FOR TRAIL AND
DRAFTS AN ENCROACHMENT AGREEMENT
WITH PNM FOR CITY TO ACCEPT TRAIL
LIABILITY BEFORE #8 IS UNDERTAKEN.

8. REMOVE FENCE BETWEEN PNM
EASEMENT AND PUBLIC RIGHT-OF-WAY.
CONSTRUCT DIRT RUNNING PATH.



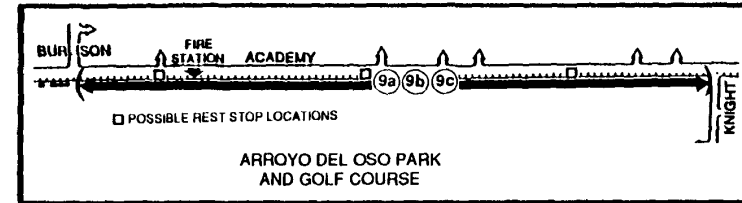
9. WEST ON ACADEMY FROM KNIGHT TO THE BURLISON INTERSECTION WHERE BIKE PATH BEGINS
Approx. 3900 linear ft. or .7 miles

9a. MOVE FENCE BACK AT LEAST 4 TO 6 FEET WHERE IT WILL NOT INTERFERE WITH GOLF COURSE OPERATIONS.

9b. CONSTRUCT 4 FOOT WIDE RUNNING PATH.

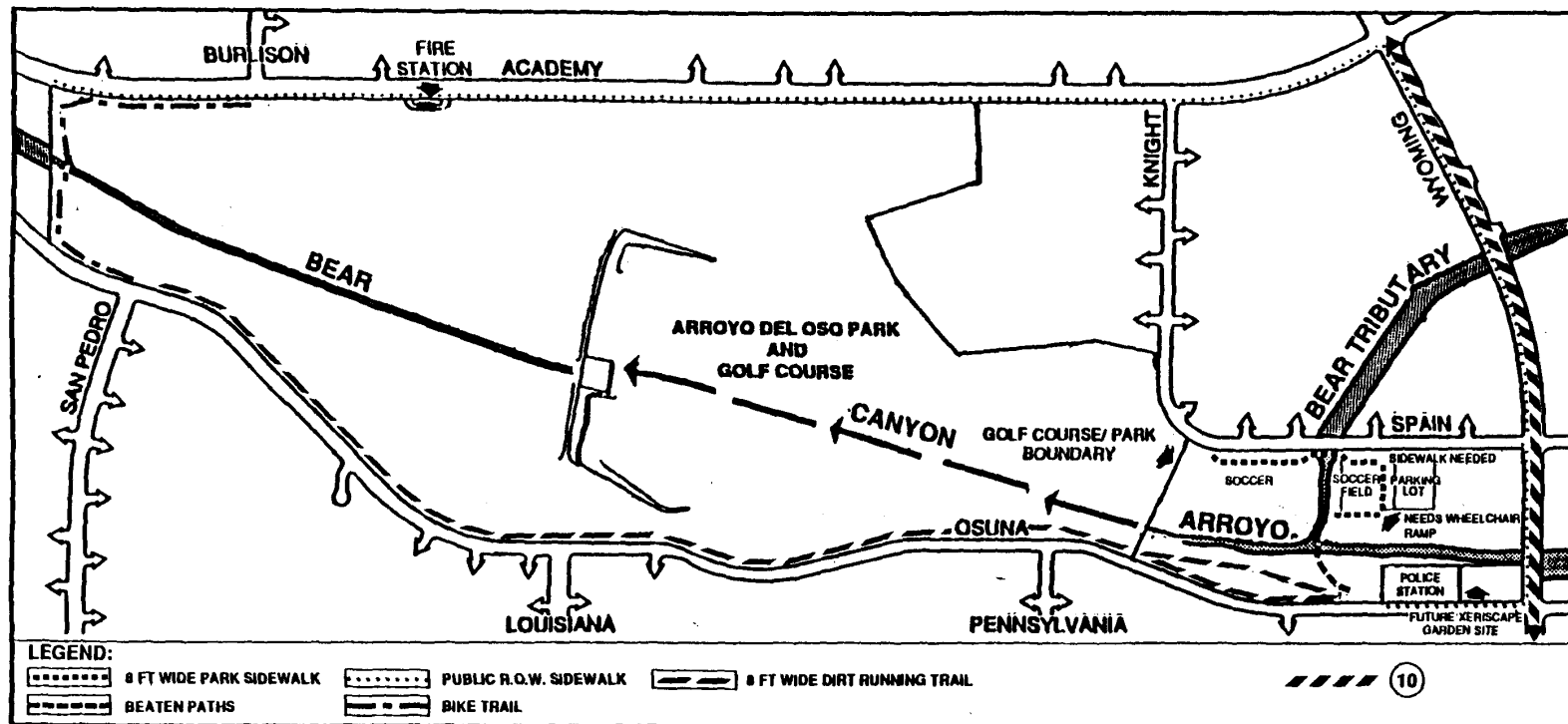
9c. PLANT TREES INSIDE FENCE TO SHADE PATH WHERE POSSIBLE.

9d. CONSTRUCT REST STOPS EVERY 1/4 MILE. (about 3 rest stops)
(move fence back for more room where possible)



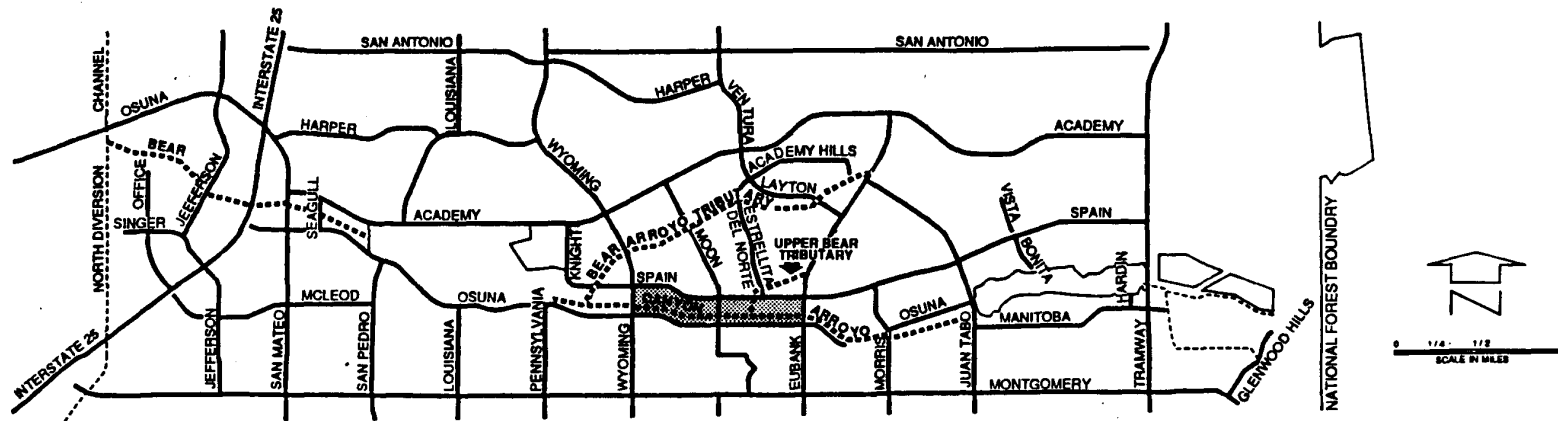
10. WYOMING (OSUNA TO ACADEMY)

10. RESTRIPE, MARK AND SIGN EXISTING BIKE LANES



Arroyo Del Oso Park and Golf Course

SEGMENT 3 WYOMING - EUBANK



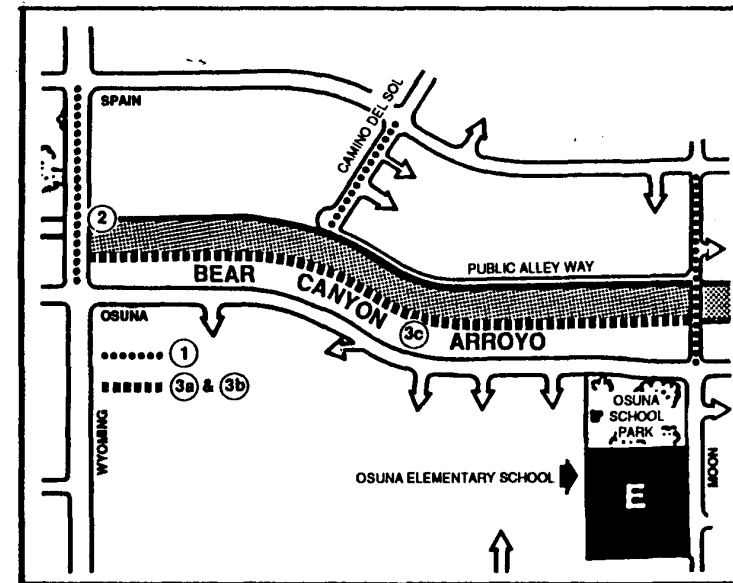
This approximately 1.3 mile long segment of the Bear Canyon Arroyo Corridor (from Wyoming to Eubank) will serve bicyclists and hikers, including people who use wheelchairs. When a concrete channel is constructed from Wyoming to Moon in 1991, the remaining portion of the 150 foot wide right-of-way will become available for developing a paved multiple purpose trail and a running trail, drought resistant landscaping and shaded rest stops in a linear park setting. In the more constrained space between Moon and Eubank, runners, bicyclists and hikers will share one multiple purpose trail on the north side of the Bear Canyon Arroyo. The eastern bank of the Upper Bear Tributary will be used primarily as an exit route from the main trail to Spain Road.

PROJECT LOCATION

1. ALL STREETS AND SIDEWALKS CONNECTING TRAIL SEGMENTS
2. WYOMING TRAIL ENTRANCE
3. WYOMING - MOON
South side of arroyo)
Approx. 2800 linear ft. or .53 miles

DESCRIPTION

1. PAINT SIDEWALKS WITH BEAR PAW PRINTS TO DIRECT TRAIL USERS TO NEXT TRAIL SEGMENT. INLAY METAL BEAR PAWS ENGRAVED WITH DONOR'S NAME IN NEW SIDEWALKS.
2. ERECT TRAIL IDENTIFICATION SIGN.
- 3a. CONSTRUCT A 4 TO 8 FOOT WIDE DIRT RUNNING TRAIL.
- 3b. PLANT DROUGHT RESISTANT LANDSCAPING ON BOTH SIDES OF TRAIL.
- 3c. CONSTRUCT AT LEAST ONE REST STOP WITH SHADE AND SEATING.



4. **WYOMING - MOON**
North side of arroyo
Approx. 2800 linear ft. or .53 miles

4a. CONSTRUCT 10 FOOT WIDE PAVED WHEELCHAIR ACCESSIBLE MULTIPLE PURPOSE TRAIL

OR

4b. SEPARATED 8 FOOT WIDE BIKE TRAIL AND 6 FOOT WIDE WHEELCHAIR ACCESSIBLE PEDESTRIAN TRAIL.

4c. CONSTRUCT WHEELCHAIR ACCESSIBLE REST STOPS WITH SEATING AND SHADE EVERY 1/8 MILE. (3 or 4)

4d. ERECT BOLLARDS (on north edge of right-of-way between residential service area and corridor) UNTIL CORRIDOR LANDSCAPING IS MATURE.

4e. PLANT DROUGHT RESISTANT LANDSCAPING BETWEEN THE TWO SEPARATED TRAILS, BETWEEN THE CHANNEL AND TRAILS AND BETWEEN THE TRAILS AND RIGHT-OF-WAY EDGE. (Work with adjacent homeowners associations and residents to provide some landscaping and maintenance.)

4f. ERECT A VANDAL RESISTANT PAR EXERCISE COURSE.

5. **MOON STREET BIKE/PEDESTRIAN BRIDGE**

5a. CONNECT RUNNING TRAILS TO BRIDGE. (on south side of arroyo)

5b. CONSTRUCT WHEELCHAIR ACCESSIBLE CONNECTION FROM BIKE TRAIL AND HIKING TRAIL TO BRIDGE AND PUBLIC RIGHT-OF-WAY ON MOON. (on north side of arroyo)

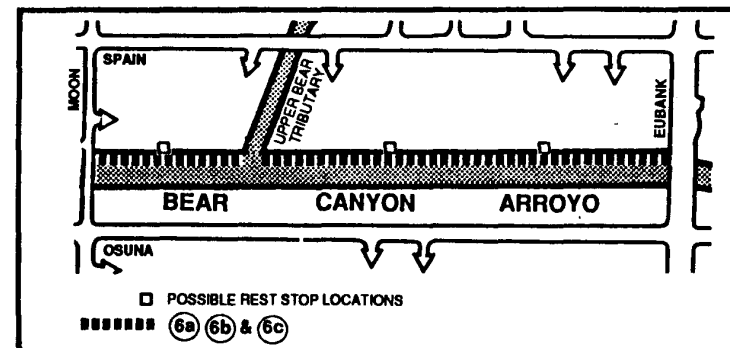
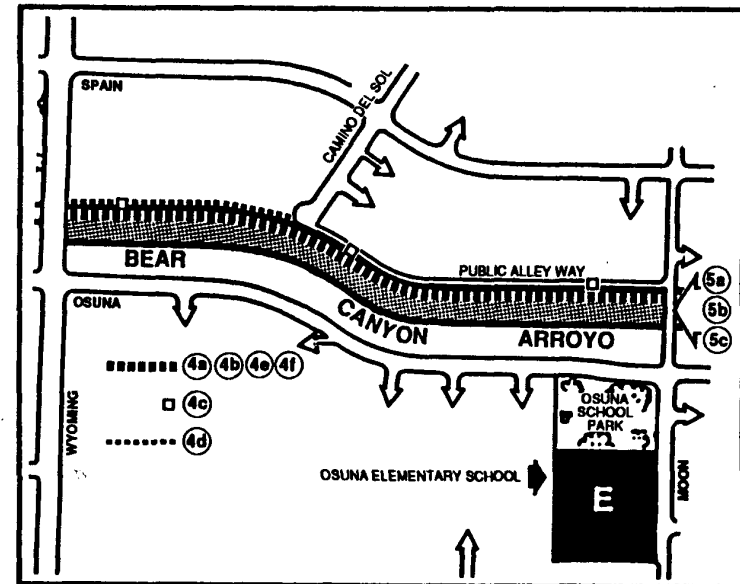
5c. ERECT TRAILHEAD SIGN.

6. **MOON - EUBANK**
North side of arroyo
Approx. 2600 linear ft. or .49 miles

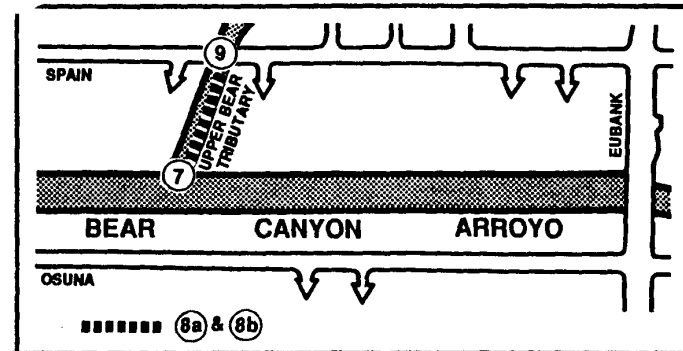
6a. CONSTRUCT 8 TO 10 FOOT WIDE WHEELCHAIR ACCESSIBLE MULTIPLE PURPOSE TRAIL.

6b. CONSTRUCT WHEELCHAIR ACCESSIBLE REST STOPS EVERY 1/8 MILE. (3 or 4)

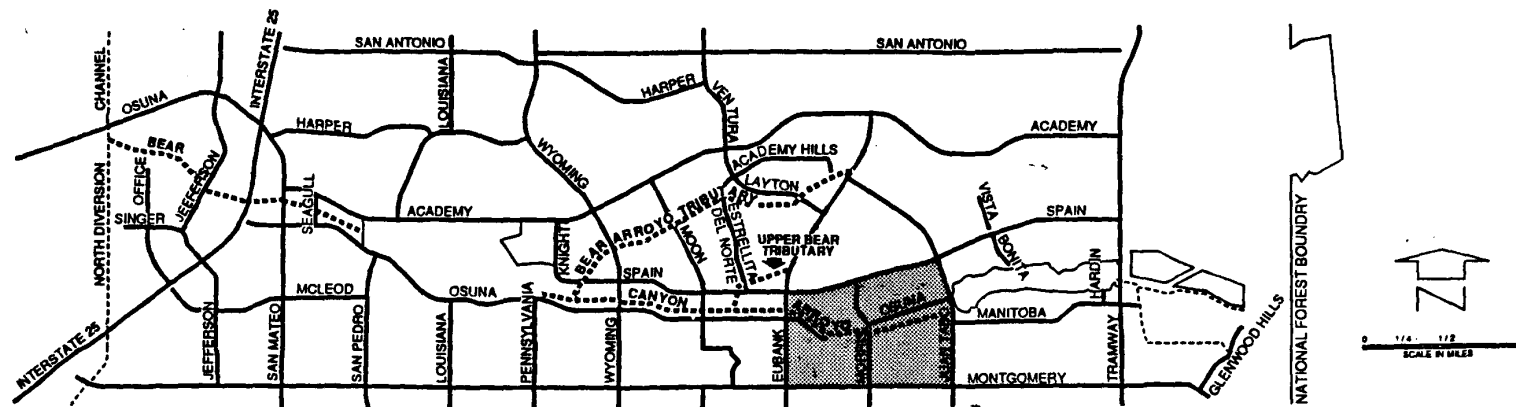
6c. PLANT CHAMISA, ASTERS AND OTHER DROUGHT RESISTANT PLANTS. (between the trail and arroyo and between the trail and adjacent private property walls.)



7. ARROYO JUNCTURE WITH UPPER BEAR TRIBUTARY
Approx. 75 linear feet
 8. UPPER BEAR TRIBUTARY
East side - Bear Canyon Arroyo to Spain) Approx. 480 linear ft. or .09 miles
 9. UPPER BEAR TRIBUTARY/SPAIN
 10. UPPER BEAR TRIBUTARY
7. CONSTRUCT 8 TO 10 FOOT WIDE BRIDGE ACROSS UPPER BEAR TRIBUTARY AND ERECT TRAIL EXIT SIGN.
 - 8a. REGRADE, IMPROVE AND COMPACT EXISTING MAINTENANCE ROAD FOR WHEELCHAIR ACCESSIBILITY AND TO PROTECT PRIVACY OF ADJACENT YARDS.
 - 8b. PLANT CHAMISA, ASTERS AND OTHER DROUGHT RESISTANT PLANTS. (between the trail and arroyo and between the trail and adjacent private property walls)
 9. REDESIGN EXISTING PIPE GATE TO ALLOW WHEELCHAIRS, BICYCLES AND PEDESTRIANS. (See 39A., p.60.)
 10. REMOVE LARGE PIECES OF CONCRETE AND REPLACE WITH RIPRAP PER REGULATION 33B, p.56.



SEGMENT 4 EUBANK - JUAN TABO



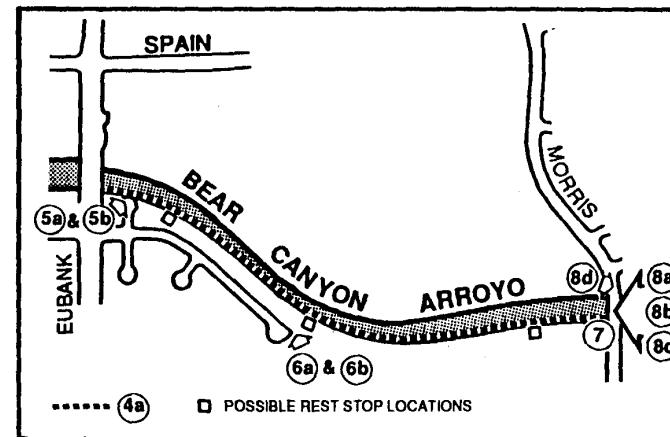
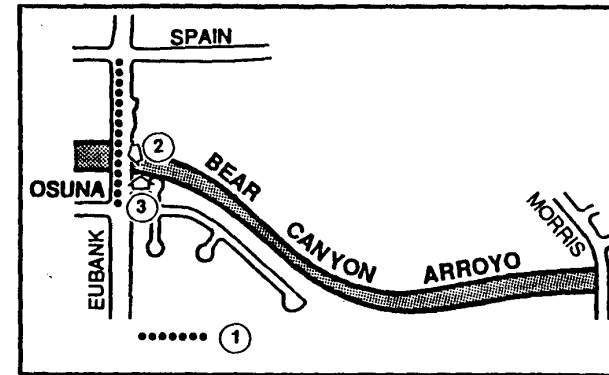
This approximately 1.1 mile long segment of the Bear Canyon Arroyo Corridor (from Eubank to Juan Tabo) was built in the fall of 1989. Bicyclists and hikers entering this trail segment from the east, the west or from adjacent residential neighborhoods and the Technical-Vocational Institute (T-VI) will find a 12 foot wide multiple use asphalt trail intersected by Eubank on the west, Morris in the center and Juan Tabo on the east. Between Morris and Juan Tabo the trail runs inside the southern edge of El Oso Grande Park. The trail connects directly to other park trails and to TVI's lower parking lot by a pedestrian/bike bridge. Portions of the trail and El Oso Grande Park are wheelchair accessible. People in wheelchairs can enter the park and trail directly from TVI's lower parking lot or from the public sidewalk on Morris. If short sections of trail just west of both Morris and Juan Tabo were redesigned and rebuilt, this entire trail segment could become wheelchair accessible.

PROJECT LOCATION

1. SPAIN/EUBANK INTERSECTION
2. EUBANK/BEAR CANYON ARROYO INTERSECTION
3. EUBANK TRAIL ENTRANCE
4. EUBANK - MORRIS
South side of arroyo
Approx. 2700 linear ft. or .5 miles
5. EXISTING STONEGATE VILLAGE TRAIL ENTRANCE
6. PROPERTY EAST OF STONEGATE VILLAGE
7. TRAIL SLOPE JUST WEST OF MORRIS
8. MORRIS/BEAR CANYON ARROYO INTERSECTION

DESCRIPTION

1. PAINT SIDEWALKS WITH BEAR PAW PRINTS TO DIRECT TRAIL USERS TO NEXT TRAIL SEGMENT.
2. CUT MEDIAN FOR MID-BLOCK BICYCLE CROSSING.
3. ERECT TRAIHEAD SIGN, SEATING AND SHADE.
- 4a. SEAL EXISTING 12 FOOT WIDE ASPHALT TRAIL WITH EPOXY AND COAT WITH SAND.
- 4b. INSTALL WHEELCHAIR ACCESSIBLE REST STOPS WITH SEATING AND SHADE EVERY 1/8 MILE.(approx. 3 locations)
- 4c. If landscaping is considered, TEST SOIL FOR COMPACTION. (This area may be adjacent to an old landfill site.)
- 5a. PAVE SHORT TRAIL ENTRANCE FROM NEIGHBORHOOD TO PROVIDE WHEELCHAIR ACCESS.
- 5b. ERECT TRAIL IDENTIFICATION SIGN WITH NOTE PROHIBITING MOTORIZED VEHICLES.
- 6a. IF NECESSARY, ACQUIRE EASEMENT FOR NEIGHBORHOOD TRAIL ENTRANCE.
- 6b. DESIGN AND CONSTRUCT TRAIL ENTRANCE FOR WHEELCHAIR ACCESS.
7. RE-ENGINEER SLOPE FOR WHEELCHAIR ACCESSIBILITY. (Acquire additional property if necessary.)
- 8a. ERECT SIGNS OR STRIPE STREET TO AVOID DIAGONAL STREET CROSSING.
- 8b. INSTALL ADVANCE CAUTION SIGNS AND PEDESTRIAN CROSSING SIGN TO ALERT MOTORISTS TO TRAIL USERS' PRESENCE.
- 8c. CONDUCT ENGINEERING STUDY TO DETERMINE IF STRIPING A CROSS WALK IS ADVISABLE.
- 8d. ERECT TRAIL IDENTIFICATION SIGN.



PROJECT LOCATION

9. MORRIS - JUAN TABO
North side of arroyo
Approx. 2700 linear ft. or .5
miles

10. SLOPE JUST WEST OF JUAN TABO

11. JUAN TABO TRAIL ENTRANCE

12. JUAN TABO/BEAR CANYON ARROYO
TRAIL INTERSECTION

DESCRIPTION

9a. SEAL EXISTING 12 FOOT WIDE
ASPHALT TRAIL WITH EPOXY AND COAT
WITH SAND.

9b. CONSTRUCT WHEELCHAIR ACCESS-
IBLE REST STOPS WITH SEATING AND
SHADE EVERY 1/8 MILE. (6 to 8
locations)

10. RE-ENGINEER SLOPE FOR
WHEELCHAIR ACCESSIBILITY.
(Acquire additional property or an
easement if necessary to add
wheelchair accessible trail
entrance and section)

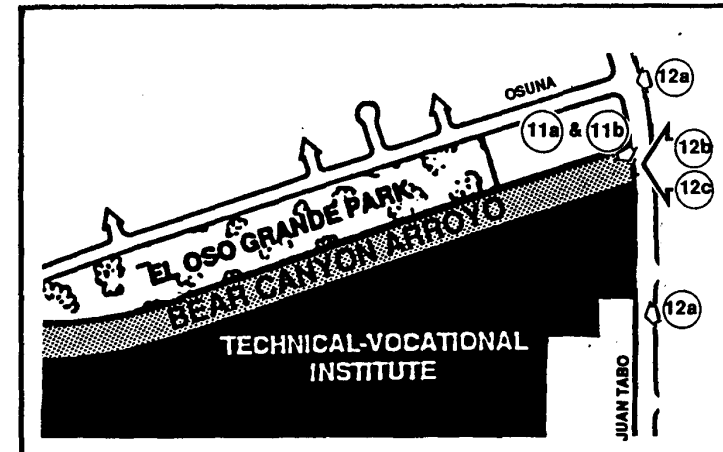
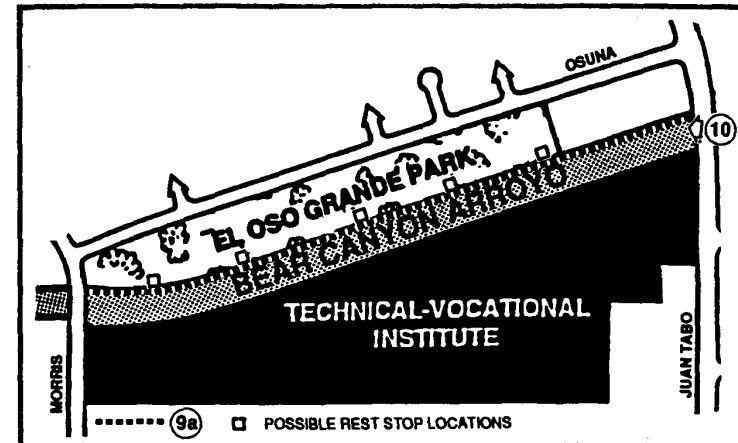
11a. ERECT TRAILHEAD SIGN.

11b. ERECT SIGN REQUIRING
BICYCLISTS TO YIELD TO PEDESTRIANS.

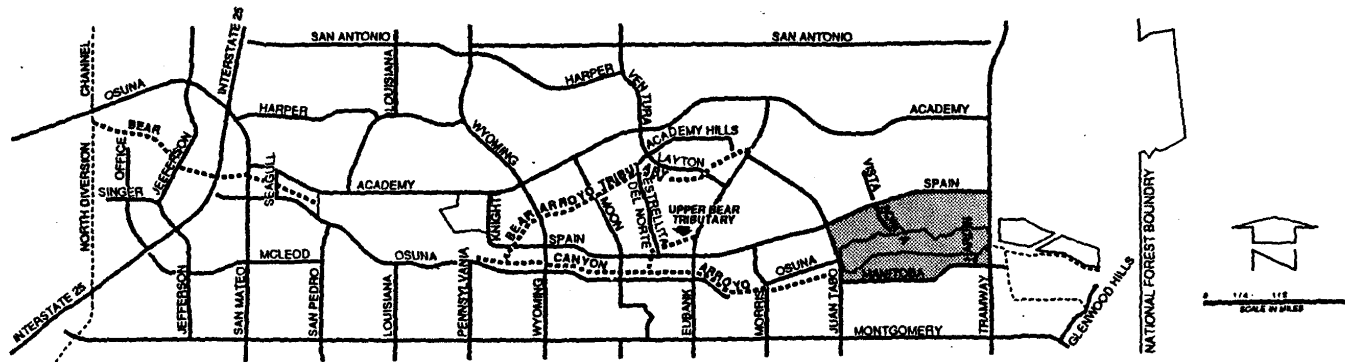
12a. INSTALL ADVANCE PEDESTRIAN
CROSSING SIGNS.

12b. INSTALL PEDESTRIAN CROSSING
SIGNS AT TRAIL CROSSING.

12c. PAINT BEAR PAW PRINTS ON
SIDEWALK.



SEGMENT 5 JUAN TABO BOULEVARD - TRAMWAY BOULEVARD



When 35+ acres of privately owned land in the floodplain are acquired as City Open Space and trail easements are obtained across another 16+ acres of privately owned land, about 100 acres will be available for trails and other open space facilities between Juan Tabo and Tramway boulevards. This approximately 1 mile long segment of the Bear Canyon Arroyo Corridor will serve bicyclists, equestrians and hikers, including people who use wheelchairs. Although slopes leading down to the floodplain are severe, the plan proposes that at least two wheelchair accessible entrances be constructed, one just north of the John B. Robert Dam and one to the southeast at Hardin Drive. The arroyo underpass at Tramway and connections to the Tramway recreational trail will also be wheelchair accessible.

PROJECT LOCATION

PROVIDE CORRIDOR ACCESS AT THE FOLLOWING LOCATIONS:

NORTH SIDE OF JOHN B. ROBERT DAM

1. (from Juan Tabo on the maintenance road)

DESCRIPTION

1a. ERECT TRAILHEAD SIGN AND INSTALL BENCH. (in front of dam on Juan Tabo)

1b. ACQUIRE ENCROACHMENT LICENSE FROM AMAFCA. (to use road for hikers and bicyclists and to pave lower portion for wheelchair access)

1c. PRINT OR INLAY BEAR PAWS ON EASTERN JUAN TABO SIDEWALK ADJACENT TO DAM.

2. (from Juan Tabo, along the south side of Tract B, Academy Square Unit 2, through the Open Space gate and down the bottom of the maintenance road)

2a. ACQUIRE ACCESS AGREEMENT FROM PRIVATE PROPERTY OWNER OR ACQUIRE PROPERTY FOR TRAIL ACCESS AND LIMITED PARKING. (for wheelchair users and a few others)

2b. CONSTRUCT WHEELCHAIR ACCESSIBLE TRAIL SEGMENT. (from Juan Tabo to main trail and entrance)

NORTH SIDE OF ARROYO CORRIDOR SEGMENT

3. (from Vista Bonita)

3a. INSTALL TRAIL IDENTIFICATION SIGN.

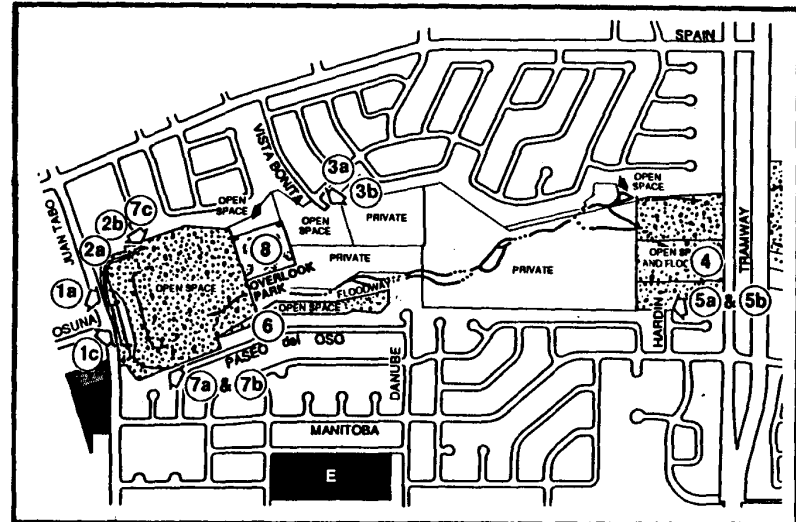
3b. CONSTRUCT WHEELCHAIR ACCESSIBLE MULTIPLE PURPOSE TRAIL ENTRANCE.

EAST SIDE OF ARROYO CORRIDOR SEGMENT

4. (arroyo underpass at Tramway)

The County Public Works Department Tramway Widening Project bridge at the Bear Canyon Arroyo will allow hikers, bicyclists and wheelchairs to cross Tramway below grade. The designs include a wheelchair accessible pedestrian/bike trail above the 10 year flood level per ANSI 117.1-1986 and a textured concrete floor to provide a nonslip surface for horses. The following projects should be implemented in addition to those designed by the County.

4. ERECT TRAILHEAD SIGN WEST OF THE UNDERPASS AND FLOOD HAZARD SIGNS EAST AND WEST OF THE UNDERPASS.



SOUTH SIDE OF ARROYO CORRIDOR SEGMENT

5. (from Hardin Drive into existing Open Space)

5a. ERECT TRAIL IDENTIFICATION SIGN.

5b. CONSTRUCT WHEELCHAIR ACCESSIBLE TRAIL ENTRANCE THAT PREVENTS MOTORCYCLE ENTRY.

5c. ERECT PARKING SIGN TO ALLOW HANDICAP ACCESSIBLE PARKING ON HARDIN AT TRAIL ENTRANCE.

6. (from Paseo del Oso across easement on Lot 28-A into existing Open Space)

6. CONSTRUCT TRAIL ENTRANCE FOR HIKERS ONLY.

7. (from Paseo del Oso, across AMAFCA maintenance easement on south side of dam, traversing dam structure top and down maintenance road on north side of dam) Only hikers will be allowed on the dam structure.

7a. ACQUIRE ENCROACHMENT LICENSE FROM AMAFCA.

7b. ERECT TRAIL IDENTIFICATION SIGN.

7c. PAVE BOTTOM OF MAINTENANCE ROAD FOR WHEELCHAIR ACCESS TO PAVED TRAIL. (See 2b.)

8. Overlook Park

8. DETERMINE BEST USE FOR PARK THROUGH NEIGHBORHOOD SURVEYS AND COORDINATE WITH CORRIDOR SEGMENT DESIGN.

9. JUAN TABO - TRAMWAY
Approx. 5200 linear feet or 1 mile

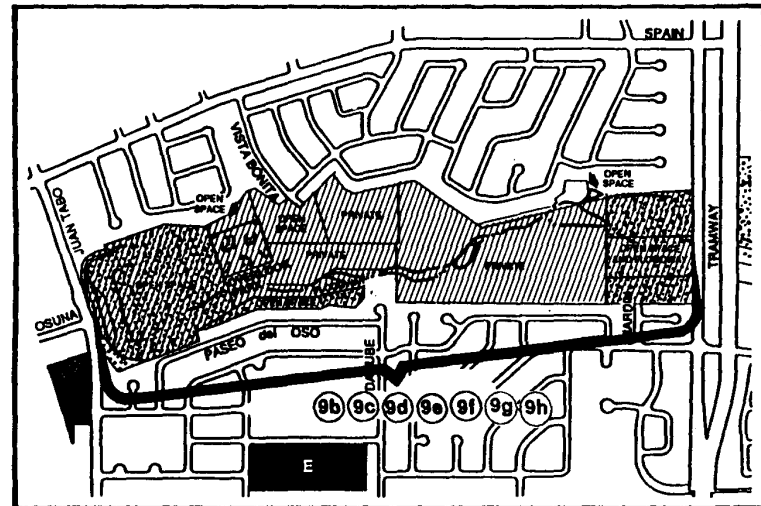
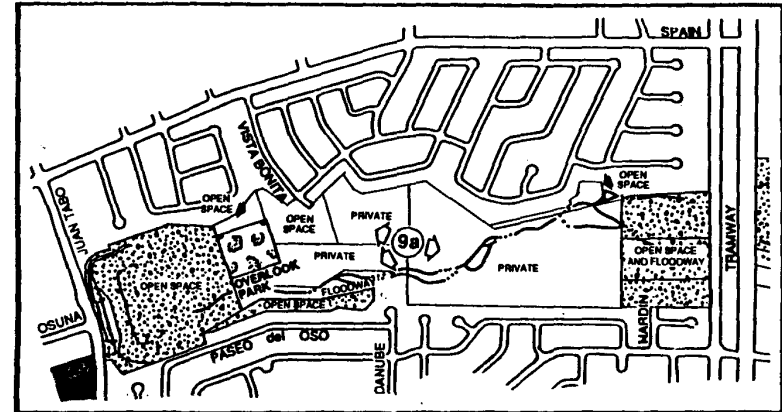
9a. ACQUIRE AS CITY OPEN SPACE AT LEAST 35+ ACRES OF PRIVATELY OWNED LAND IN THE FLOODPLAIN AND OBTAIN TRAIL EASEMENTS ACROSS PORTIONS OF REMAINING 16+ ACRES OF PRIVATELY OWNED LAND.

9b. CONSTRUCT LOOPED EQUESTRIAN TRAIL WITH AT LEAST ONE HITCHING AREA.

9c. CONSTRUCT 6 TO 10 FOOT WIDE UNPAVED WHEELCHAIR ACCESSIBLE MULTIPLE PURPOSE TRAIL. (See Corridor Design and Materials, p. 57, Guideline 34A.)

9d. INSTALL WHEELCHAIR ACCESSIBLE REST AREAS AT 1/8 MILE INTERVALS
INSTALL SHADE AT 1/2 MILE INTERVALS.

9e. ERECT INTERPRETIVE SIGNS LABELLING EXAMPLES OF EXISTING VEGETATION. (along wheelchair accessible hiking trail)



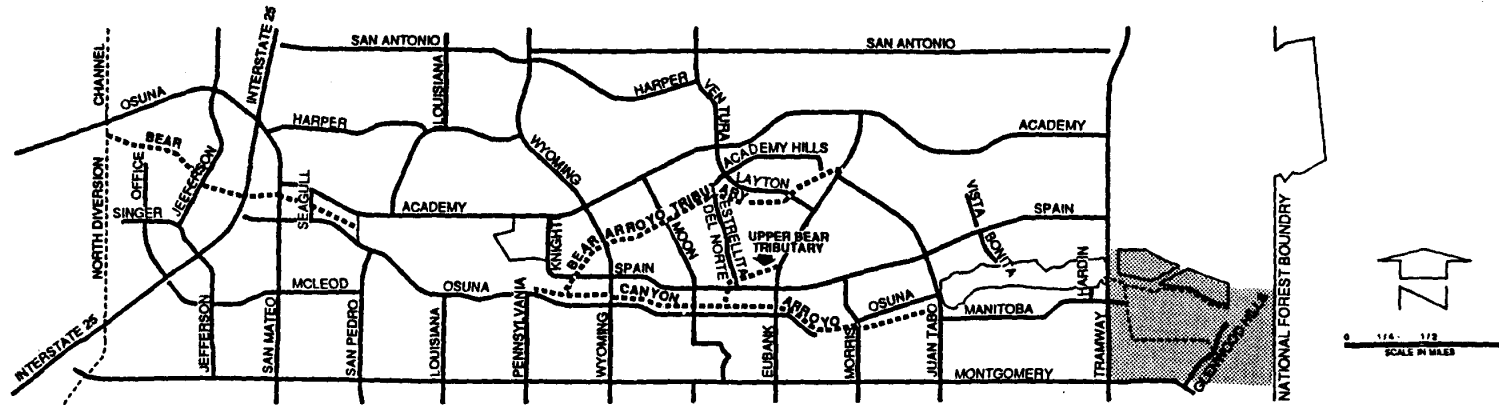
9f. RESEED AND PROTECT EXISTING CASUAL TRAILS THAT ARE NO LONGER NEEDED.

9g. ERECT PIPE GATES THAT ALLOW TRAIL USERS TO ENTER ALL MAINTENANCE ROADS USED AS TRAILS. (See Corridor Design and Materials, p.60.)

9h. INSTALL A VANDAL RESISTANT PAR EXERCISE COURSE HERE OR BETWEEN MORRIS AND JUAN TABO.

The following project recommendations will require additional field investigation and design as part of an Open Space Division Master Plan for the entire floodplain when it is acquired as City Open Space.

SEGMENT 6 TRAMWAY BOULEVARD - NATIONAL FOREST BOUNDARY



This approximately 1.2 mile long segment of the Bear Canyon Arroyo Corridor (from Tramway to the Sandia foothills) will serve hikers, equestrians and mountain bicyclists. Because slopes are severe from the Simms Reservoir parking lot to Tramway, wheelchair access will not be provided here. Nearby residents who use wheelchairs will be able to access the Tramway recreational trail from public sidewalks. Wheelchair users living west of Tramway will be able to access the Tramway trail from the underpass at Tramway or from public streets. To provide a barrier-free open space experience on the west side of the Sandias for people who use wheelchairs, the Albert Simms Open Space Park (Elena Gallegos) will be improved.

LOCATION

IN GLENWOOD HILLS NEIGHBORHOOD SOUTH OF THE ARROYO AT THE FOLLOWING LOCATIONS

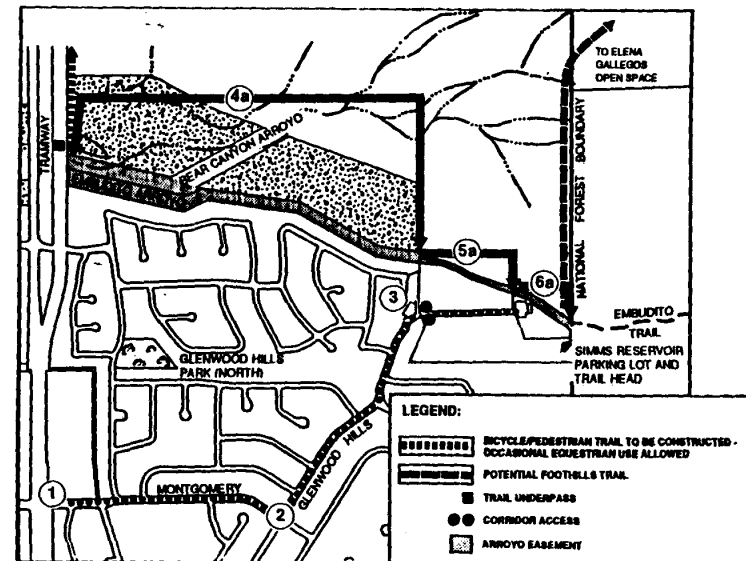
1. TRAMWAY AND MONTGOMERY
2. MONTGOMERY AND GLENWOOD HILLS
3. SIMMS RESERVOIR PARKING LOT ACCESS ROAD
4. CITY OPEN SPACE FROM TRAMWAY BOULEVARD EAST
Approx. 4,000 linear ft. or .76 miles
5. EASTERN END OF OPEN SPACE TO SIMMS RESERVOIR PARKING LOT TRAIL
Approx. 1,000 linear ft. or .19 miles

DESCRIPTION

1.2.3. ERECT TRAIL DIRECTION SIGNS OR PAINT BEAR PAWS ON SIDEWALKS.

4a. CONSTRUCT UNPAVED HIKING, MOUNTAIN BICYCLING AND EQUESTRIAN TRAILS IN CITY OWNED OPEN SPACE.

5.6a. CONSTRUCT AN UNPAVED MULTIPLE PURPOSE TRAIL EAST OF CITY OWNED OPEN SPACE. ERECT A SIGN DIRECTING TRAIL USERS TO THE NATIONAL FOREST FOOTHILLS TRAIL AND WILDERNESS HIKERS TO THE EMBUDITO TRAIL.



LOCATION

6. SIMMS RESERVOIR PARKING LOT TRAIL TO EMBUDITO WILDERNESS TRAILHEAD

Approx. 800 linear ft. or .15 miles

DESCRIPTION

4,5,6b. CONNECT UNPAVED TRAILS TO THE FUTURE NORTH/SOUTH TRAMWAY TRAIL AND THE TRAMWAY UNDERPASS ON THE WEST AND TO THE PROPOSED NATIONAL FOREST FOOTHILLS TRAIL, EXISTING EMBUDITO TRAIL AND SIMMS RESERVOIR PARKING LOT TRAILHEAD.

4,5,6c. STABILIZE ALL UNPAVED TRAILS FOR EQUESTRIAN TRAVEL.

4,5,6d. INSTALL SEATING AT 1/4 MILE INTERVALS AND SHADE AT 1/2 MILE INTERVALS.

4e. ERECT INTERPRETIVE BOTANICAL SIGNS ALONG TRAIL.

6f. ERECT TRAILHEAD SIGN AT SIMMS RESERVOIR PARKING LOT.

6g. INSTALL HITCHING POSTS, SHADE AND WATER SPOUT FOR HORSES.

7. ALBERT SIMMS OPEN SPACE PARK (ELENA GALLEGOS)

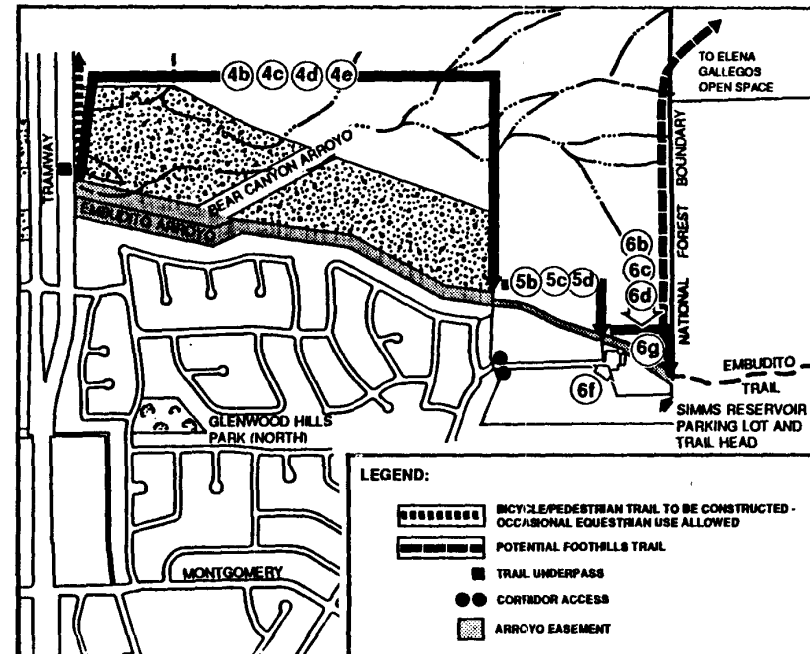
7a. PAVE EXISTING PARKING SPACES DESIGNATED AS WHEELCHAIR ACCESSIBLE.

7b. PAVE PATHWAYS FROM PARKING LOTS TO RESTROOMS AND WHEELCHAIR ACCESSIBLE PATHS IN PARK PER ANSI A117.1-1986.

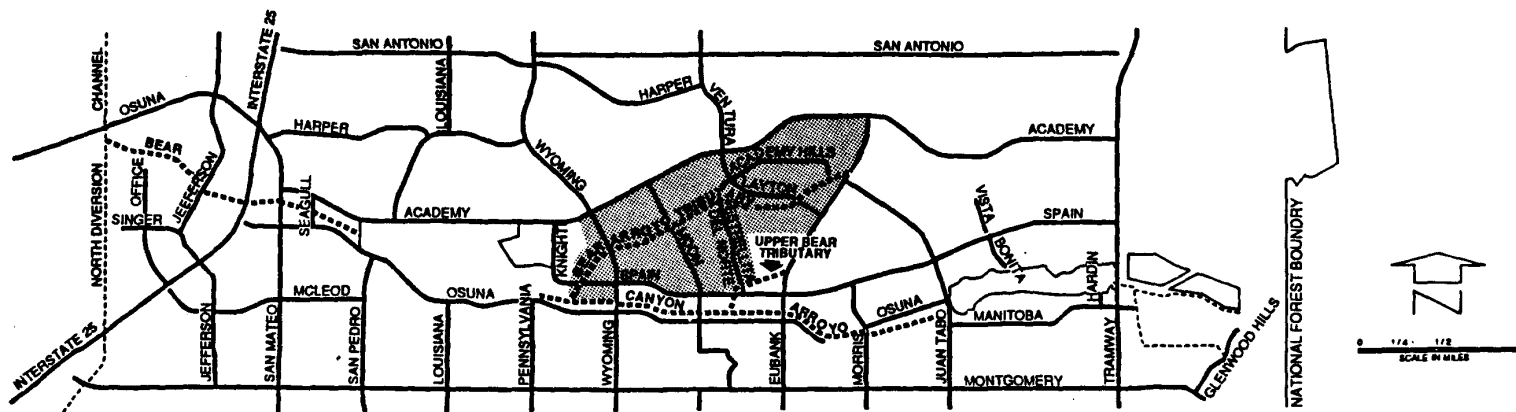
7c. INCREASE LENGTH OF EXISTING WHEELCHAIR ACCESSIBLE PATHS.

7d. INSTALL WHEELCHAIR ACCESSIBLE REST STOPS EVERY 1/8 MILE ALONG PATHS.

7e. INSTALL SIGNS INDICATING CONNECTIONS TO NATIONAL FOREST FOOTHILLS TRAIL, THE BEAR CANYON ARROYO CORRIDOR TRAIL AND OTHER TRAILS.



BEAR ARROYO TRIBUTARY



Due to neighborhood concerns about maintaining privacy adjacent to the narrow right-of-way between Estrellita del Norte and Moon, the trail corridor will not be extensively developed along the Bear Arroyo Tributary (from Academy Park to Wyoming). (See p.37 and Appendix A for more information about neighborhood concerns. See Appendix I for possible future trail project proposals.) The existing maintenance road, however, can still serve runners and hikers from Academy Hills Park on the east to Wyoming on the west. Facilities for bicyclists and people who use wheelchairs will not be planned until neighborhood requests for trail development are received. The corridor terminates on the west at Wyoming 1/4 mile north of Arroyo del Oso Park and Bear Canyon Arroyo trails. A connection to Arroyo del Oso Park may also be possible with considerable arroyo reconstruction and slope terracing for trails. Expensive trail projects of this type may be possible with private sector involvement.

LOCATION

1. **ACADEMY PARK**
North Side of Park at
Concrete Drainage Rundown

DESCRIPTION

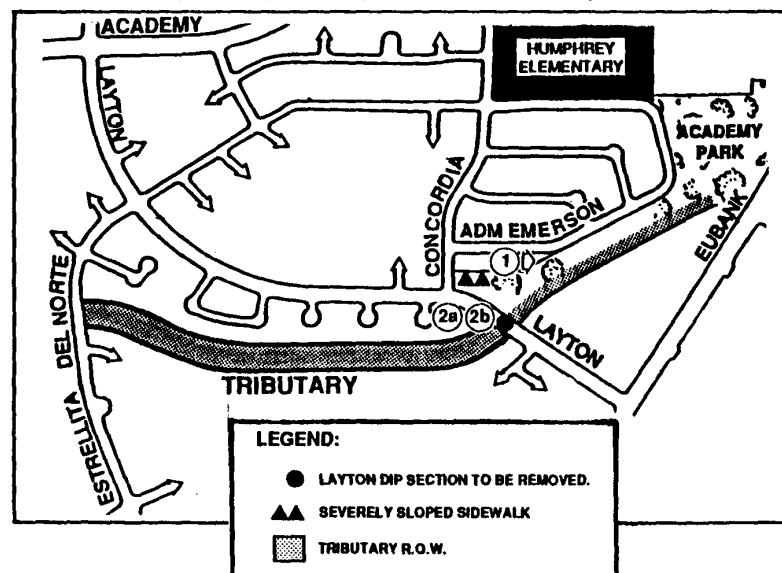
1. CONSTRUCT TWO WHEELCHAIR CURB RAMPS. (one on each side of concrete rundown at park sidewalk)

2. **LAYTON**

As part of a Layton Dip Section Removal project, wheelchair curb ramps will be built on both sides of the street.

- 2a. ERECT TRAILHEAD SIGN. (on north side of tributary)

- 2b. ERECT PEDESTRIAN ACCESSIBLE MAINTENANCE ROAD PIPE GATE OR REMOVABLE BOLLARDS.

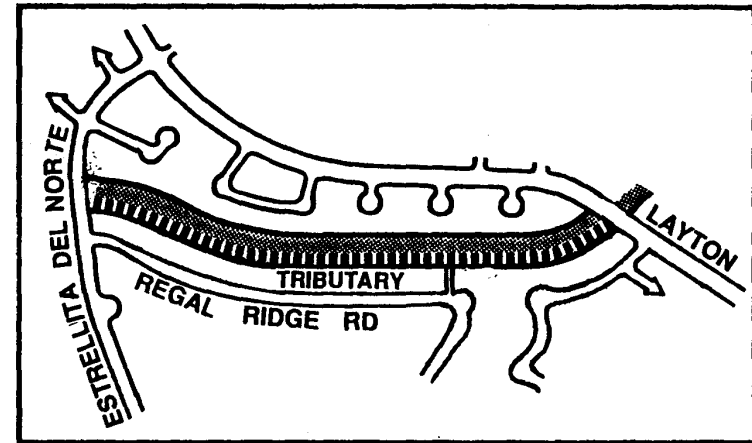


LEGEND:

- LAYTON DIP SECTION TO BE REMOVED.
- ▲ SEVERELY SLOPED SIDEWALK
- ▨ TRIBUTARY R.O.W.

3. LAYTON - ESTRELLITA DEL NORTE
South Side of Tributary
Approx. 2,600 linear ft. or
.5 miles

ALLOW HIKERS AND RUNNERS TO USE
THE ARROYO BANK AS IS.



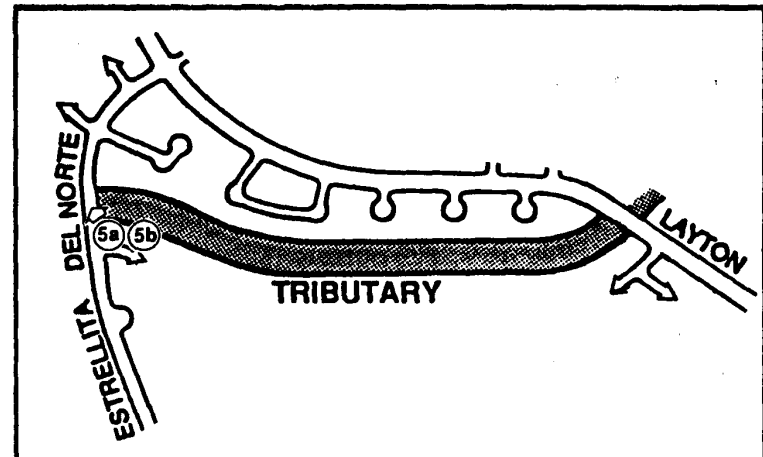
4. LAYTON - ESTRELLITA DEL NORTE
North Side of Tributary
Approx. 2,600 linear ft. or
.5 miles

ALLOW HIKERS AND RUNNERS TO USE
MAINTENANCE ROAD AS IS.

5. ESTRELLITA DEL NORTE

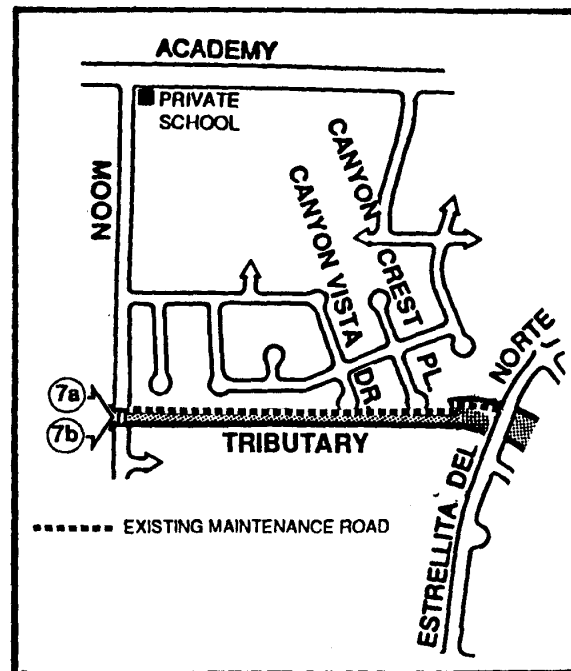
5a. ERECT TRAILHEAD SIGN. (on
east side of the street, north
side of the tributary)

5b. ERECT PEDESTRIAN ACCESSIBLE
MAINTENANCE ROAD PIPE GATE OR
REMOVABLE BOLLARDS. (on both sides
of the street)



6. ESTRELLITA DEL NORTE - MOON
North Side of Tributary
Approx. 1,800 linear ft. or
.34 miles

ALLOW HIKERS AND RUNNERS TO USE
MAINTENANCE ROAD AS IS.



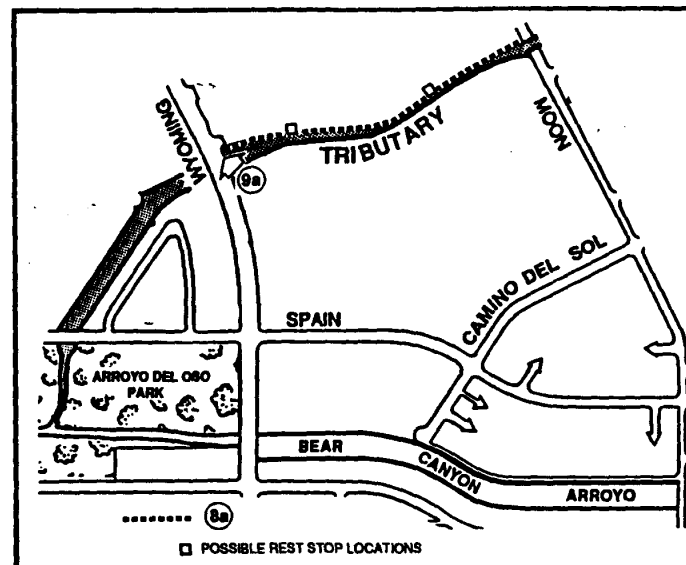
7. MOON

7a. ERECT TRAIL IDENTIFICATION
SIGN.

7b. ERECT PEDESTRIAN ACCESSIBLE
MAINTENANCE ROAD PIPE GATE OR
REMOVABLE BOLLARDS. (on both sides
of Moon)

8. MOON - WYOMING
North Side of Tributary
Approx. 2,200 linear ft. or
.42 miles

ALLOW HIKERS AND RUNNERS TO USE
MAINTENANCE ROAD AS IS.



9. WYOMING

9a. ERECT TRAILHEAD SIGN.
(include information directing
trail users to Bear Canyon Arroyo
trails and Arroyo del Oso Park 1/4
mile south)

Plan Implementation



PLAN IMPLEMENTATION

PROJECT PRIORITIES

Circumstances can change between plan adoption and plan implementation. Some projects that now seem imprudent to implement quickly may coordinate well with other projects or be easier to fund because of changed conditions or new opportunities. Projects given priority on the following list will complete a partially constructed trail, will form an integral portion of a larger hiking, running, biking, equestrian or wheelchair accessible network, will coordinate well with the timing for design and construction of other City projects in the same location or are necessary first steps of a larger project that need to be accomplished before the rest of the project can proceed. Although the order of this list may change and several projects may be grouped and funded simultaneously in the future, the list is still useful for describing discrete projects.

PROJECT PRIORITIES

PROJECT DESCRIPTION AND PRIORITY RATIONALE

- | | |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Segment 6 (Elena Gallegos Open Space Park) | 1. The City Open Space Division improves wheelchair access to provide the only foothills Open Space experience for wheelchair users on the west side of the Sandias. This project is proposed as part of the Corridor Plan because wheelchair access is not recommended east of Tramway in the Bear Canyon Arroyo Corridor. The Open Space Division also clearly identifies connections to other trails and acceptable trail networks for equestrians, hikers, wheelchair users and bicyclists. |
| 2. Segment 6 (National Forest Foothills Trail and Tramway Boulevard Widening Project multiple user trail loop) | 2. The City, County, National Forest Service and Albuquerque Academy sign a memorandum of understanding they have been working on for over a year to help create a National Forest Foothills Trail and connections to and from it. |
| 3. Segment 6 (Juan Tabo to Tramway) | 3. The Albuquerque Conservation Trust, the John B. Robert Neighborhood Association and the City Open Space Division continue to pursue Open Space acquisition of some privately owned land in the floodplain while the City pursues obtaining trail easement agreements across other privately owned land. |
| 4. Segment 1 (I-25) | 4. If an I-25 pedestrian bridge is to be constructed, the City Parks and Recreation Department or Public Works Department pursues the process necessary for obtaining a license to build across the interstate highway and frontage roads rights-of-way, researches |

4. Segment 1 (I-25) continued
 5. All Segments
 6. Segments 1 and 6 (AMAFCA easements and rights-of-way))
 7. Segment 5 (Tract B, Academy Square Unit 2)
 8. All Corridor Segments
 9. Segment 3 (Wyoming to Moon)
 10. Segment 3 (Moon to Eubank)
 11. Segment 1 (Jefferson to San Mateo)
5. Neighborhood associations and business firms may organize and plan planting programs, trail maintenance events and seek Urban Enhancement Trust Funds and other funding sources for future trail development. The Parks and Recreation Department can be contacted by these groups for information and to form agreements for possible adopted trail segments.
 6. The City Parks and Recreation Department obtains encroachment agreements from AMAFCA to use maintenance roads and other AMAFCA easements and rights-of-way for trail building.
 7. The City Parks and Recreation Department initiates easement or purchase agreements with property owner to build either a wheelchair accessible path from Juan Tabo or a wheelchair accessible parking lot.
 8. The City Parks and Recreation Department designs corridor signs and chooses trail furniture.
 9. The City Parks and Recreation Department designs and constructs a trail segment that coordinates with the arroyo concrete lining project proposed for construction in late autumn, 1991.
 10. The City Parks and Recreation Department implements projects in this portion of segment 3 to provide bicyclists and hikers access to bicycle and pedestrian routes presently terminating at Moon Street from the west and at Eubank from the east. Trail surfacing materials and landscaping treatments suggested for the entire corridor can be tested in this area.
 11. The City Parks and Recreation Department proceeds with either alternative one or two to connect the existing trail (from the North Diversion Channel to Jefferson) to a larger trail network.

- | | |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12. Segment 2 (Arroyo del Oso Park) | 12. The City Parks and Recreation Department designs trails to integrate well with other park facilities to be proposed in the future Arroyo del Oso Park Master Plan. Trail construction is to be phased to coordinate with other park projects. |
| 13. Segment 6 (Tramway to National Forest boundaries) | 13. This partially existing unimproved trail is legitimized when the corridor plan is adopted. The Open Space Division designs and constructs improvements to coincide with the National Forest Foothills Trail and Tramway bicycle/pedestrian trail construction. This segment and other planned trails allow equestrians to travel along the Bear Canyon Arroyo down to Juan Tabo. |
| 14. Segment 5 (Juan Tabo to Tramway) | 14. The Tramway underpass trail connection is completed as a part of the Tramway Boulevard widening project. The Open Space Division designs and constructs the corridor between the John B. Robert Dam and Tramway when contiguous Open Space and trail easements have been acquired. |
| 15. Segment 4 (Eubank to Juan Tabo) | 15. The City Parks and Recreation Department completes projects to make this corridor segment entirely wheelchair accessible. |
| 16. Segment 1 (Seagull Lane to Arroyo del Oso Park) | 16. The City Parks and Recreation Department builds this portion of Corridor Segment 1 to provide a concentrated residential, commercial and office area with a direct off-street route to trails at the western end of the Arroyo del Oso Golf Course. |
| 17. Segment 1 (I-25 to San Mateo) | 17. If the I-25 pedestrian/bicycle bridge is built in Segment 1, Parks and Recreation Department development of this portion of the trail creates a terminus for bicyclists and a trail link for pedestrians. The entire trail segment from the North Diversion Channel to San Mateo connects the many employees west of I-25 to services east of I-25. |
| 18. Segment 7 (The Bear Tributary) | 18. City Parks and Recreation Department and Public Works Department projects described prevent illegal motor vehicle access and identify the tributary maintenance roads as part of the Bear Canyon Arroyo Trail Corridor. |

CAPITAL PROJECT COST ESTIMATES

Starting in 1993, general obligation bonds, phased over several cycles will probably be the primary funding source for Bear Canyon Arroyo Corridor projects. The Mayor's proposed General Obligation Program in the Decade Plan includes funds for Recreational Trail development in each of the two-year bond cycles. Urban Enhancement Trust funds may also be available for some projects. Some trail landscaping and maintenance may be undertaken by adjacent neighborhoods or other groups interested in adopting trail segments. Funding for Open Space acquisition is being pursued jointly by the City, a non-profit organization and a neighborhood association.

Most of the following rough cost estimates were developed by the City of Albuquerque Parks and Recreation Department and the Open Space Division of the Land Resources and Regulation Department. These two City departments will be primarily responsible for implementing corridor projects, although some interdepartmental and interagency coordination will be necessary for street crossings, connections to and through County Public Works Department projects and National Forest projects. Interstate 25 pedestrian bridge cost estimates based on comparable projects were developed by the Public Works Department.

Contingencies, design costs and indirect costs such as the 5.6% indirect overhead costs are included in the summary of estimated capital project costs on page 87. These items could add 25% or more to the cost estimates shown. Cost estimates are not developed for some individual items such as extraordinary grading and land acquisition. Cost estimates are not developed at all for Segment 2 (Arroyo del Oso Park). Costs for trail design and construction being completed as part of a drainage design and construction contract for the Bear Canyon

Arroyo between Wyoming Boulevard and Moon Street may be less than shown.

The following assumptions apply to the estimated costs:

1) \$17 a linear foot is generally used for any width asphalt trail. This cost includes minimal grading, access control at streets, minimal railings, minor crossings at drainage rundowns and some revegetation for areas disturbed by trail construction. This cost is based on 1989 construction costs for the Bear Canyon Arroyo trail between Eubank and Morris which included added materials and reinforcement suitable for shared use by the City's Hydrology Division maintenance vehicles.

2) Sand seal cost estimates are old. The National Park Service expended \$5.54 per linear foot in an Arizona Park project in the early 1980's. Pilot projects initiated in Albuquerque will determine current costs.

3) Rest stops include costs for a simple shade structure and seating. Trees can be used for shade if a permanent irrigation system can be installed using adopt-a-park money or be extended from nearby City park facilities.

4) Rough estimates made for landscaping assume native and/or drought tolerant shrubs with a drip irrigation system that may be abandoned after a two year establishment period.

5) Extraordinary grading refers to anything more than leveling a trail with minimal cut and fill.

SUMMARY OF ROUGHLY ESTIMATED CAPITAL PROJECT COSTS (1990 \$'s)

The following rough cost estimates are meant only to assist in decisionmaking. Estimated total costs for the entire corridor may rise considerably when more detailed cost estimates including items like extraordinary grading and Arroyo del Oso Park construction are developed for engineering design and construction. The following corridor segment subtotals include contingencies, probable design costs and indirect costs. High estimates include optional items or the upper range of costs per item. (See pp.88-92 for itemized costs.)

SEGMENT 1 NORTH DIVERSION CHANNEL TO ARROYO DEL OSO PARK AND GOLF COURSE		LOW ESTIMATE	HIGH ESTIMATE
Alternative 1 (no bridge over Interstate 25)		\$ 200,700	\$ 237,200
These estimated costs do not include a possible Seagull Lane bridge widening, extraordinary grading or revegetating slopes between Seagull Lane and Arroyo del Oso Golf Course and Park.		+25%	+25%
		\$ 250,875	\$ 296,500
Alternative 2 (with a bridge over Interstate 25)		\$ 121,700	\$ 155,500
These estimated costs do not include the extra items listed above.		+25%	+25%
Contingencies, design costs and indirect costs are already included in the pedestrian bridge cost estimate.		+1,440,000	+1,440,000
		\$1,592,125	\$1,634,375
SEGMENT 2 ARROYO DEL OSO PARK AND GOLF COURSE			
The segment's cost estimates will be developed in a Park Master Plan.			
SEGMENT 3 WYOMING TO EUBANK			
These estimated costs do not include seeds for revegetating slopes or extraordinary grading.		\$ 344,300	\$ 396,900
		+25%	+25%
		\$ 430,375	\$ 496,125
SEGMENT 4 EUBANK TO JUAN TABO			
These estimated costs do not include possible land acquisition for extraordinary grading to provide wheelchair access.		\$ 60,250	\$ 90,150
		+25%	+25%
		\$ 75,313	\$ 112,688
SEGMENT 5 JUAN TABO TO TRAMWAY			
These estimated costs do not include open space acquisition, extraordinary grading for wheelchair access or seeding.		\$ 80,900	\$ 100,900
		+25%	+25%
		\$ 101,125	\$ 126,125
SEGMENT 6 TRAMWAY TO NATIONAL FOREST BOUNDARY and ALBERT SIMMS OPEN SPACE PARK			
These estimated costs do not include hitching posts or possible pedestrian bridges over eroded nuisance flow areas.		\$ 81,000	\$ 82,500
		+25%	+25%
		\$ 101,250	103,125
SEGMENT 7 BEAR ARROYO TRIBUTARY			
These estimated costs include only those items requested by the adjacent neighborhood.		\$ 11,000	\$ 11,000
		+25%	+25%
		\$ 13,750	\$ 13,750
ALL POSSIBLE COSTS ARE NOT INCLUDED.			
ESTIMATED TOTAL COST FOR ENTIRE CORRIDOR (without I-25 bridge)		\$972,688 to \$1,148,313	
ESTIMATED TOTAL COST FOR ENTIRE CORRIDOR (with I-25 bridge)		\$2,313,938 to \$2,486,188	

SEGMENT 1 - NORTH DIVERSION CHANNEL TO ARROYO DEL OSO PARK AND GOLF COURSE

1A. North Diversion Channel to Jefferson

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Sand Seal Coat Existing Trail (* optional)	3800 L.F.	\$ 21,000*
Signs	2 major & misc.	\$ 5,000
Rest Stops	6 @ \$2,500	\$ 15,000
Subtotal:		\$ 41,000*/\$20,000

1B. Alternative One: Jefferson to I-25

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Trail	2800 L.F.	\$ 47,600
Sand Seal Coat (* optional)	2800 L.F.	\$ 15,500*
Signs	2 major & misc.	\$ 5,000
Rest Stops	4 @ \$2,500	\$ 10,000
Pipe gates with removable bollards	2 @ \$700	\$ 1,400
Bridge (100+ feet)	one	\$ 50,000?
Subtotal:		\$ 129,500*/\$114,000

1B. Alternative Two: Jefferson to San Mateo

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Trail	1400 L.F.	\$ 23,800
Sand Seal Coat (* optional)	1400 L.F.	\$ 7,800*
Signs	1 major & misc.	\$ 3,000
Rest Stops	3-5 @ \$2,500	\$ 7,500-12,500
Pipe gate with removable bollard	1 @ \$700	\$ 700
Bridge over I-25 (includes wheelchair accessible approaches and contingencies, etc.)	one	\$1,440,000
Subtotal:		\$1,487,800*
		\$1,475,000/

1C. Seagull Lane to ADO

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Trail	1600 L.F.	\$ 27,200
Sand Seal Coat	1600 L.F.	\$ 9,000
Revegetate existing slopes	unknown	-----
Signs	misc.	\$ 500
Bridge	one	\$ 30,000
Sidewalk on east side of Seagull Lane (May require bridge reconstruction)	unknown	-----
Extraordinary grading required	unknown	-----
Subtotal:		\$ 66,700

TOTAL FOR SEGMENT 1:

(These estimates do not include all costs.)

with Alternative 1

with Alternative 2

\$ 237,200*(high)
\$ 200,700 (low)
\$1,595,500*(high)
\$1,561,700 (low)

SEGMENT 2 - ARROYO DEL OSO PARK

An Arroyo del Oso Park masterplan will include trails. The cost estimate for this segment will be developed as a part of the masterplan.

SEGMENT 3 - WYOMING TO EUBANK

3A. Wyoming to Moon

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Trail	2800 L.F.	\$ 47,600
Sand Seal Coat (* optional)	2800 L.F.	\$ 15,500*
Unpaved Running Trail	2800 L.F.	\$ 14,000
Pipe gates with removable bollards	2 @ \$700	\$ 14,000
Landscaping	5600 L.F.	
Shrubs	1120	\$ 28,000
Meters and UEC	2- 1"	\$ 6,400
Drip irrigation	lump sum	\$ 15,000
Mulch/native seed	?	
Subtotal		<u>\$ 49,400</u>
Signs	1 major & misc.	\$ 3,000
Rest Stops	4 @ \$2,500 ea.	\$ 10,000
Extraordinary grading for running trail	unknown	<u>-----</u>
Other:		
Exercise Course (* optional)	one	\$ 20,000*
Access Control	2800 L.F.	\$ 42,000
(bollards, boulders and plants)		
Subtotal:		\$215,500*/\$180,000

3B - Moon to Eubank (including the Upper Bear Tributary from Spain to the Bear Canyon Arroyo)

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Trail	3,080 L.F.	\$ 52,400
Sand Seal Coat (* optional)	3,080 L.F.	\$ 17,100*
Pipe gates with removable bollards	3 @ \$700	\$ 21,000
Landscaping		
Shrubs	620	\$ 15,500
Meters and UEC	(3) 3/4"	\$ 7,500
Drip irrigation	lump sum	\$ 10,000
Mulch		\$ 4,400
Subtotal		\$ 37,400
Signs	1 major & misc.	\$ 3,500
Rest Stops	4	\$ 10,000
Bridge (over Upper Bear Tributary)	one	\$ 40,000
Extraordinary grading	unknown	-----
Subtotal:		\$181,400*/\$164,300
TOTAL FOR SEGMENT 3:		\$396,900*(high)
(These estimates do not include all costs.)		\$344,300 (low)

SEGMENT 4 - EUBANK TO JUAN TABO

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Sand Seal Coat Existing Trail (* optional)	5400 L.F.	\$ 29,900*
Landscaping	3250 L.F.	
Shrubs	650	\$ 16,250
Meters and UEC	(3) 3/4"	\$ 7,500
Drip irrigation	lump sum	\$ 10,000
Mulch		\$ 4,000
Subtotal		\$ 37,750
Signs	2 major and misc.	\$ 5,000
Rest Stops	7 @ \$2,500	\$ 17,500
Land Acquisition or	unknown	-----
Extraordinary grading that may be necessary for wheelchair ramp construction at Morris and at Juan Tabo	unknown	-----
TOTAL FOR SEGMENT 4:		\$ 90,150*(high)
(These estimates do not include all costs.)		\$ 60,250 (low)

SEGMENT 5 - JUAN TABO TO TRAMWAY

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Open Space Acquisition	unknown	-----
Unpaved Wheelchair Accessible Mountain Bicycling and Running trail	5600 L.F.	\$ 29,000
Extraordinary grading for wheelchair access at Hardin Drive and John B. Robert Dam	unknown	-----
Unpaved Equestrian Loop Trail	5600 L.F.	-----
Horse rest stops with hitching posts	1 or 2	-----
Landscaping		
Seeding?	unknown # acres	-----
Signs: trailhead, trail identification, and interpretive	major & misc.	\$ 5,000
Rest Stops w/ shelters	8	\$ 25,000
Exercise Course (* optional)	1	\$ 20,000*
Pipe gates with removable bollards	3 @ \$700	\$ 21,000
Trail Entrances that prevent motorcycle entry	3 @ \$300	\$ 900
TOTAL FOR SEGMENT 5:		\$100,900*(high)**
** (These estimates are too incomplete to reflect this corridor segment's true cost)		\$ 80,900 (low)**

SEGMENT 6 - TRAMWAY TO THE NATIONAL FOREST BOUNDARY

6A. Bear Canyon Arroyo Corridor

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Unpaved Multiple Purpose Trail	5800 L.F.	\$ 29,000
Landscaping/Seeding	.2 acre	\$ 500
Signs: Trailhead/Interpretive	1 Major & Misc.	\$ 5,000
Rest Stops w/o shelters	4 @ \$500	\$ 2,000
Horse Rest Area	possibly one	
hitching post	unknown	-----
shade	1	\$ 500
water spout/piping/back flow preventor	possibly one to comply with C/SO-118(2) Cross Connection Prevention and Control Ordinance	\$ 1,500 - 3,000
Bridges	unknown	-----
Extraordinary Grading		
Erosion Control Structures	Misc.	\$ 500
Pipe gate with removable bollard	1 @ \$700	\$ 700
Subtotal:		\$ 39,700/41,200

6B. Albert Simms Open Space Park (Elena Gallegos)

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Asphalt Parking Pads for Wheelchair Access	1800 S.F.	\$ 2,000
Sand Seal Coat	1800 S.F.	\$ 1,400
Unpaved Wheelchair Accessible Trail	5280 L.F.	\$ 26,400
Landscaping/Seeding	.2 acre	\$ 500
Signs - Interpretive	Misc.	\$ 500
Rest Stops/Shelters	4 @ \$2,500	\$ 10,000
Erosion Control Structures	Misc.	\$ 500
Subtotal:		\$ 41,300
TOTAL FOR SEGMENT 6:		\$ 82,500 (high)
(This estimate does not include all costs.)		\$ 81,000 (low)

SEGMENT 7 - THE BEAR TRIBUTARY

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>
Pipe gates with removable bollards	5 @ \$700	\$ 3,500
Signs	3 large/misc.	\$ 7,500
TOTAL FOR SEGMENT 7:		\$ 11,000

Appendices



APPENDIX A
CITIZEN PARTICIPATION

CITIZEN PLANNING GROUP

The following list of Bear Canyon Arroyo Corridor planning participants includes people who either signed attendance lists at working meetings, design workshops and field trips or who requested that all meeting notices and information be mailed to them. Attendance lists from general information meetings are not included. Complete attendance lists may be examined in the Bear Canyon Arroyo Corridor Plan files stored in the Planning Department's Planning Division.

County Planning Commissioner
Joe Torres

Bernalillo County Commissioner
Pat Cassidy

Environmental Planning Commission
Joe Boehning

City Councillors
Herb H. Hughes, District 4
Richard Chapman, District 8

Beautification Committee
William Fanning

Greater Albuquerque Bikeways
Advisory Committee
Dianne Cress

Open Space Task Force
Clifford Anderson, Chairman
Matt Schmader
Viola Miller

Open Space Advisory Board
Jeanne House

Parks Board
Joanne Huff

Horseways, Inc.
Vicki McGill

Outdoor Adventures for Singles
Kalvin Barnard
Kathy Munster

Rio Grande Sierra Club
Chuck Wiggins
Rhoda Riley

Volunteers for the Outdoors
Kirk Minnick

Albuquerque Academy
Jim Kirkpatrick

ABQ Development
Fred Ambrogi
Joan Schaffer

Technical Vocational Institute
(Montoya Campus)
Marvin Burianek
Dale Kerby

Del Norte High School
Martha Bass, Principal

El Dorado High School
Russell Goff, Principal

La Cueva High School
Sue Griffith, Principal

Sandia High School
Marilyn Zanettie, Principal

Cleveland Middle School
Richard Beattie, Principal

Eisenhower Middle School
Keith Weathersby, Principal

Madison Middle School
Barbara Blackwell, Principal

McKinley Middle School
Eugene Johnson, Principal

Taft Middle School
Terrence Hannon, Principal

Arroyo del Oso Elementary School
Joe Lobato, Principal

Comanche Elementary School
Aurthur Romero, Principal

Governor Bent Elementary School
Marilyn Davenport, Principal

Hodgin Elementary School
Virgil Morgan, Principal

Hubert Humphrey Elementary School
Roy Phillips, Principal

Mission Avenue Elementary School
Richard Ulibarri, Principal

Osuna Elementary School
Sue Provonzie, Principal

S.Y. Jackson Elementary School
Jim Franklin, Principal

Academy Acres Neigh. Association
Zale Godfrey

Academy Estates Home Association
Sylvia Baron
John Peters

Academy Hills Park Neigh. Association
Jeffrey Braitwaite

Generic Neigh. Association
Chuck Kerlee

Glenwood Hills Neigh. Association
Gary Phipps
Richard A. Kavet

Gutierrez Neigh. Association
Tom Stewart

John B. Robert NH Park Association
Bennie Sujka

Little Turtle Homeowner's Association
Charles Anderson, Manager

Northridge Osuna Neigh. Association
Joseph C. Manuel

Tanoan Community Association, Inc.
Fran Shoemaker

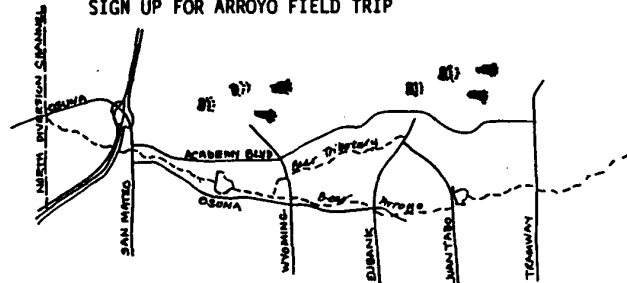
Dan Appel
Dr. Thomas Arvas
Sylvia Baron
Sam Beard
Eric Bendek
Linden Blachke
Judy Blandford
Mae Rose Bright
Patricia Burr
Betty Butler
Charles C. Campbell
Sam Carnes
Paul Cauwels
John Chambers
Michael Comow
David & Maryanne Cooley
John Cory
Mary Deyhle
Larry Diller
George & Roselyn DuFoor
Bryce Ekern
Mary Farmer
Dave & Peg Fletcher
Dr. Ron Fredrick
Tony & Carmen Gallego
Randall Gaylor
Laura Gilliom
Lee Goettsche
Hugo L. Guerich
Charles & Joanne Harris
Everett Heinonen
Jim Hilts
Dave and Bonnie Holten
Bob Johnson
Charles Johnson

Joseph Jones
Mr. & Mrs. Lyle F. Lane
Howard & Mildred Larson
Steve Mager
Richard Millard
Viola Miller
Bob Nail
Jay Odom
Bob O'Neal
J. Over
Mike Partridge
John Peters
Richard Rahm
Phil Renaud
Bob Renwick
Terry Revo
Spencer & Petra Sepponen
Gertrude Shea
Michael and Thea Skyer
Ron Slater
George Smith
Norma Sonntag
Bernie Sujka
Alan Sylvester
Ed Tate
Nancy Thobe
Steve Verchinski
Susan Verstynen
Rafael Vigil
Mr. & Mrs. Walker
Rebecca Wilson
Jim Windeck
Jack Wolfe
N. Woodall
Stephen Work

BEAR CANYON ARROYO AND BEAR TRIBUTARY CORRIDOR PLAN
1ST PUBLIC MEETING
WEDNESDAY, OCTOBER 14, 1987
7:30 - 9:30 P.M.
CLEVELAND MIDDLE SCHOOL
6910 NATALIE, N.E.

AGENDA

- 7:30 - 7:45 City Planning Staff
INTRODUCTIONS
PRESENTATION
Why is this plan being initiated?
What is an arroyo corridor plan?
Projected planning time line
Citizen involvement in the planning process
- 7:45 - 8:00 Mimbres, Inc. Staff
PRESENTATION
Adjacent land uses/ major roadways/ bikeways/ parks and schools
The Arroyo and the Tributary
Existing drainage treatments/ Current and proposed projects
Brief slide presentation
- 8:00 - 8:10 City Staff
EXPLAINS GROUP PROCESS FOR THE EVENING
SMALL GROUPS FORM
- 8:10 - 8:20 BREAK (ask questions, look at maps, sign up for Citizen Planning Group and Arroyo Field Trip)
- 8:20 - 8:50 Small Groups
DISCUSS AND LIST PLAN AREA ISSUES
- 8:50 - 9:10 Group Leaders
PRESENT LISTS OF ISSUES TO REASSEMBLED AUDIENCE
(5 minutes per group)
- 9:10 - 9:25 Mimbres, Inc. and City Staff
ANSWER QUESTIONS
- 9:25 - 9:30 Interested Citizens
SIGN UP FOR CITIZEN PLANNING GROUP
SIGN UP FOR ARROYO FIELD TRIP



IF YOU HAVE QUESTIONS AFTER THIS MEETING PLEASE CALL PAULA DONAHUE, CITY PLANNING PROJECT MANAGER, AT 768-3938.

ITINERARY
 BEAR CANYON ARROYO AND BEAR TRIBUTARY FIELD TRIP
 FOR CITIZEN PLANNING GROUP
 SATURDAY, OCTOBER 24, 1987

9:00 A.M. - NOON

MEET AT THE INTERSECTION OF THE BEAR ARROYO AND THE NORTH DIVERSION CHANNEL
 SOUTH SIDE OF OSUNA ROAD, WEST OF GULTON COURT IN LARGE PARKING LOT

STOPS ALONG THE BEAR CANYON ARROYO

COMMENTS

1. INTERSECTION OF THE BEAR CANYON ARROYO
 AND THE NORTH DIVERSION CHANNEL

 Osuna east to Kirscher
 Kirscher south
2. THE BEAR CANYON ARROYO AND KIRSCHER

 Following the proposed bike route -
 Kirscher south to Singer Boulevard,
 over I-25, east to McLeod, McLeod east
 to San Pedro, San Pedro north to
 Osuna, and Osuna west to apartment
 buildings between San Mateo and San
 Pedro
3. THE BEAR CANYON ARROYO AND URBAN AREA
 BETWEEN SAN MATEO AND SAN PEDRO

 Following the existing bike lane east
 on Osuna, then Wyoming north to Spain,
 Spain east to Camino del Sol and south
 to arroyo
4. THE BEAR CANYON ARROYO AND CAMINO DEL
 SOL

 Chambers St. along the arroyo east to
 Moon, Moon north to Spain, Spain east
 to Eubank, and Eubank south to arroyo
5. THE BEAR CANYON ARROYO AND EUBANK

 Eubank north to Spain, Spain east to
 Morris, and Morris south to arroyo
6. THE BEAR CANYON ARROYO AT MORRIS AND
 OSUNA (FUTURE PARK SITE)

 Osuna east to Edwards, Edwards north
 to Spain, one block east on Spain to
 Juan Tabo and Juan Tabo south to John
 B. Robert Dam and future park

7. JOHN B. ROBERT DAM

Juan Tabo north to Spain, Spain east
 to Lowell, Lowell south one block to
 La Vista Grande, La Vista Grande west
 to Vista Bonita, Vista Bonita south to
 arroyo

8. BEAR CANYON ARROYO AND VISTA BONITA

Reverse trip back to Spain, Spain east
 to Tramway, Tramway south to Manitoba,
 Manitoba west one block to Hardin,
 Hardin

9. BEAR CANYON ARROYO AT THE TRAMWAY
 BLVD. UNDERPASS

Hardin south to Manitoba, Manitoba
 east over Tramway to Glenwood Hills

10. ALBUQUERQUE ACADEMY LAND AND OPEN
 SPACE LAND AT GLENWOOD HILLS

Manitoba west to Juan Tabo, Juan Tabo
 north to Eubank, Eubank south one
 block to Spring Park Apts.

STOPS ALONG THE BEAR TRIBUTARY

11. ACADEMY PARK AT JUAN TABO AND EUBANK
 CONNECTION TO SPRING PARK APTS.

Eubank north one block to Admiral
 Halsey

12. ACADEMY PARK AT ADMIRAL HALSEY

Admiral Halsey west to Antares,
 Antares north to Academy, Academy west
 to Moon, and Moon south to the
 tributary

13. THE BEAR TRIBUTARY AND MOON

Moon north to Academy, Academy west to
 Wyoming, and Wyoming south to the
 tributary

14. THE BEAR TRIBUTARY AND WYOMING

Wyoming south to Spain, Spain west one
 block to Arroyo del Oso Park

15. ARROYO DEL OSO PARK WHERE THE BEAR
 TRIBUTARY EMPTIES INTO THE BEAR CANYON
 ARROYO

Back to the Diversion Channel

BEAR CANYON ARROYO CORRIDOR PLAN MEETING
CITIZEN PLANNING GROUP
 AND
TECHNICAL TEAM
 WEDNESDAY, NOVEMBER 4, 1987
 7:00 - 9:00 P.M.
 CLEVELAND MIDDLE SCHOOL
 6910 NATALIE, N.E.
 ROOM 110

PURPOSES OF THE MEETING

To establish a common base of information.
 To refine the issues list begun October 14, 1987.

AGENDA

- 7:00 INTRODUCTIONS/ REVIEW 1ST MEETING AND FIELD TRIP
- 7:15 SLIDE PRESENTATION
- 7:30 REVIEW AND REFINES ISSUES LISTS
- 8:00 AGENCIES PRESENT POLICIES AND RANGE OF OPTIONS (5 minute presentations with question and answer period after each)
1. Channel Treatments
 2. Land Acquisition
 3. Transportation and Circulation
 4. Planned Recreational Uses and Other Possibilities
 5. Security and Liability
- 8:55 SUMMARY

THE NEXT CITIZEN PLANNING GROUP MEETING WILL BE HELD WEDNESDAY, NOVEMBER 18TH, 7-9 PM, CLEVELAND MIDDLE SCHOOL, MEDIA CENTER

PURPOSE OF THE MEETING - TO FORMULATE PLAN GOALS AND ISSUES

IF YOU HAVE QUESTIONS, PLEASE CALL PAULA DONAHUE, PROJECT MANAGER, 768-3938.

BEAR CANYON ARROYO CORRIDOR PLAN MEETING
CITIZEN PLANNING GROUP
 WEDNESDAY, NOVEMBER 18, 1987
 7:00 - 9:00 P.M.
 CLEVELAND MIDDLE SCHOOL
 6910 NATALIE, N.E.
 MEDIA CENTER

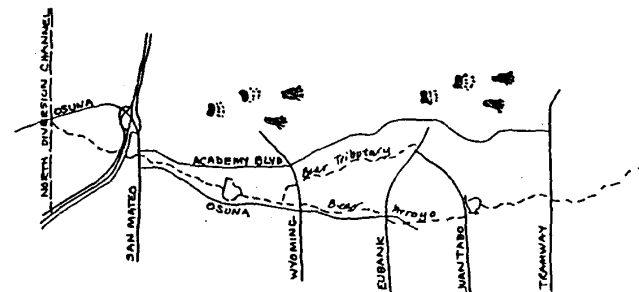
PURPOSE OF THE MEETING

TO FORMULATE PLAN GOALS AND OBJECTIVES.

AGENDA

- 7:00 INTRODUCTIONS/REVIEW PLANNING STEPS Paula Donahue
 DIFFERENCE BETWEEN GOALS AND OBJECTIVES Edith Katz
- 7:15 GROUPS OF THREE FORM TO DISCUSS POSSIBLE GOALS
- 7:45 TWO GROUPS FORM TO LIST GOALS AND OBJECTIVES
- 8:15 BREAK (Staff share similarities on two lists)
- 8:30 WHOLE GROUP DISCUSSES AND BEGINS TO REFINES LISTS

WE WILL MEET AGAIN WEDNESDAY, DECEMBER 9, 1987 - SAME PLACE, SAME TIME FOR A DESIGN WORKSHOP. BEFORE THAT MEETING YOU WILL RECEIVE A GOALS AND ISSUES DRAFT TO REVIEW AND A PACKET OF MATERIALS EXPLAINING THE DESIGN WORKSHOP.



IF YOU HAVE QUESTIONS AFTER THIS MEETING PLEASE CALL PAULA DONAHUE, CITY PLANNING PROJECT MANAGER, AT 768-3938.

BEAR ARROYO CORRIDOR PLAN
DESIGN WORKSHOP

Wednesday, December 9, 1987
7:00 p.m. - 10:00 p.m.
Cleveland Middle School Media Center

The Community Design Workshop is an opportunity to bring your ideas into the design process. You can be part of a process to design the Bear Canyon Arroyo Corridor Plan.

At the workshop you will become part of a team comprised of other members of your community. You will have a scaled plan view of the arroyo plus a kit of material composed of simple things like paper, cardboard, toothpicks, astroturf, styrofoams, markers. These will serve as elements from which you can construct a design on the plan drawing. From these materials you will be able to represent trees, grass, bridges, benches, walkways, walls, trails.

With the Designers and City Planners to help and facilitate, you will have a chance to take part and let us know what your ideas are.

Should you have any questions, please contact Paula Donahue at 768-3938.



BEAR CANYON ARROYO AND TRIBUTARY CORRIDOR PLAN
CITIZEN PLANNING GROUP
WILL MEET TO DISCUSS PRELIMINARY
DRAFT PLAN PROPOSALS

WEDNESDAY, FEBRUARY 17, 1988
7:00 - 9:00 P.M.
CLEVELAND MIDDLE SCHOOL MEDIA CENTER
6910 NATALIE, N.E.

If you have any questions, please call Paula Donahue,
Project Manager, City of Albuquerque Planning
Department, 768-3938.

ISSUES LISTS
1ST PUBLIC MEETING
BEAR CANYON ARROYO AND BEAR TRIBUTARY CORRIDOR PLAN
WEDNESDAY, OCTOBER 14, 1987

ISSUES

SUGGESTIONS

OSUNA, FROM SAN PEDRO TO WYOMING

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. Keep bicyclists off Wyoming 2. Golf balls cross Osuna Road 3. Maintenance on golf course noisy at 4 a.m. 4. Need more street lighting between San Pedro and Louisiana 5. Right hand traffic turns off Osuna are dangerous for bicyclists 6. Cars use bike lanes 7. Children and bike lanes? | <ol style="list-style-type: none"> Connect Osuna bike lane to Spain at Pennsylvania through Arroyo del Oso Park Rearrange golf tee placement Install raised pavement markers on bike lane striping |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

WYOMING TO EUBANK

1. Erosion in arroyo between Eubank and Wyoming
2. Dirt bikes at all hours in arroyo
3. Trash accumulating near Eubank
4. Illegal waste dumping (oil, tires, trash)
5. Erosion exposing utilities
6. Moon to Wyoming undercutting banks and silting in
7. Mosquito problems between Eubank and Wyoming

8. Where will the bike access be?
A trail on the arroyo
A lane on Osuna
Will the arroyo trail be for pedestrians?
or pedestrians and bicyclists
will this cause conflict?
What materials will be used?
9. Trail maintenance and landscaping?
By whom, at what hours?

10. The channel needs to be narrowed Gabion or riprap the arroyo banks
11. Need more street lighting on Osuna
12. Accumulation of brush, dead grass and fire works being fired all year is dangerous
13. Stagnant water at Eubank

EUBANK TO JUAN TABO

1. Erosion at Eubank and Morris (South side of Arroyo)
2. Erosion on Eubank at ballonworld
3. Standing water at Eubank and Osuna
4. Graffiti and trash at Eubank and Osuna
5. Nice to have a bike and pedestrian trail from the Rio Grande to the foothills
6. Need access across Eubank and across Juan Tabo
7. Traffic control needed at Eubank and Osuna
8. Bicycle traffic - very fast going down, slow going up. Do we need to separate lanes for bikcyclists and pedestrians? i.e. down - bikes only, up - bikes and peds
9. Need erosion control on bicycle trail
10. Will need trees, benches and drinking fountain along trail

11. The arroyo between Eubank and Wyoming is very narrow - How will a recreational trail be handled there?
12. The arroyo needs better maintenance
13. What is the property ownership of the arroyo?
14. Policing How will trail system be made safe?

JUAN TABO EAST

1. Can the City acquire private properties in the flood plain (Juan Tabo east) for Open Space
2. Ameriwest wants to have their property acquired
3. Need to coordinate and clarify future development (private and public) in the arroyo
4. Broke Off channel is eroding is this listed as a potential bike path?
5. Prohibit motorized vehicles
6. Designate a hang glider landing zone
7. Use native landscaping (no trees)
8. Prohibit lights in the arroyo
9. Who will maintain trails, landscaping, and the arroyo
10. How will trails cross Juan Tabo and Tramway
11. Flows from Broke-Off Channel and Channel further east are undercutting the banks just east of John Roberts Dam
12. Top soil removed from dam area has displaced wild life and caused increased bank erosion
13. Dam was filled with water this spring is it sufficient for 100 year flows?

GOALS AND OBJECTIVES

GOAL I. TO CREATE A MULTI-USE CORRIDOR SPACE EMPHASIZING A NATURAL APPEARANCE ALONG THE ARROYO DRAINAGEWAY FOR PUBLIC USE AND ENJOYMENT AS A RELIEF TO URBANIZATION.

General Objective: Identify land for acquisition which has value as a visual resource.

General Objective: Maintain and/or restore where possible a natural or semi-native appearance to the arroyo corridor. Low impact/low intensity use should be a general design guideline in the corridor plan.

Specific Objective: Utilize a native or appropriate plant palette that blends in with the grasslands or riparian vegetation of the site. Where appropriate plant more intensively with introduced species to achieve a strong effect with southwestern character. Where appropriate restore natural grassland vegetation.

Specific Objective: Identify desirable riparian and wildlife habitats for conservation, restoration or enhancement.

Specific Objective: Identify areas of natural beauty for preservation, restoration or enhancement.

Specific Objective: Locate paths or trails to minimize impact upon remnants of existing vegetation if possible.

Specific Objective: Limit recreational uses to what is ecologically sound and will not be destructive to fragile soils and grassland ecosystems.

Specific Objective: Identify areas appropriate for more intensive development.

GOAL II. CREATE LINKAGE BETWEEN RECREATIONAL OPEN SPACE, EMPLOYMENT CENTERS, RESIDENTIAL AREAS, SCHOOLS AND OTHER ACTIVITIES IN THE CITY PROVIDING ALTERNATIVE ROUTES TO DESTINATIONS THROUGH PLEASANT AND ENJOYABLE SPACES.

General Objective: Create an easily accessible and continuous trail system for use by cyclists or pedestrians.

Specific Objective: Provide trail linkage between the Sandia foothills at the eastern portion of the site with urban development along the length of the arroyo.

Specific Objective: Provide multi-purpose trails for pedestrians, joggers, bicyclists and equestrians.

Specific Objective: Identify areas of corridor access by user type.

Specific Objective: Identify land to be acquired for additional R.O.W. to provide the continuity required.

Specific Objective: Provide continuity by establishing arterial crossings for users at Tramway, Juan Tabo, Eubank, Wyoming, San Mateo, I-25 and the North Diversion Channel. (Crossings need to be either at grade, below grade, overhead or signalized.)

Specific Objective: Make access frequent and easily identifiable.

Specific Objective: Reevaluate proposed bicycle routes within the arroyo corridor particularly at the San Mateo and I-25 crossings, and the termination at North Diversion Channel.

Specific Objective: Identify destinations which may be desired along the trail and provide access to these points possible.

GOAL III TO MAXIMIZE THE RECREATIONAL POTENTIAL OF THE ARROYO CORRIDOR.

General Objective: Identify the type and location of active recreational facilities which would be appropriate uses within or adjacent to the arroyo, enhancing the multiple-use of the corridor.

Specific Objective: Identify a location for an interpretive trail system to foster awareness of native plant biology, urban drainage systems and cultural resources.

Specific Objective: Identify location(s) for exercise (par course) trail(s) within the larger trail linkage system to be used by joggers and/or walkers.

Specific Objective: Identify a staging area for equestrians to load and unload their horses before they access the trails.

Specific Objective: Acknowledge the existing hang glider use in the area east of John Robert Dam and enhance this area for use.

General Objective To Identify and locate passive uses appropriate for the corridor space.

Specific Objective: Identify rest stops and park space along the linear trail system. Allow for uses such as picnicing, sunbathing, sitting on benches, reading a book on a grassy slope, etc. Balance these activities with local park facilities.

Specific Objective: Provide standards for shade and/or structures to modify the climate and offer a pleasant, sheltered environment at selected locations.

Specific Objective: Identify locations of small nodal park-like spaces which occur at intervals the length of the arroyo and would be maintained by neighborhood associations.

General Objective: Recognize the linear character of the arroyo corridor space and that one of its main features may be the casual, informal strolling activity that it will invite. Promote this quality through design recommendations.

Specific Objective: Develop guidelines to make access and destination points easily perceived and well-defined, fostering the sense of a spatial sequence of events.

Specific Objective: To use planting design with variations to achieve areas with different impact and character to further the spatial progression of the design.

GOAL IV. TO PROVIDE FOR THE SAFETY, WELFARE AND SECURITY OF THE PUBLIC USERS OF THE ARROYO AND ITS FACILITIES.

General Objective: To achieve a recreational space that is perceived to be safe, clean, well maintained and readily usable which will instill pride and caretaking initiatives in the public.

Specific Objective: Make arroyo safe from vehicles, especially prohibit motor bikes in this arroyo. Allow limited vehicle access as required for maintenance, utilities, or emergency vehicles.

Specific Objective: Develop guidelines to minimize vandalism or possible threats to the well-being of users and adjacent landowners.

Specific Objective: Identify some sections of trail to be lit for night use, if any.

Specific Objective: Make access points frequent and easily recognized.

General Objective: To identify appropriate crossing concepts at arterials that provide for pedestrian, bicyclist and equestrian safety.

Specific Objective: Coordination with AMAFCA, Public Works and State Highway Dept. to determine acceptable crossing alternatives at each arterial. Alternatives include below grade, at grade with signalization or above grade crossings.

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

July 18, 1990

REF. NO. _____

TO: BEAR CANYON ARROYO CORRIDOR PLAN TECHNICAL TEAM MEMBER (See
Distribution ²)
FROM: Paula Donahue, Project Planner, Planning Division, Planning Department
SUBJECT: First Draft Review, Bear Canyon Arroyo Corridor Plan

Enclosed is a Bear Canyon Arroyo Corridor Plan draft for your review and comment. Written Technical Team comments are due Thursday, August 2, 1990. Comments received by this date will be incorporated into a public meeting presentation Wednesday, August 8th.

The same draft has been released to the public for simultaneous review. If I receive public and technical team comments requiring interdepartmental and multiple agency solutions, I will call a Technical Team Meeting sometime in August.

The public meeting on the 8th will be held at Cleveland Middle School Media Center, 6910 Natalie NE from 7 - 9 p.m. The public has not met to discuss this plan since 1988, therefore plan purpose, background and scope will all need to be discussed for newcomers. If you wish to attend, your support will be welcome.

Thank you for your time. If you have any questions, please call me at 768-3932. Mail or deliver comments to:

Paula Donahue
City of Albuquerque, Planning Department, Planning Division
(4th floor) Albuquerque/Bernalillo County Government Center
P.O. Box 1293
Albuquerque, New Mexico 87103

Attachment: Distribution List

BEAR CANYON ARROYO CORRIDOR PLAN TECHNICAL TEAM MEMBER DISTRIBUTION
July 18, 1990
Page 2

Distribution:

ALBUQUERQUE METROPOLITAN FLOOD CONTROL AUTHORITY
Cliff Anderson
ALBUQUERQUE PUBLIC SCHOOLS
Vicky Kay
Sam Adamo
BUILDING CODES CONSULTANT, Ellen Harland

CITY OF ALBUQUERQUE DEPARTMENTS

Environmental Health Department, Fred Malone
Legal Department, Bob White
Office of Neighborhood Services
Mary Lou Haywood-Spells
Mary Davis,
Parks and Recreation Department
Diane Scena
Pat Westbrook
Janet Salers
Planning Department
Dan Martinez, Capital Implementation Program
Jay Hart, Open Space Division
Barbara Baca, Open Space Division
P.J. Ruble, Property Management
Doug Crandall, Zoning Enforcement
Public Works Department
Albert Gonzales, (Arroyo Maintenance)
Jean Witherspoon, (Hydrology and Special Projects)
Fred Aguirre, (Hydrology)
Dwayne Sheppard, (Hydrology)
Dan Hogan, (Hydrology)
Steve Boberg (Hydrology)
Bill Coleman, (Traffic Operations)
Dan Soriano, (Traffic Operations)
Dave Harmon, (Transportation Development)
Jerry Widdison, (Transportation Planning)
Joe Luehring (Utilities)
Bill Westmoreland, (Water and Sewer)
Doug Dally (Water Utilities)
COUNTY PUBLIC WORKS DEPARTMENT,
Carl Lovato
Steve Miller
COUNTY PLANNING AND ZONING, Frank Sandoval
CIBOLA NATIONAL FOREST SANDIA RANGER DISTRICT
Floyd Thompson
John Hayden
GOVERNOR'S COMMITTEE ON CONCERNS OF THE HANDICAPPED
Judy Myers
Hope Reed
SOIL CONSERVATION SERVICE, John Werner

NEW MEXICO STATE HIGHWAY TRANSPORTATION DEPARTMENT,
Sayeed Afsar

**WELCOME
TO THE FIRST DISCUSSION OF THE JULY 1990 DRAFT
BEAR CANYON ARROYO CORRIDOR PLAN**

CLEVELAND MIDDLE SCHOOL MEDIA CENTER
6910 NATALIE NE
WEDNESDAY
AUGUST 8, 1990
7 - 9 P.M.

AGENDA

- 7:00 INTRODUCTIONS**
Staff, Citizen Planning Group, Technical Team members and meeting attendees
- MEETING PROCESS**
- 7:15 PLAN PURPOSE**
What is the plan meant to accomplish?
- POLICY FRAMEWORK**
Why is a recreational trail corridor being planned along the Bear Canyon Arroyo and Bear Tributary? How does this plan relate to other adopted plans and policies?
- PLANNING PROCESS**
How did this draft develop? How and when does the draft get amended? How does the plan get adopted? How can individuals participate? How will projects and policies in the draft be implemented?
- 7:30 A BRIEF OVERVIEW OF THE DRAFT**
Goals
Constraints and Opportunities
Policies, Regulations and Guidelines
Project Proposals
Plan Implementation
- 8:00 BREAK**
A chance to stretch, look at the map, have some refreshments, ask questions and buy draft plans
- 8:15 QUESTIONS AND ANSWERS/ COMMENTS AND SUGGESTIONS**
Concerns, suggestions, etc.
- 9:00 Schedule future meetings and adjourn.**

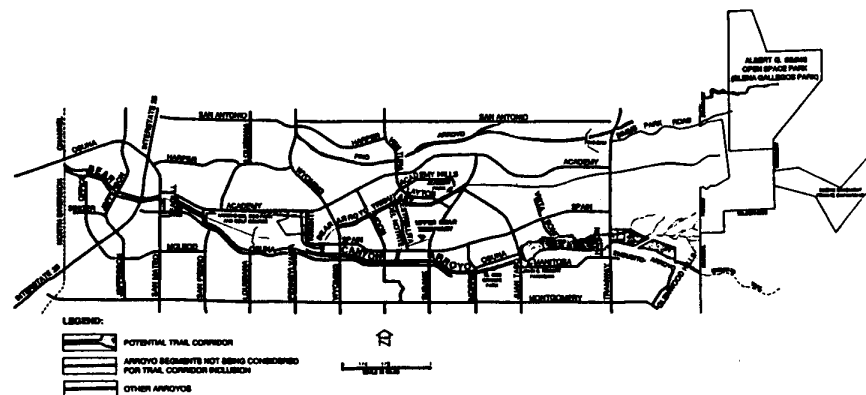
**YOU ARE INVITED TO A PUBLIC MEETING TO DISCUSS THE FIRST DRAFT
OF THE
BEAR CANYON ARROYO CORRIDOR PLAN.
PLEASE INVITE YOUR NEIGHBORS.**

CLEVELAND MIDDLE SCHOOL MEDIA CENTER
6910 NATALIE NE
WEDNESDAY
AUGUST 8, 1990
7 - 9 P.M.

The plan's recommended policies and capital projects lay the groundwork for constructing a trail corridor to serve long distance hikers, pedestrians, runners, bicyclists, equestrians and people who use wheelchairs.

Draft plans may be purchased for \$1 at the Planning Division, Planning Department, 4th floor, City/County Government Center, 1 Civic Plaza or reviewed in the reserve section of the following public libraries:
Downtown (5th and Copper), Erna Fergusson Branch (3700 San Mateo NE), Juan Tabo Branch (3407 Juan Tabo NE), Wyoming Regional (8205 Apache NE). If you have any questions, please call Paula Donahue at 768-3932.

Please send written comments by August 24, 1990 to:
Paula Donahue
Bear Canyon Arroyo Corridor Plan Project Planner
City of Albuquerque, Planning Department, Planning Division
P.O. Box 1293
Albuquerque, New Mexico 87103





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 22, 1990

Larry Blair, Executive Engineer
Albuquerque Metropolitan Flood Control Authority
2600 Prospect NE
Albuquerque, New Mexico 87107

Dear Mr. Blair:

Thank you for taking the time to review the Bear Canyon Arroyo Corridor Plan draft. I look forward to presenting the plan's major concepts to the AMAFCA Board on September 27th.

Enclosed are six copies of the draft and a planning timeline (5 extra for board members). The pages you may be most interested in are as follows:

pp.1-3	Introduction and Goals
pp.9-11	Corridor Potential (North Diversion Channel - I-25)
pp.20-21	Corridor Potential (Juan Tabo - Tramway)
pp.27-31	Proposed Trail Networks
pp.32-33	Recommended Drainage Policies
pp.48-51	Proposed Projects (North Diversion Channel - I-25)
pp.61-63	Proposed Projects (Juan Tabo - Tramway)

Thanks for your time. If you have questions or would like to discuss proposed policies and projects, please call me at 768-3932.

Sincerely,

Paula J. Donahue

Paula J. Donahue

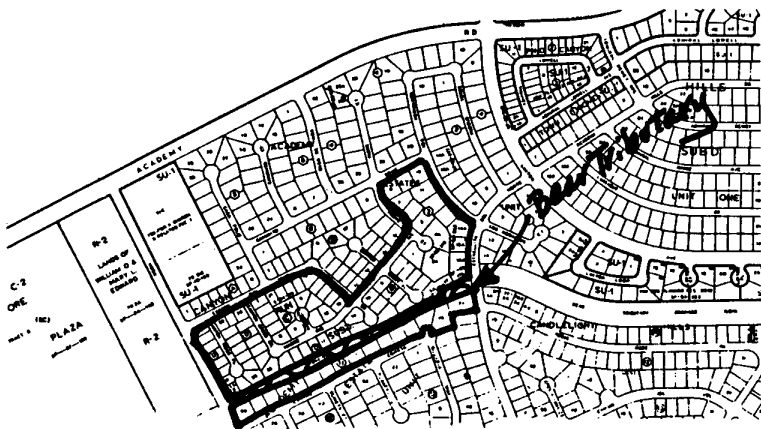
AN EQUAL OPPORTUNITY EMPLOYER

YOU ARE INVITED
TO A MEETING COSPONSORED BY
THE ACADEMY HILLS PARK NEIGHBORHOOD ASSOCIATION
AND
THE CITY OF ALBUQUERQUE PLANNING DEPARTMENT

Please come to
Heights Cumberland Presbyterian Church
8600 Academy NE, room 403
Wednesday, October 10, 1990
7:30 - 9:00

At a Bear Canyon Arroyo Corridor Plan meeting held 8/8/90, people living between Estrellita del Norte and Moon expressed concerns about proposed Bear Tributary trail location and design. On the 10th we'll discuss these concerns and others and work together to find solutions. Albuquerque Police Department Officer Stephen Stevens, chairman of the Crime Prevention Through Environmental Design Task Force (CPTED), Parks and Recreation Department Project Coordinator, Diane Scena, and Paula Donahue, project planner for the Bear Canyon Arroyo Corridor Plan will be there to answer questions, offer suggestions and work with the neighborhood.

Flyers are being distributed to people living within the areas outlined on the map below. Invite other interested parties if you wish.



WELCOME TO A MEETING CO-SPONSORED BY
THE ACADEMY HILLS PARK NEIGHBORHOOD ASSOCIATION
AND
THE CITY OF ALBUQUERQUE PLANNING DEPARTMENT

Heights Cumberland Presbyterian Church
8600 Academy NE
Southern entrance of southern building
Room 403
Wednesday, October 10, 1990
7:30 - 9:00

At a Bear Canyon Arroyo Corridor Plan meeting held 8/8/90, some people living between Estrellita del Norte and Moon expressed concerns about proposed Bear Tributary trail location and design. Tonight we'll discuss these concerns and others and work together to find solutions.

The following City staff are here tonight to answer questions and share information:

Officer Stephen Stevens, Albuquerque Police Department Chairman of the Crime Prevention Through Environmental Design Task Force (CPTED)
Diane Scena, Parks and Recreation Department Project Coordinator
Susan Kelly, Planner and staff to the Greater Albuquerque Trails Advisory Committee
Paula Donahue, Project Planner for the Bear Canyon Arroyo Corridor Plan

AGENDA

- 7:30 Introductions/ Proposed Citywide trail networks
- 7:45 Review and add to existing list of discussion issues
- 8:00 Discuss issues

Handout and discuss the property value and crime findings of the Burke-Gilman Trail Study

Do adjacent trails influence property values?
Do adjacent trails have an effect on crimes vs. property or persons?

Designing trail corridors for adjacent properties' security and privacy and trail user safety

Making trails an integral, positive and enjoyable part of neighborhoods
Trail surveillance and access/ private property privacy and security using landscaping, lighting, walls and gates

Protecting existing views
Other Issues

- 8:45 Wrap up session
Where do we go from here?

HANDOUTS

Evaluation of the Burke-Gilman Trail's Effect on Property Values and Crime
Proposed Trail Network Map



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

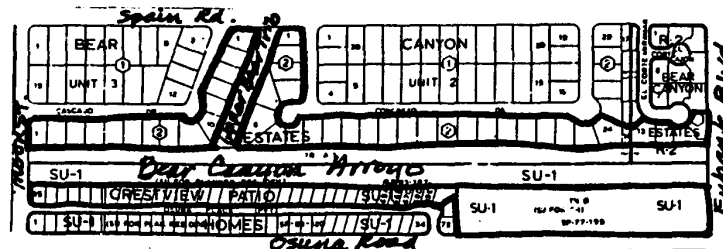
YOU ARE INVITED
TO A MEETING WITH
THE CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT
HYDROLOGY DIVISION

Please come to
Sandia High School Lecture Hall
7801 Candelaria NE (1/2 block east of Pennsylvania)
Thursday, October 18, 1990
7:30 - 9:00

At a Bear Canyon Arroyo Corridor Plan meeting held 8/8/90, people living adjacent to the north side of the Bear Canyon Arroyo between Moon and Eubank expressed concerns about the existing drainage design for this stretch of the Bear Canyon Arroyo and Upper Bear Tributary. On the 18th we'll discuss these concerns.

Dan Hogan, Manager of the Public Works Department Hydrology Division will be there to discuss drainage, answer questions, offer suggestions and work with the neighborhood. Paula Donahue, project planner for the Bear Canyon Arroyo Corridor Plan (a recreational trail plan) will also be there to answer questions about trail projects and policies in the July 1990 plan draft.

Flyers are being distributed to people living within the areas outlined on the map below. Invite other interested parties if you wish.





City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 24, 1990

Dear Bear Canyon Arroyo Corridor Plan Participants:

First, thanks to all of you who patiently endured the heated library and bad microphone during the Bear Canyon Arroyo Corridor Plan meeting August 8th. Thanks in advance for your continued involvement in reviewing proposed draft revisions.

Enclosed is a compilation of all the comments I have received to date from residents, property owners, Technical Team members and other interested parties. Comment pages are divided into two columns. The left column contains comments arranged in the same order as the draft plan. Please look over the corresponding proposed draft revisions in the right column. If you have additional suggestions or feel we should meet as a group to discuss recommended revisions before I revise the current draft, just give me a call by Friday, November 9th at 768-3932.

Even if we do not meet before I revise the draft, we will have one last public meeting to discuss changes made to the revised draft before I submit it for Interagency Review before City and County hearings.

Plan Activities During The Last Two Months

Since the August 8th meeting I have presented the draft to seven boards and committees:

- Greater Albuquerque Bicycle Advisory Committee
- Open Space Advisory Committee
- Beautification Committee
- Greater Albuquerque Trails Advisory Committee
- The Parks Advisory Board
- Horseyways, Inc.
- Albuquerque Metropolitan Flood Control Authority Board

In general, these groups agreed with the plan's concepts. I will present the final draft to several of these same committees and boards for endorsement before the public hearing cycle.

Although most comments were received in August, I have continued to get letters, notes and memos throughout the fall. Many of the questions, comments and suggestions I have received just require editing and minor changes to the plan. Others, however, have required additional research and some additional meetings. During the August 8th meeting, three major concerns were brought to my attention:

October 24, 1990
Page 2

1. Several residents living adjacent to the Bear Tributary were concerned about privacy and crime because of unusual circumstances. Their houses are very close to the arroyo maintenance road the future trail is proposed to share. Their homes seem even closer because their properties are physically lower than the existing maintenance road.

To adequately respond to these concerns, a meeting co-sponsored by the Academy Hill Neighborhood Association and the City Planning Department was held on October 10th.

The following City staff were there to answer questions and share information:
Officer Stephen Stevens, Albuquerque Police Department Chairman of the Crime Prevention Through Environmental Design Task Force (CPTED)
Diane Scena, Parks and Recreation Department Project Coordinator
Susan Kelly, Planner and staff to the Greater Albuquerque Trails Advisory Committee
Paula Donahue, Project Planner for the Bear Canyon Arroyo Corridor Plan

Crime statistics for the City, Police Beats and properties adjacent to arroyos were compared and analyzed. A Seattle report about the effect of the Burke-Gilman Trail on property values and crime was distributed. This research and a presentation by Officer Stephen Stevens indicated that proximity to either arroyo rights-of-way with or without trails does not increase the incidence of crimes. The Burke-Gilman Report also showed that properties adjacent to that trail continued to increase in value and that preventing access for unauthorized motorized vehicles after that trail was established actually helped decrease the incidence of certain crimes.

Officer Stevens explained the differences between designing for crime prevention and for privacy. Surveillance and access are important elements in crime prevention. High walls and screening often conflict with crime prevention while installing yard gates, planting thorny plants at property perimeters and establishing a sense of neighborhood ownership of the public space can help crime prevention.

The residents at the meeting determined that privacy is one of the most important issues for them at this time. As a result of this discussion meeting participants agreed that the trail be de-emphasized on the Bear Tributary and that the following revisions be made to the plan:

- Continue to include the Bear Tributary in the Bear Canyon Arroyo Corridor. (Sign and gate each segment.)
- Use the existing maintenance road as is for the trail.
- Do not encourage bicyclists to use this trail segment.
- Install maintenance road gates that allow pedestrian entry at all street intersections.
- Install only one rest stop from Estrellita del Norte to Moon and locate it on the northeast corner of Estrellita del Norte and the Tributary.
- Provide no additional plantings, benches or trees along the Tributary trail.
- Place this trail segment in last place for Bear Canyon Arroyo Corridor Plan implementation.
- Encourage the neighborhood to reexamine this space as a neighborhood amenity so that cooperative neighborhood planting and trash collection activities can occur in the future.

AN EQUAL OPPORTUNITY EMPLOYER

October 24, 1990
Page 3

2. Residents adjacent to the north side of the Bear Canyon Arroyo between Moon and Eubank were concerned with existing drainage design and lack of additional drainage plans for this segment of the arroyo.

On October 18th a neighborhood meeting was held at Sandia High School. Dan Hogan, Manager of the Public Works Department Hydrology Division discussed residents' concerns and explained how drainage design works in this section of the arroyo and how design and funding decisions are made. Neighborhood involvement in weed and trash control was also discussed.

3. Residents adjacent to the future trail segment between Juan Tabo and Tramway were concerned about the delay in acquiring the entire flood plain as Open Space.

When I presented the plan to the Open Space Advisory Board on August 21st, I stressed the need for Open Space acquisition between Juan Tabo and Tramway. Laura Gilliom, Representative from the John B. Robert Neighborhood Association, also attended and spoke briefly. I have written to and spoken with Skootie Jeffers from The Albuquerque Conservation Trust (ACT). At a recent ACT meeting, the John B. Robert Neighborhood Association and ACT agreed to form a joint committee to work on this issue.

Before and since the August meeting, planning staff have also been actively working with the Sandia Ranger Station of the Cibola National Forest to work on alignments and connections for a proposed Sandia Foothills Trail. This trail should eventually connect to the Bear Canyon Arroyo Corridor. I have also been working with City of Albuquerque Property Management Division to clarify property ownership and restrictions within existing easements and rights-of-way. This information will be included in the final draft.

Dates have not yet been set for the public meeting or the public hearings. You will be notified by mail. Thank you for your patience. I hope to hear from you soon.

Sincerely,



Paula Donahue

Enclosure: Comments/Possible Draft Revisions

October 24, 1990
Page 4

DISTRIBUTION LIST
Names From the August 8, 1990 Meeting Sign In Sheet & Others

Ninon Adams	Lee Jones
Albuquerque Academy, Business Manager	Martha & Jerry Kaufman
Fred Ambrogi, ABQ Development	Jeanne & Jerome Kaufman
David Ansell	Kendrick Kerns
Dan Appel	M. Kishiyama
Richard & Linda Avery	Ardith Kotzen
Robert & Eileen Baca	Howard Larson
Kathy Baldwin	Lommasson
Pat Barberis	J. & C. MacLeigh
Kalvin Barnard, Outdoor Adventures for Singles	Marilyn Mages
Sam Beard	Jane & Marjorie Marke
Eric & Ida Bender	McMahan
Howard Benson,	Bob Meagher, Old Timers Remote Control Model Airplanes
Albuq. Soaring Assoc.	Kirk Minnick, Volunteers for the Outdoors
Belva Butterfield, Horseways, Inc.	Sidney & Norma Morris
Geroge Carey	Kathy Munster, Outdoor Adventures for Singles
I. A. Christenson, TV-I	New Mexico Mountain Club
June & Jay Cohn	Terry Nobbe, Greater Albuquerque Bicycle Advisory Committee
Marianne L. Cooley	Josi & Azan Noyes
Diane Cress, Greater Albuquerque Bicycle Advisory Committee	Jack & Betty Over
Percy & Laura Deal	Ann Parey
Yvonne Dempsey	Mike & Marti Partridge
Joann Dillon	Lou Delle Pongetti
Ernest Dorko	B. Diamond & D. Rego
Eagle	Bob Renwick
Sue Ebel	Bud Reynolds, President, Albuquerque Conservation Trust
Vic & Laura Echererria	Ron Rosandich
George & Grace Faulhaber	Jim Salazar
Dave & Peg Fletcher	Pam Scanlon, ABQ Development
Paul Fore	Matt Schmader, Open Space Task Force
Ed & Agnes Franzak	G. Schowburg
Theresa T. Garwood	William Shane
Laura Gilliom	Barb Smith
Alan Sylvester	Richard H. Spray, Greater Albuquerque Trails Advisory Committee
Frank & Polli Gerstie	Judy Sulter, Beautification Committee
Jeff Gilkey, Sandia Soaring Assoc.	Sue & Bernie Sujka
Hugo L. Guerich	Nancy Thobe
Mary Hanna	Kathie & Daniel Thompson
James Hewitt, Geo Science Consultant	Tom Thompson, Albuq. Soaring Assoc.
J. & D. Hollivay	Connie Tilgner
Dave & Bonnie Hotten	Pat Tittle, Old Timers R. C. M. A. P.
Jeanne House, Open Space Advisory Board	Jim Trump, Open Space Advisory Board
Joanne Huff, Parks Board	Steven Verchinski
John E. Jackson	R. H. Vigil
Skootie Jeffers, Albuquerque Conservation Trust	John Walker
Charles Johnson	Barbara Wasylenki
	John & Myra Weisbrich
	Chuck Wiggins, Rio Grande Sierra Club

OFFICIALS

Bernalillo County Commissioner Pat Cassidy	County Planning Commission Chairman Morris B. Snipes
City Councillors Herb H. Hughes, District 4, Richard J. Chapman, District 8	Environmental Planning Commissioner Barbara Seward
R. Ward Hunnicutt, Albuquerque Metropolitan Flood Control Authority, Board of Directors	

NEIGHBORHOOD ASSOCIATIONS

ACADEMY ACRES NEIGH. ASSOC. Zale Godfrey	GLENWOOD HILLS NEIGH. ASSOC. Tom Stewart
ACADEMY ESTATES HOME ASSOC. Sylvia Baron John Peters	LITTLE TURTLE HOMEOWNER'S ASSOC. John F. Caperton Jr. Charles Anderson, Manager
ACADEMY HILLS PARK NEIGH. ASSOC. Pat Ignatowicz Mary Farmer	NORTHRIDGE OSUNA NEIGH. ASSOC. Joseph C. Manuel
GENERIC NEIGH. ASSOC. Chuck Kerlee	JOHN B. ROBERT NEIGH. ASSOC. Bernie Sujka
	TANOAN COMMUNITY ASSOC., INC. Fran Shoemaker

TECHNICAL TEAM

ALBUQUERQUE FLOOD CONTROL AUTHORITY, Anderson	METROPOLITAN Public Works Dept. Cliff Albert Gonzales, (Arroyo Maintenance) Jean Witherspoon, (Hydrology and Special Projects)
ALBUQUERQUE PUBLIC SCHOOLS, Sam Adamo	Fred Aguirre, (Hydrology) Dan Hogan, (Hydrology) Steve Boberg (Hydrology)
CITY OF ALBUQUERQUE	Bill Coleman, (Traffic Operations) Dan Soriano, (Traffic Operations)
Environmental Health Dept., Fred Malone	Dave Harmon, (Transportation Development)
Human Services Dept. Gordon Z. Bernell, Handicap Affairs Liaison, Mary Lou Haywood-Spells, Neighborhood Coordination	Jerry Widdison, (Transportation Planning) Joe Luehring (Utilities) Bill Westmoreland, (Water and Sewer) Doug Daily (Water Utilities)
Legal Dept., Bob White	COUNTY PUBLIC WORKS DEPT. Carl Lovato Steve Miller
Land Resources and Regulation Dept. Jay Hart, Open Space Division Barbara Baca, Open Space Division Isabelle Alves, Property Management P.J. Ruble, Property Management Doug Crandall, Zoning Enforcement	COUNTY PLANNING AND ZONING Frank Sandoval
Parks and Recreation Dept. Diane Scena Pat Westbrook Janet Saiers	CIBOLA NATIONAL FOREST SANDIA RANGER DISTRICT Floyd Thompson John Hayden
Planning Dept. Dan Martinez, Capital Implementation Program	GOVERNOR'S COMMITTEE ON CONCERNS OF THE HANDICAPPED Judy Myers, Director Hope Reed
NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPT. Sayeed Afsar	SOIL CONSERVATION SERVICE John Werner

COMMENTS RECEIVED
FROM TECHNICAL TEAM MEMBERS, TRAIL ENTHUSIASTS,
NEIGHBORHOOD ASSOCIATION REPRESENTATIVES AND AREA RESIDENTS
Reviewing the
JULY 1990 DRAFT OF THE
BEAR CANYON ARROYO CORRIDOR PLAN

Because the following comments can be most easily understood while referring to the draft plan, comments have been arranged to follow the draft's chapter sequence.

COMMENTS

POSSIBLE DRAFT REVISIONS

GENERAL COMMENTS

Check all facts and assumptions to make sure they are supportable throughout the draft.

This is routinely done for all plans.

INTRODUCTION pp.1-2

Include a general statement acknowledging how trail networks are a community investment to improve Albuquerque's quality of life and how improved community quality can bring economic development.

Okay.

CORRIDOR POTENTIAL

General Observations p.5

3rd paragraph Change Sandia National Forest to Cibola National Forest

Okay.

Corridor Continuity p.6

#6. Change Forest Service Boundary to National Forest Boundary.

Okay.

Change sentence :

"Major streets can be redesigned for mid-block crossings at trail/street intersections" to one that clearly says that the mid-block crossings on major streets will be designed ... not the whole street.

Okay.

Traffic Operations staff states that they are willing to put in advance signs to warn motorists of the possible presence of bicyclists and pedestrians. Planning staff further recommends that an engineering study be done for Morris and Juan Tabo to see if striping a crosswalk is justified. At a minimum, signs should be placed both in advance of trail intersections and at crossings. This approach is suggested in the Manual on Uniform Traffic Control Devices for Streets and Highways, 1988 Edition, Sections 2C-32 Crossing Signs and 3B-18 Crosswalks and Crosswalk Lines.

Trail Construction Potential

Page 2

Arroyo del Oso Golf Course and Park pp. 12-15

The park and arroyo need cleaning up. People living south of the park often see trucks unloading concrete in the arroyo. Why?

This is being reported to the City Hydrology Division. The park itself needs a master plan. Parks and Recreation Department will be undertaking this in the near future.

De-emphasize current runner/walker use of golf course service roads as it is not a designated or desirable use (discouraged due to danger of being hit by golf balls)

This is already stated, but can be reworded for clarity.

Hyoming to Eubank pp.16-17

Concrete lining is desired for the section between Moon and Eubank, for aesthetics and to control erosion.

On October 18th, City Staff and residents living adjacent to the Bear Canyon Arroyo between Moon and Eubank met to discuss how drainage design and funding decisions are made. Dan Hogan, Hydrology Division Manager, explained that the drop structure system is working and does control erosion. Concrete lining will be extended a short distance east of Moon where some scouring now occurs. For aesthetics (weed and trash control) Mr. Hogan suggested neighborhood organized trash and weed control events with City help.

The appearance of the arroyo may bring down property values.

No studies have been done on the effect of arroyo treatments on property values

Juan Tabo to Tramway pp.20-21

Move two dot symbol on map to the west (lot 28A)

This is a drafting mistake that is being corrected.

Tramway to National Forest Boundary pp.22-23

Include a more detailed reference to proposed Foothills Trail.

More information will be added.

THE PLAN (Policies, Regulations and Guidelines)

Page 3

Consider adding a policy prohibiting the use of overhead utilities in the corridor, because the corridor is a visual amenity of the City.

Recommending against purposely siting overhead utilities within the corridor can be a plan policy, but prohibiting them is counter to the existing policy to use drainage corridors for utilities. Utility lines are not really a problem in the Bear Canyon Arroyo Corridor now. This issue will need to be considered by the trails advisory committee for all scenic trail easements.

Add another category re: trail rules to prohibit radios and tape players with outside speakers.

This should probably be discussed as a citywide trail issue by the Trails Advisory Committee. Enforcement may be difficult.

Can edible landscaping be introduced through community gardens?

This can become a recommendation for community action as a part of an adopt-a-trail program.

Trail Networks pp. 27-32

Fix network maps so they are legible.

Yes, this is being done.

Show Lowell equestrian trail continuing north of Paseo del Norte.

Okay.

p.32 #5 Change Sandia Forest District of Cibola National Forest Service to Sandia Ranger District of Cibola National Forest

Okay.

Locate wheelchair accessible network initially in areas with the greatest concentration of users and greatest attractions:

We do not have access to data that describes where concentrations of people with physical limitations live. The plan's intention is to provide accessible urban trails as a matter of course for people with both permanent or temporary physical limitations. All purpose trails can serve users such as pregnant women, small children, people with injuries and others who use wheelchairs, canes or other appliances to move.

*accessible parking
*views

*proximity to parks, libraries and other amenities

Accessible parking is located wherever land is available for such a purpose and does not interfere with the adjacent neighborhood.

Page 4

Parking lots are not necessary for providing access for disabled residents from adjacent neighborhoods.

The area between Juan Tabo and Tramway is a fine example of a trail corridor segment that is not near libraries or other facilities, but is special just because it is one of few wild places left within the City. Few areas like this are now accessible to people who use wheelchairs. Locating parking lots here, however, is not possible unless the City purchases land adjacent to Juan Tabo and the John B. Robert Dam.

Develop a range of accessibility similar to that introduced in Accessible Fishing: A Planning Handbook.

Planning Staff agrees with this concept as long as it is used to warn trail users of obstacles that cannot be removed because of severe design constraints rather than to avoid funding accessible trails. The plan will more clearly explain which areas are fully or partially accessible and why.

Include a note that says walking and running paths also include connecting sidewalks, etc.

Okay.

p.31 change "occasional use permitted" to No prohibition of use per statute.

The specific state statute will be noted.

Strike note re: equestrian use of all unpaved streets and indicate that equestrians now use unpaved streets, but that it is not a designated use.

Okay.

Drainage p.32

#10 Either develop criteria to determine developments that may impact drainage or reference another ordinance or resolution which points the uses out.

I will look for existing wording in other ordinances or resolutions.

The reviewer agrees that natural drainage features should be left alone.

Okay.

Reference "Storm Drainage, Flood and Erosion Control Ordinance for Appendix D rather than Facility Plan for Arroyos.

Okay.

Safety and Education p.33

Page 5

#13 Make sure funds are available to carry out policy of installing curbing or low fence adjacent to arroyos to prevent wheelchair falls and to prevent liability.

This recommendation is meant to serve blind trail users. (From Accessible Fishing: A Planning Handbook) I will check with the Governor's Office on Concerns of the Handicapped to see if it is necessary. If this policy is left in the plan, funding will be requested for it as a part of plan implementation.

#13 What types of barriers permit rescue missions? Is low fencing a problem? Is curbing okay?

If reference to barriers is omitted, then this is no longer an issue. When planning staff spoke with the Fire Department several years ago about this issue, the recommendations we made about curbing were acceptable. I will recheck this with the Fire Department, Arroyo Rescue Section.

#17 Presently there are no plans for police patrols on trails. This concept needs to be discussed with other City staff.

This policy is being deleted from the plan, but can be discussed as a city wide trails issue with the Trails Advisory Committee.

If lighting is introduced on trails, consider very short light standards (below the knee) so that the trail is lit and not the surrounding area.

Yes, and solar if possible.

#15 and 16 Say interpretive markers rather than interpretive signs.

Okay. This will be corrected.

#19 John B. Roberts Dam (remove the plural (s))

Okay, this is being corrected.

Promoting Multiple Uses p.33

#19 Make sure that the City does not incur liability for hang gliding accidents.

From previous discussions staff learned that hang glider pilots are required to carry their own insurance to fly from and land in the Cibola National Forest. I will call Floyd Thompson, Forest Ranger, to double check their letter of agreement. Perhaps the City can initiate the same kind of agreement.

I spoke with Jeff Gilkey, representative of the Sandia Soaring Association. He'll be sending an example of their insurance policy.

Design Overlay Zone pp.33-40

Page 6

p.39 #29 Map the exact corridor somewhere in the document. Identify locations of easements and rights-of-way or areas covered by license agreements in designating what the corridor is.

Detailed information on rights-of-way and easements is being compiled by City Property Management Division, now. This will all be mapped and inserted in the plan.

p.40 #25A. and 22G. Will placing access gates from yards cause bank erosion and runoff to yards from beaten paths?

The trail will be designed so that runoff goes to the arroyo or to a swale adjacent to the trail and then to the arroyo.

p. 40 #26A. Why was 1/8 mile chosen as a preferred distance between rest stops on paved trails?

Most paved trails in this plan assume use by people with physical limitations who may need to rest regularly. One eighth mile was a suggested distance between rest stops for people with limited stamina. (From Accessible Fishing: A Planning Handbook which is based on handicap accessibility standards found in American National Standards Institute ANSI 117.1-1986.)

p.40 #26B. Include wheelchair access formula for 8% ramps with railings and level rest stops.

Okay, this can be copied from the Accessible Fishing: A Planning Handbook.

p.41 Explain different levels of handicap accessibility, from those areas meeting all ANSI handicap accessibility standards to those areas with different levels of challenges for people who use wheelchairs or who have other physical limitations.

Yes, this information can also be explained with excerpts from Accessible Fishing: A Planning Handbook.

The plan needs design requirements for commercial buildings and siting requests. Backs of shopping center buildings will be ugly at Wyoming and Academy.

Because the plan's design requirements do not become law until after plan adoption, they may not affect this particular site. Perhaps the guidelines related to this subject in the draft Design Overlay Zone should be written as regulation for future developments and redeveloped properties.

Hall off large shopping centers to prevent trail access?

Planning staff is not convinced that this is a good idea. See notes from 10/10/90 neighborhood meeting on page 12.

Add an introductory policy that describes three possible prototype trail segments (one with all amenities, one with some amenities and one with no amenities, just asphalt trail).

Introduce possible criteria for establishing the three types of trail segments.

Identify which trail segments should get which type of treatment (amenities -- to -- no amenities) based on population, etc.

There is no City policy re: bilingual signs for any other City facilities. How is it justified here?

Add water fountains, emergency phones and rest rooms.

p.41 Explain different levels of wheelchair accessibility.

p.42 32D. Add "Wherever r.o.w. is adequate and irrigation is feasible, at least during plant establishment.

Drop sealed sand coat requirement for all trails. Too expensive. Instead test it in a few segments.

Reemphasize joint signing system to inform users of City and National Forest Trail systems.

This can be attempted, but ultimate criteria for determining where each prototype gets developed should be discussed by the Trails Advisory Committee and incorporated into a Master Trails Plan.

Future trail use is difficult to predict. Making these kinds of decisions will depend on the criteria that is ultimately developed. Adjacent population density cannot always be used as a determinant because trails often serve long distance users.

Obtensibly we are a bilingual city. The Trails Advisory Committee can discuss this issue.

City Parks and Recreation Department does not have staff to maintain rest rooms. Water fountains are now sited in parks only, because they need to be tied into a readily available water source. I will inquire about the installation and cost of emergency phones, but these three issues should also be brought to the attention of the Trails Advisory Committee to establish a citywide trails policy.

Yes, from Accessible Fishing: A Planning Handbook.

I will check with Parks and Recreation Department staff to see how they determine irrigation feasibility.

I agree with the suggestion to test materials in select areas.

It is mentioned once, but it can appear elsewhere in the text, too.

Safe bicycle/pedestrian mid-block crossing solutions are needed for intersections. (especially Morris and Juan Tabo at the Bear Canyon Arroyo.)

Make signs of vandal resistant materials.

p.42 Mention that rip-rap should not be used where equestrian travel is encouraged.

p.42 #32A Perhaps paved trail treatment should be dictated by the area it is in.

p.44, 34B. To eliminate user conflicts specify types of trail use allowed.

Include information on signs about allowable and prohibited uses.

p.45 34E Many people liked the idea of using bear paws for marking trail connections.

p.45 #34F A simple bench may suffice in most cases rather than providing shade at every rest stop.

p.46. #34H Consistent signage can tie the corridor together. Seating may not need to be uniform.

Traffic Operations staff feels the Morris crossing should be moved to higher ground. They agree that pedestrian signs should be placed to warn motorists on all streets with mid-block trail crossings. Planning staff further recommends that crossings be striped and crossing signs be installed at the crossing location in addition to advance warning signs. At a minimum, signs should be installed at crossings and in advance of the crossings and an engineering study be done to determine if a crosswalk should be striped. (See MUTCD, 1988 ed., 2C-32 and 3B-18.)

This is the plan's intention and can be stated more forcefully. The plan will recommend a range of choices to allow the Parks and Recreation Dept. the flexibility to choose the most appropriate materials.

Okay.

A sealed sand coat, for example, could be reserved for natural looking areas and City Open Space.

Yes, the plan recommends that this information be included on trail signs. This can be stated more clearly in the text.

Okay.

Although Traffic Operations staff will not allow these to be placed across vehicular lanes, they can still be used on the sidewalks.

True, but shade should still be provided intermittently in each trail segment.

This recommendation is being considered. Quite often, however, it is less expensive to order one style in bulk.

p.47. #38 Specify width of horse crossing guard. Use only natural or low key materials.... no orange or black and white stripes. Log walkovers should be 5 - 6 feet wide.

Okay.

Add hitching post design (10 feet long pipe rail on old drill piping buried 3 feet deep in concrete. Include shade and water spout at all hitching areas.

Okay.

THE PLAN - Project Proposals p.48
North Diversion Channel - Arroyo del
Oso Golf Course

Project 7.b., to add sidewalk on the east side of the Seagull Lane bridge over the Bear Canyon Arroyo, may not be needed if a connecting route is shown from Academy.

If a trail segment is constructed here, it should be safely accessible from both north and south on Seagull Lane.

Arroyo del Oso Golf Course pp.52-55

p.52 1.b. There is no room to plant outside the fence.

An agreement with Arroyo del Oso Golf Course management should be pursued to plant inside the fence.

Hyoming - Eubank pp.56-58

No lighting here

Okay.

Curfew from e.g. 10pm to 6am

The issue of establishing curfews on trails should be taken up with the Trails Advisory Committee and Parks and Recreation Department.

Don't paint bear paws on streets because they are not standard features and could confuse motorists.

Okay.

A trail on the short segment of the Upper Bear Tributary between Spain and the arroyo is not needed and will invade adjacent residents' privacy due to the proximity to walls. Moon already serves as a bike route and should be the way into the corridor trail.

Perhaps bicycle use could be prohibited in this short section. For pedestrian trail user safety, however, it is best to have trail outlets wherever possible, particularly since this is such a long stretch. A treatment similar to that suggested for the Bear Tributary could be introduced along the Upper Bear Tributary, too. (See page 12.)

Eubank - Juan Tabo pp.58-60

p.60 12.a. Has been done.

Okay.

Crossings at Morris and Juan Tabo are dangerous. People crossing are in a dip on a curve. This is extremely dangerous for children, people who can't move quickly and people who use wheelchairs.

I agree. (See previous comments and responses re: Manual of Uniform Traffic Control Devices.)

Cross trail users at Morris where visibility is adequate to view northbound vehicles.

Sounds like a good idea, but striping or some other directional signs will be needed to effectively lead trail users to the optimum spot.

Bear paw tracks are not standard markings and may not be placed on the roadway. Marked crosswalks are undesirable in locations where visibility is limited. Pedestrians tend to have a false sense of security whenever they use crosswalks and this can result in conflicts with the motorist. Advanced warning signs and trail identification signs are appropriate for this particular situation.

Okay. (See previous comments.)

Juan Tabo - Tramway pp.61-63

Re: crossings: Advanced warning signs are appropriate for the Juan Tabo crossing. Marked crosswalks are not recommended and bear paws are not allowed on the road pavement. Adequate visibility for the operating speeds and the median for refuge are considered adequate for safe pedestrian crossing. Advanced warning signs should be installed to alert motorists to the trail crossing.

Since visibility is good here, a crosswalk should be considered. At a minimum, crossing signs should be placed right at this location.

Horse trails in the corridor are superfluous and expensive.

The trail as built can be used by both pedestrians and equestrians. The only additional expenses will be a couple of hitching posts and perhaps a water spout if water is available. The proposed trail will become part of a loop trail which includes a proposed National Forest Foothills Trail. It is not considered superfluous by equestrians from North Albuquerque Acres.

Do not pave trails here. Make the trail wheelchair accessible with crusher fines, cement and compaction. (This is the last "natural" area in the corridor.)

After developing trails, reseed casual trails.

This area is now beset with motor bikes and vehicles. They come in from the maintenance road, Vista Bonita and Hardin Drive. All area entrances need effective barricading, signs, and patrols.

Where will wheelchair users park?

Is wheelchair access from Juan Tabo really feasible?

A bridge or other solution is needed to cross Broke-Off Channel to access proposed trail from the maintenance road and Overlook Park area.

Install a vandal resistant par exercise course here.

Erect motor vehicle barriers.

Plant drought resistant trees here.

Tramway - Forest Boundary pp.64-65

Horse trails in the corridor superfluous?

Better signs are needed in the Elena Gallegos Open Space Park to direct different trail users.

Include hitching posts with shade and a water spout at the Simms Reservoir and another location between Juan Tabo and Tramway.

Okay.

Okay.

Installing metal gates at arroyo maintenance roads and L-shaped entrances at other entrances should help solve this problem.

Parking lots are not being considered for this area. People from outside this neighborhood will have to park on the street at Hardin and possibly at Vista Bonita if that entrance is not too sloped to be developed for wheelchair access. Perhaps parking can be designated at these trail entrances only for people with disabilities.

The plan now proposes wheelchair accessible entrances at Hardin Drive and at the northwest corner north of the maintenance road at Juan Tabo.

Okay. This area will be surveyed and field inspected before trails are designed and constructed.

Okay. This recommendation can be added to the plan.

Yes.

This will be possible in some locations within this trail segment, but not within the dam.

Area equestrians have indicated this is not true.

Yes. This has been reported to Open Space staff already and can be an additional recommendation in the plan.

The plan can recommend these facilities. A water meter may be necessary. I'll look into this.

Bear Tributary pp.66-68

Prevent pedestrian short cuts from proposed shopping center.

Wall off the shopping center from the trail. Connections may increase crime.

Delete access from cul-de-sacs.

Delete rest stops when the corridor is narrow and very close to private properties.

A meeting was held with the Canyon Run Estates neighborhood on 10/10/90. Crime statistics presented by Officer Stephen Stevens, Chairman of the Crime Prevention Through Environmental Design Task Force indicate that crime is not an arroyo or trail issue. The real issue here is privacy. Adjacent properties lie physically below and directly adjacent to the maintenance road. Because lots are small, houses sit very close to the proposed trail.

It was determined that this trail segment was meant primarily to serve the adjacent neighborhood. Many adjacent property owners do not want a fully developed trail.

It was agreed by residents and staff attending the meeting to de-emphasize the trail on the Bear Tributary and to recommend the following in the plan:

- Continue to include the Bear Tributary in the Bear Canyon Arroyo Corridor. (Sign it, etc.)
- Use the existing maintenance road as is for trails.
- Do not encourage bicyclists to use this trail segment.
- Install maintenance road gates with removal bollards for pedestrian entry at all street intersections.
- Install only one rest stop on the northeast corner of Estrellita del Norte and the Tributary.
- Provide no additional plantings, benches or trees along the Tributary trail.
- Place this trail segment in last place for CIP funding.
- Encourage the neighborhood to reexamine this space as a neighborhood amenity and coordinate neighborhood planting and trash collection activities.

PLAN IMPLEMENTATION

Project Priorities pp.69-70

Who will be responsible for maintaining plant materials?

p.69 Question priorities... particularly #2, improving existing trail from Eubank to Juan Tabo when the trail between Juan Tabo and Tramway is #9.

Need citywide trail prioritization for fully developed trails with all the amenities.

Examine priorities and rewrite some as concurrent tasks. Develop a flow chart or some other device that shows simultaneous activities in several areas. i.e. get the ball rolling for land acquisition well in advance of trail development between Juan Tabo and Tramway.

Although the Juan Tabo to Tramway segment is #9 on the priority list for trail implementation, land acquisition should start much earlier.

Cost Estimates pp.71-76

p.71 note #2 Identify sand-seal coat as an alternative item on the cost sheets in case the City decides to do some other treatment.

Establish a time frame to evaluate trail surface materials and landscaping materials in pilot project.

Note #4 Disagrees with abandoning drip irrigation since the initial cost is \$21,000 - \$33,900. Consider temporary above ground or underground system using spray heads on quick couplers.

Page 13

A range of options involving adjacent neighborhoods, trails groups and the Parks and Recreation Department is possible.

This can be changed.

Yes, but not in this plan. This should be brought to the Trail Advisory Committee and tackled in the Trails Master Plan.

Okay.

Yes.

Okay.

Yes, Parks and Recreation Department will need to okay this.

This irrigation treatment was a Parks and Recreation Department suggestion. We can delete reference to the type of irrigation and leave it up to Parks and Recreation at the time of trail design and development. This allows flexibility for changes in department policy.

Page 14

Discuss tying trail irrigation system to computerized water management system with Parks and Recreation Management Division.

Sections of trail sharing maintenance road will be more expensive due to heavier construction requirements.

p.72 Show acquisition costs for I-25 r.o.w. bridge abutments and approaches.

Okay, but beyond the scope of this plan.

If so, by how much? I'll inquire and get figures from Parks and Recreation.

I have been unable to get these figures, so will leave them as an unknown in the plan. The Bear Canyon Arroyo/I-25 crossing is being re-examined. This particular location may not be the best trails crossing.

APPENDICES

Appendix B

Add the following water projects

1. The current recommendation for the Ponderosa No. 2 reservoir site is on the eastern half of El Oso Grande Park. 1.79 acres of the park will be required for the site, but will have little impact on the trail.

2. Leynhecker Well No. 5 and 6 final sites may be in the Bear Canyon Arroyo Corridor. Their construction is slated for the 1997 bond cycle.

3. Three additional 10" distribution lines required east of Tramway will cross the proposed trail underground and will have an impact on the trail during construction.

These will be added to Appendix B.

The impact from these projects will be visual. Water reservoir siting and design requirements are being handled in a separate study.

Appendix E

Don't use straw as mulch unless in the rainy season, it blows around.

Incorporate plant list reference in text of plan.

Use the John B. Robert dam catch basin for a "near wetland" project.

Okay.

Okay.

I will discuss the possibility of this with City Hydrology and AMAFCA. Apparently dams cannot be designated wetlands because they require soil removal periodically to maintain the design depth of the dam for flood protection.

Appendix F

Page 15

Under Trail Standards add water fountains, restrooms and emergency phones.

The Parks and Recreation Dept. will need to okay this. The issue can also be discussed by by the Trails Advisory Committee.

GENERAL COMMENTS

Notify all property owners within the Design Overlay Zone area of EPC and Council hearings.

The Planning Department does this as a matter of course.

Include more information on plan implementation: subsequent operations, maintenance, responsible agencies and funding sources.

Okay, if available.

Add another note stating that unforeseen design issues may increase trail construction costs.

Okay.

Include a unit cost column per item where applicable.

Okay, if the Parks and Recreation Dept. agrees.

Include user projections to anticipate use per segment based on use of existing similar facilities. Do this especially for segment 1. How many will use this to justify the cost of a bridge over I-25. (sample survey?)

A survey of employees may be done for this area.

APPENDIX B
CITY PROJECTS IN PROGRESS

CITY AND UTILITY COMPANY PROJECTS IN PROGRESS

HYDROLOGY PROJECTS

Bear Canyon Arroyo

Wyoming to Moon (Concrete Channel Lining)

Public Works Department Design Review Committee Project #2384

Designed 1990

Possible Construction, Fall 1992

Bear Tributary

Layton Dip Section (Bridging the Dip Section)

Public Works Department Design Review Committee Project #3598

Designed 1990

Construction proposed Summer 1990

PARKS AND RECREATION PROJECTS

Bear Canyon Arroyo

Arroyo del Oso Park (Bicycle Trail)

Connects bike lanes on Osuna to bike route on Burlison north of Academy

Construction nearly complete Fall 1990

Arroyo del Oso Park (Xeriscape Demonstration Garden) (See B-2 for site plan details.)

NW Corner at Wyoming/Osuna

Construction proposed for 1990/91

El Oso Grande Park (Morris to Juan Tabo)

Construction completed 1990

Bear Canyon Trail (Eubank to Juan Tabo)

Construction completed, Fall 1989

WATER PROJECTS

Ponderosa No.2 reservoir site location

Currently recommended for 1.79 acres in the eastern half of El Oso Grande Park

Leyndecker Well No.5 and 6

Final sites may be in the Bear Canyon Arroyo Corridor

Construction slated for the 1997 bond cycle

Three additional 10" distribution lines required east of Tramway will cross the proposed trail underground

PUBLIC SERVICE COMPANY OF NEW MEXICO

Conceptual Plans for feeder lines

Along Bear Arroyo Tributary right-of-way between Moon and Estrellita del Norte

Along Osuna NE right-of-way between San Pedro and Louisiana

APPENDIX C
I-25 AREA EMPLOYEE TRAIL USE SURVEY

Special Thanks to
Margaret Garcia, Frances Sanchez and Rene De Leon
for managing, distributing and collecting questionnaires and entering survey data.
Thanks also to Bill Ziegler
for computer programming for later data analysis.

In November 1990 a questionnaire was developed to gather four types of information from employees working in companies between Osuna, the North Diversion Channel and I-25 (west of I-25) and San Mateo, Lincoln and I-25 (east of I-25):

- 1) general information about commuting and recreational trail habits;
- 2) how, when and why people use the existing Bear Canyon Arroyo trail between the North Diversion Channel and Jefferson;
- 3) how and why people plan to use connecting trail segments and bridges proposed in the Bear Canyon Arroyo Corridor Plan and
- 4) improvements people believe they need to become bicycle commuters.

The density of people employed in this area makes it a prime location for collecting general recreational trail use and commuting information in addition to answering questions raised by the corridor plan in progress.

Of the 225 companies within the survey boundaries, 58 or 26% agreed to participate in the survey. A total of 3447 employees work in the survey area. Of the 835 questionnaires distributed, 327 were returned. This number represents 39% of the sample population and 9.5% of the total employee population.

The following data will be thoroughly analyzed and presented in a later report. As you glance at the rough data, keep in mind that not all survey questions were answered on every questionnaire and that many respondents chose multiple answers to some questions. For example, on question 8, one person may choose all or some of the six choices.

CITY OF ALBUQUERQUE PLANNING DEPARTMENT QUESTIONNAIRE
NOVEMBER 1990

WOULD YOU LIKE TO BICYCLE TO WORK?
OR HAVE A PLACE TO RUN OR WALK AT LUNCH TIME?
BY FILLING OUT THIS SHORT QUESTIONNAIRE YOU CAN HELP
THE CITY PLANNING DEPARTMENT PLAN USEFUL TRAIL CONNECTIONS.

A representative from the City Planning Department will pick up completed questionnaires from your employer on Friday November 16, 1990.

1. State the nearest major intersection to your home.

Employees reside in all quadrants of the City.

2. State the nearest major intersection to your job.

Employees were surveyed between Osuna, the North Diversion Channel and I-25 and between San Mateo, Lincoln and I-25

3. For commuting to work, do you bicycle 27 run 5 hike 2 use a wheelchair or other physical aid 2 none of the above 255 I would if a safe, convenient trail were available 62

4. For recreation, do you bicycle 136 run 76 hike 99 use a wheelchair or other physical aid 1 none of the above 114

An eight foot wide paved trail is already located on the north side of the Bear Canyon Arroyo between the North Diversion Channel and Jefferson. (See Map) Questions 5 through 9 ask you about this existing trail.

5. Do you ever use this trail to:

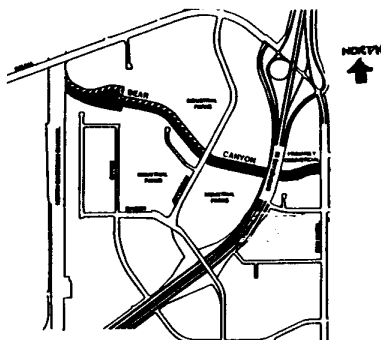
walk 23

run 9

bicycle 23

travel by wheelchair 2

I have never used this trail 268



6. If you have not used this trail, why not?

Unaware of its existence 150 Not a trail user 73

Too far 53 Too crowded 2 Not enough time 37

Poorly maintained 2 Unsafe (fear of crime) 6

The existing trail segment is inaccessible from wheelchair accessible pathways 1 sidewalks 2 and/or on-street bike routes and lanes 5.

Other 22

(Please explain)

(over)

7. If you have not used this trail in the past because you were unaware of its existence, would you use it in the future, now that you know it is there?
Yes 121 No 138 (68 no answer)

8. If you do use this trail, when do you use it?

WEEKDAYS 37 mornings 25 noon 10 after work 31 evenings 21

WEEKENDS 43

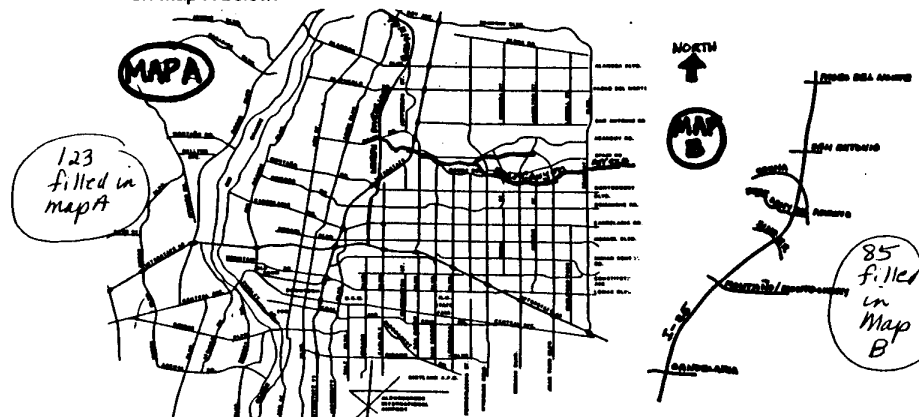
9. Why do you use the trail? To commute to work 20 For recreation 79

Other 20

(Please explain)

10. If a pedestrian bridge were built across I-25 at the Bear Canyon Arroyo where an extension of the existing trail is being proposed, would you use it?
Yes 128 No 154 (45 no answer)

11. Sketch any of your usual walking 31, bicycling 46, running 27 or wheelchair 1 routes on Map A below.



12. Mark an X on Map B above to indicate the location you would prefer to cross Interstate 25 by foot 31 by bicycle 56 by wheelchair 2

13. Do you regularly cross I-25?

by foot 10 by bicycle 29 by wheelchair 1 by car 217

for recreation 31 to commute to work 125 to reach shops or restaurants or offices across the highway at lunch time 70

Other 17

(Please explain)

14. If you do not presently ride your bike to work, but would like to, what facilities do you need?

Answers - primarily better, safer bike lanes and trails.

SURVEY RESULTS WILL BE INCLUDED IN THE BEAR CANYON ARROYO CORRIDOR PLAN AND MAY BE USED IN AN EVENTUAL TRAILS MASTER PLAN. FOR MORE INFORMATION ABOUT THE BEAR CANYON ARROYO CORRIDOR PLAN, CALL PAULA DONAHUE AT 768-3932.

APPENDIX D
TRAIL CONNECTIONS, ACCESS EASEMENT AGREEMENTS AND LICENSING AGREEMENTS

R. WARD HUNNICUTT, CHAIRMAN
PAT D. HODDON, VICE-CHAIRMAN
REX FUNK, SECRETARY-TREASURER
DANIEL W. COOK, DIRECTOR
RONALD D. BROWN, DIRECTOR

LARRY A. BLAIR
EXECUTIVE ENGINEER



**Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority**

2600 PROSPECT N.E. - ALBUQUERQUE, N.M. 87107
TELEPHONE (805) 884-3215

19 December 1989

Paula J. Donahue, Planner
Planning Division
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

Re: Bear Canyon Arroyo-Corridor Trail John Robert Dam &
Bicycle Trail East of Kircher, Your Letter of 6 December 1989.

Trail on John Robert Dam

We have no objection to the concept you propose. AMAFCA would prepare a recreational trail license agreement after we receive preliminary drawings. This license would be subject to approval by the AMAFCA Board of Directors and the City.

Bear Canyon Trail, Kircher to I-25

We have no objections to either proposal or both. We would prepare a license agreement similar to what we gave the City west of Kircher after you finalize preliminary plans. As above, this license would be subject to approval by the AMAFCA Board of Directors and the City.

Regarding your scenario #2, AMAFCA does not own any fee or easement right of way in the portion of the Bear Arroyo between I-25 and San Mateo.

Sincerely,

Roger Flegel
Real Estate Officer

MEMORANDUM OF UNDERSTANDING

A memorandum of understanding in progress between the City, the County, the Forest Service and the Academy will provide for trail easements east of Tramway within the Embudito Arroyo easement and a water line easement on property owned by The Academy. The purpose of this understanding is to provide for equestrian and other nonvehicular travel east of Tramway. The proposed trail loop will connect equestrian routes northwest of Tramway and Simms Park Road to Forest Service and Open Space trails east of Tramway and to the Bear Canyon Arroyo Corridor trail. The Bear Canyon Arroyo Corridor trail proposes an equestrian trail terminus at the John B. Robert Dam.



United States Hang Gliding Assn., Inc.

P.O. Box 8300, Colorado Springs, Colorado 80933 (719) 632-8300 (719) 632-8417 FAX

INSURANCE INFORMATION

The USHGA has obtained for its members a Master Policy of combined single limit bodily injury and property damage liability insurance of \$1,000,000 per occurrence through Transamerica Insurance Company. Each member is an additional insured on the policy. The policy has a \$1,000 deductible through 1991. Effective April 21, 1990, the first \$500 of any claim filed will be the pilot's responsibility to pay to USHGA. USHGA will pay the balance of \$500 of the deductible for any member. Claimed amounts over \$1,000 will be settled by the insurance company. In all cases, the insurance company determines covered charges.

The liability contract provides indemnity coverage for you if you become legally obligated to pay because of bodily injury or property damage to which this insurance applies. The insurance company has the right and duty to defend any suit against you for such damages even if the allegations are groundless, false or fraudulent.

Following is a brief explanation of insurance terminology:

MASTER POLICY: A blanket covering the USHGA, its members, chapters and ANY LANDLORD who leases or allows property use to USHGA, Inc.

ADDITIONAL INSURED: Any person who has paid the fees of the Association, as specified, is named as additional insured on the policy.

COMBINED SINGLE LIMIT: the limit for bodily injury or property damage that the insurance company is obligated to pay.

BODILY INJURY/PROPERTY DAMAGE: Actual physical damage or harm to another persons property or person.

DEDUCTIBLE: Payable amount of your obligation, before finalization of claims.

RECREATIONAL FLYING: Anytime, anywhere a member is flying, for recreation and is legally authorized to engage in hang gliding which is in the general legal parameters of local, state, federal rules and/or laws, and the USHGA Basic Safety Regulations.

FOREIGN RESIDENTS: USHGA members residing in foreign countries are ONLY insured while flying within the borders of the U.S., U.S. properties (i.e. Virgin Islands, Guam, Samoa, Puerto Rico and the Northern Mariana Islands) and Canada.

TWO-PLACE HANG GLIDING: Two-place coverage is provided for the liability of the pilot and student co-pilot when flying within FAR Part 103 requirements and USHGA's tandem requirements. This insurance DOES NOT cover injuries to a tandem student co-pilot (Tandem-student pilot should be a USHGA Member!)

(06/90)

CERTIFICATE OF INSURANCE						ISSUE DATE (MM/DD/YY)	
PRODUCER K & K Insurance Agency, Inc. 1712 Pagnavox Way P.O. Box 2338 Fort Wayne, IN 46001						18770 <input type="checkbox"/> 5/14/90	
INSURED UNITED STATES HANG GLIDING ASSOCIATION 102 N. CASCADE, SUITE 200 COLORADO SPRINGS, CO 80903						THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.	
COMPANIES AFFORDING COVERAGE							
COMPANY LETTER A TRANSAMERICA INSURANCE COMPANY							
COMPANY LETTER B							
COMPANY LETTER C							
COVERAGES							
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.							
CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS (in thousands)		
A	General Liability <input checked="" type="checkbox"/> Commercial General Liability <input type="checkbox"/> Claims Made <input checked="" type="checkbox"/> Occur <input type="checkbox"/> Owner's & Contractors Prot	SSPCLJ40909	12/01/89 4/21/90	12/01/91 4/21/91	General Aggregate	\$	NONE
					Products-Comp/Ops Aggregate	\$	1,000
					Personal & Advertising Injury	\$	1,000
					Each Occurrence	\$	1,000
					Fire Damage (Any one fire)	\$	50
					Medical Expense (Any one person)	\$	50
					Participant Legal Liability	\$	NONE
	Automobile Liability <input type="checkbox"/> Any auto <input type="checkbox"/> All owned autos <input type="checkbox"/> Scheduled autos <input type="checkbox"/> Hired autos <input type="checkbox"/> Non-owned autos <input type="checkbox"/> Garage Liability				Combined Single Limit	\$	
					Bodily Injury (per person)	\$	
					Bodily Injury (per accident)	\$	
					Property Damage	\$	
	Excess Liability <input type="checkbox"/> Other than Umbrella form				Each Occurrence	\$	
					Aggregate	\$	
	Workers' Compensation and Employers' Liability				Statutory		
					\$	Each Accident	
					\$	Disease-Policy Limit	
					\$	Disease-Each Employee	
	Participant Accident				AD&D	\$	
					Primary Medical	\$	
					Excess Medical	\$	
					Weekly Indemnity	\$	X
DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS LOCATION: SANDIA MOUNTAIN							
SEE ILICC FOR ADDITIONAL INSURANCES.							
CERTIFICATE HOLDER CHAPTER 73, SANDIA SCARING ASSN. P.O. BOX 14071 COLORADO SPRINGS, NM 87101 (KRS)						CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT. BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.	
AUTHORIZED REPRESENTATIVE <i>John J. Marshall</i>							

Policy Change
Number 0116

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

IL 12 01 11 85
POLICY CHANGES

POLICY NO. SSP01340965	POLICY CHANGES EFFECTIVE 04/21/90 - 04/21/91	COMPANY TRANSAMERICA INSURANCE
NAMED INSURED UNITED STATES HANG GLIDING ASSOCIATION		AUTHORIZED REPRESENTATIVE K&K INSURANCE AGENCY, INC.
COVERAGE PARTS AFFECTED COMMERCIAL GENERAL LIABILITY		
CHANGES IN CONSIDERATION OF THE PREMIUM CHARGED AND THE MUTUAL COVENANTS CONTAINED IN THE POLICY, IT IS MUTUALLY AGREED AND DECLARED THAT THE POLICY IS HEREBY AMENDED AS FOLLOWS: WITH RESPECT TO ENDORSEMENT CG2011, ADDITIONAL INSUREDS-MANAGERS OR LESSORS OF PREMISES, IT IS UNDERSTOOD AND AGREED THAT THE FOLLOWING ARE ADDED AS ADDITIONAL INSUREDS: SANDIA PEAK TRAMWAY CO., (JAY BLACKWOOD), CIBOLA NATIONAL FOREST, CITY OF ALBUQUERQUE OPEN SPACE DIVISION DIVISION OF PARKS & REC. THIS ENDORSEMENT VOIDS & REPLACES PREVIOUSLY ISSUED ENDORSEMENT #44.		

JS

John G. Marshall
Authorized Representative Signature

S-110A (02/89) CG

Policy Change
Number 0117

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

IL 12 01 11 85
POLICY CHANGES

POLICY NO. SSP01340965	POLICY CHANGES EFFECTIVE 06/01/90 - 04/21/91	COMPANY TRANSAMERICA INSURANCE
NAMED INSURED UNITED STATES HANG GLIDING ASSOCIATION		AUTHORIZED REPRESENTATIVE K&K INSURANCE AGENCY, INC.
COVERAGE PARTS AFFECTED COMMERCIAL GENERAL LIABILITY		
CHANGES IN CONSIDERATION OF THE PREMIUM CHARGED AND THE MUTUAL COVENANTS CONTAINED IN THE POLICY, IT IS MUTUALLY AGREED AND DECLARED THAT THE POLICY IS HEREBY AMENDED AS FOLLOWS: WITH RESPECT TO ENDORSEMENT CG2011, ADDITIONAL INSUREDS-MANAGERS OR LESSORS OF PREMISES, IT IS UNDERSTOOD AND AGREED THAT THE FOLLOWING ARE ADDED AS ADDITIONAL INSUREDS: S & S ASSOCIATES LLOYD STROSNIDER		

JS

John G. Marshall
Authorized Representative Signature

S-110A (02/89) CG



United States
Department of
Agriculture

Forest
Service

Sandia
Ranger
District

11776 Highway 14 South
Tijeras, NM 87059
505-281-3304



Reply To: 2350

Date: October 26, 1990

Dear Foothills Trail Core Group Members:

Here are notes from our September 18, 1990 meeting which was held at Sandia Ranger Station. Attending were:

Sam Beard, representing biking interests
Jay Hart, City Open Space Division
Paula Donahue, City Planning Department
Phil Cluff, Cibola NF Engineering Staff
Ron Bahm, Cibola NF Landscape Architect
John Hayden, Sandia RD Recreation Staff
Floyd Thompson, Sandia RD Ranger

A distillation of several meeting's worth of input from Sandia Heights Homeowner's Association has clarified the following points of legal access to the National Forest:

- 1) North of the lower tram terminal, access to Tramway Trail No. 82
- 2) Between lots 28 and 41 in the Sandia Heights North Subdivision along the easement for the original Tramway Trail
- 3) Along dedicated hiking, equestrian, utility easement between Sandia Heights North Subdivision Units 2 and 3, route of Spring Creek Trail
- 4) At east end of Cedar Hill Road between lots 60 and 51, Sandia Heights South (proposed northern terminus of Foothill Trail No. 305)
- 5) Sim's Park Road including pedestrian pass-through from Unit 15 in South Sandia Heights Subdivision.

As we approach completion of public involvement and environmental assessment of this trail proposal, we anticipate trail easements from the City for construction and public use of the trailhead at Embudito Canyon and trails north and east across Academy land. We also are expecting a letter of endorsement from City Open Space Division for those portions of the trail system within Albert Sims Park//Elena Gallegos Picnic Area.

The core study team reached consensus on the preferred alternative, which is a more finely tuned version of the earlier "Alternative II". See map enclosed. This alternative features a non-motorized trail system: (1) National Forest--multiuser trails traverse primarily north-south through the area; with hiker/horse only access to the wilderness; and (2) Albert Sim's Park/Elena Gallegos Picnic Area--multiuser trails provide internal circulation and, along with specially designated hiker only trails, access to trails and areas on the surrounding National Forest. Barrier-free access will be featured where possible within the Elena Gallegos Picnic Ground.

Standards and specifications for the trail system were agreed upon as follows:

FOOTHILLS Core Group

MULTIUSER TRAILS:

Standards--Encourage: hikers, joggers, mtn. bikers; **Accept:** horses; **Prohibit:** motorized vehicles. Note: designation within Elena Gallegos may vary in accordance with current Open Space Division policy. Multiuser trails are not intended for wilderness access.

Construction--All classes of tools and equipment, using standard construction methods and procedures.

Specifications--

	Easiest	More Difficult	Most Difficult
Grade			
Max.	10%	15%	30%
Max. Sustained	5%	10%	15%
Length	100'	300'	500'
Turning rad.	6'	3'	2'
Clearing			
Width beyond tread	2'	2'	1'
Height	10'	10'	8'
Tread			
Width	48"	40"	24"
(Additional widening [up to 1'] permitted on tight turns, steeper drainage crossings and ridgetops with limited sight distance.) Special problem areas may necessitate design and construction of short stretches of parallel trail.			
Surface	Smooth; add surfacing as needed to stabilize. Roll and dip to maximize natural drain-age. Const. roll-over ramp/waterbars. Use rock dry-wall & rock waterbars. Armor climbing turns >10%.	Not surfaced. Leave roots and imbedded rocks. Provide cross drains w/rein-forcement Max nat'l drainage.	Minimal tread preparation. Not graded except on side slopes exceeding 30%
Signing:	Stress user safety/etiquette and combine w/city effort. Designate system trails. Indicate user emphasis, name, number, and destination.		

HIKER/HORSE ONLY TRAILS:

Standards--Encourage: hikers; **Accept:** horses; **Prohibit:** motorized/mechanical vehicles. Note: designation within Elena Gallegos may vary in accordance with current policy.

Construction--Outside wilderness: All classes of tools and equipment, using standard construction methods and procedures. **Within wilderness:** non-motorized equipment as authorized and handtools. **Within Elena Gallegos Picnic Area:** as specified by Open Space Division.

Caring for the Land and Serving People



Caring for the Land and Serving People



FS-6200-28 (7-82)

FS-6200-28 (7-82)



FOOTHILLS CORE GROUP

Specifications--

	Easiest	More Difficult	Most Difficult
Grade			
Max.	10%	15%	30%
Max. Sustained	10%	10%	12%
Length	100'	300'	500'
Clearing			
Width	8'	6-8'	6'
Height	10'	10'	8'

Tread
Width 18-24" 12-18" 12"
(Standard width within the wilderness is 18". Wider sections outside the wilderness allowed as shown above for easiest and more difficult rated trails. Additional standards may apply in the Elena Gallegos Picnic ground.)

Surface	Smooth; add surfacing as needed to stabilize. Roll and dip to maximize natural drain- age.	Not surfaced. Leave roots and imbedded rocks. Provide cross drains w/rein- forcement Max nat'l drainage.	Minimal tread preparation. Not graded except on side slopes exceeding 30%
---------	--------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------

This is our description of the trail alternative selected from our environmental assessment (scoping) of the Foothills trail concept from Embudito Trailhead north to the lower Tram terminal. Please review these standards and specifications. Let John Hayden know if this is accurate by November 1.

I suggest the following time table for completion of the NEPA process and implementation of the initial construction phase (priority for the first 2 miles will be to coordinate with City Open Space trail connections):

November 1, 1990	Group members individual review and return comments to Hayden.
December 15, 1990	Decision Notice/Categorical Exclusion to Forest Supervisor.
January 15, 1991	Forest Supervisor sign DN/CE (Additional public involvement, if needed)
February 1991	Field survey/flag 1st 2 miles Foothills Trail
March 15, 1991	Contract specs to Contracting
June 1, 1991	Trail construction commences
August 31, 1991	Projected trail completion

Thanks to everyone for your contributions to this effort. I am looking forward to your comments.

Sincerely,

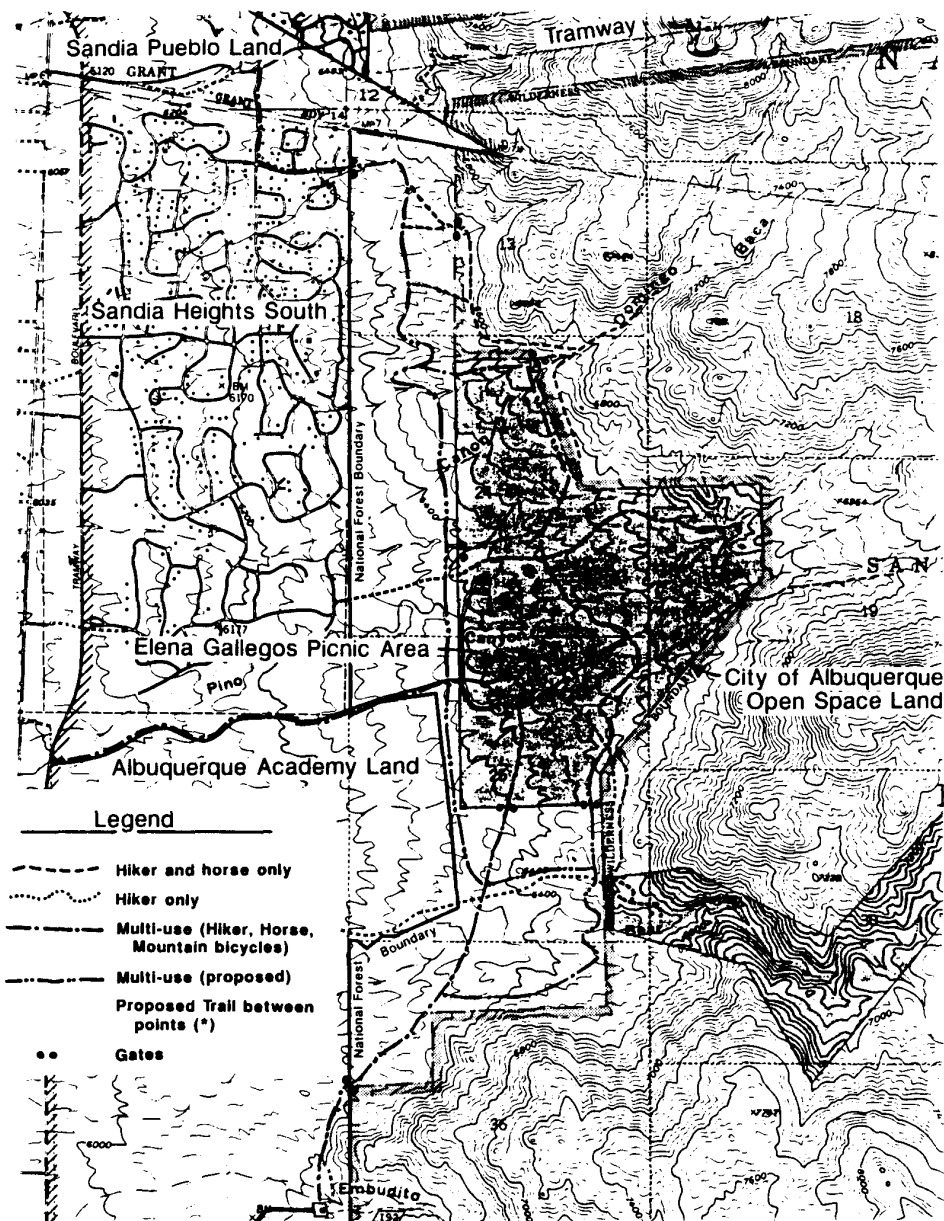
FLOYD A. THOMPSON, III
District Ranger

Enclosure: Map

Caring for the Land and Serving People



FS-6200-28 (7-82)



APPENDIX E
DRAINAGE POLICY

STORM DRAINAGE, FLOOD AND EROSION CONTROL ORDINANCE

ARTICLE IX

STORM DRAINAGE, FLOOD AND EROSION CONTROL

7-9-1 AUTHORITY.

This ordinance is adopted pursuant to the Home Rule authority set forth in Article 1 of the Charter of the City of Albuquerque, which was adopted at a special election on June 29, 1971, pursuant to Article X, Section 6, of the Constitution of the State of New Mexico and also pursuant to 3-18-7, 3-41-1 through 3-41-5 N.M.S.A. 1978 as may be amended from time to time and any other applicable statutory authority.

(63-1982)

7-9-2 JURISDICTION.

This ordinance shall apply to all lands within the City of Albuquerque and, with respect to planning and platting matters, it shall also apply to all lands within its extraterritorial planning and platting jurisdiction. This jurisdiction is not exclusive; in particular, AMAFCA shares jurisdiction in matters of flood control.

(63-1982)

7-9-3 STATEMENT OF PURPOSE AND INTENT.

It is the purpose of this ordinance to promote the public health, safety and general welfare, and to minimize public and private losses due to flooding by provisions designed:

A. To establish policies, procedures, criteria and requirements to complement and to supplement the Flood Hazards Ordinance, Article 7-3 R.O. 1974, for the assistance and guidance of City officials, City staff and all persons and entities within the jurisdiction of the City.

B. As to flood control, to:

1. Prevent the loss of or injury to human life.

1-1-83

Page 7-9-1

2. Minimize flood damages to public and private property.

3. Provide for timely and effective construction and maintenance of flood control facilities.

C. As to storm drainage, to:

1. Prevent the creation of public safety hazards and seek to eliminate existing problems.

2. Prevent to the extent feasible, the discharge of storm runoff from public facilities onto private property.

3. Prevent the increased risk of damage to private property caused by storm runoff from other private property.

4. Provide a reasonable level of public health and convenience at reasonable cost.

5. Provide for timely and effective construction and maintenance of storm drainage facilities.

D. As to erosion control, to:

1. Protect the hydraulic capacity of flood control and storm drainage facilities from losses due to sedimentation and degradation.

2. Preserve public health, safety and convenience from jeopardy due to erosion and sedimentation in private and public facilities of all types.

3. Preserve the quality of the surface runoff.

(63-1982)

7-9-4 SHORT TITLE.

This ordinance may be cited as "The Drainage Ordinance" and is referred to elsewhere herein as "this ordinance".

(63-1982)

7-9-5 DEFINITIONS.

Unless specifically defined below, words or phrases used in this ordinance shall be interpreted so as to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

A. "AMAFCA" means the Albuquerque Metropolitan Arroyo Flood Control Authority.

B. "Channel" means any arroyo, stream, swale, ditch, diversion, or water course that conveys storm runoff, including man made facilities.

C. "Channel Stability" means a condition in which a channel neither degrades to the degree that structures, utilities or private property are endangered, nor aggrades to the degree that flow capacity is significantly diminished as a result of one or more storm runoff events or moves laterally to the degree that adjacent property is endangered.

D. "Channel Treatment Measure" means a physical alteration of a channel for any purpose.

E. "CIP" means the City of Albuquerque's Capital Improvement Program.

F. "City Attorney" means the chief legal counsel for the City of Albuquerque or his designee.

G. "City Engineer" means the chief administrative engineer of the Engineering Division of the Municipal Development Department of the City or his designee.

H. "City Hydrologist" means a staff professional Engineer designated by the City Engineer to exercise primary responsibility for drainage control, flood control and erosion control matters assigned to the office of the City Engineer.

I. "Comprehensive Plan" means the Albuquerque/Bernalillo County Comprehensive Plan and amendments thereto.

J. "Conceptual Grading and Drainage Plan" means a plan prepared in graphical format showing existing and proposed grading, drainage control, flood control and erosion

control information in sufficient detail to determine project feasibility.

K. "Design Storm" means a storm which deposits a stated amount of precipitation within a stated period over a defined area and which is used in calculating storm runoff and in designing drainage control, flood control and erosion control measures.

L. "Developed Land" means any lot or parcel of land occupied by any structure intended for human occupation, including structures intended for commercial enterprise.

M. "Developer" means any individual, estate, trust, receiver, cooperative association, club, corporation, company, firm, partnership, joint venture, syndicate or other entity engaging in the platting, subdivision, filling, grading, excavating, or construction of structures.

N. "Downstream Capacity" means the ability of downstream major facilities to accept and safely convey runoff generated upstream from the 100-year design storm.

O. "Drainage" means storm drainage.

P. "Drainage Control" means the treatment and/or management of surface runoff from all storms up to and including a 10-year Design Storm.

Q. "Drainage Plan" means a short detailed plan prepared in graphical format with or on a detailed grading plan addressing on-site and off-site drainage control, flood control and erosion control issues for lots or parcel of less than five (5) acres.

R. "Drainage Report" means a comprehensive analysis of the drainage, flood control and erosion control constraints on and impacts resulting from a proposed platting, development or construction project.

S. "Erosion Control" means treatment measures for the prevention of damages due to soil movement and to deposition from the 10-year design storm runoff.

T. "Erosion Control Plan" means a plan for the mitigation of damages due to soil erosion and to deposition from the 10-year design storm runoff.

U. "Flood Control" means the treatment measures necessary to protect life and property from the 100-year design storm runoff.

V. "Flood Hazard Area" means an area subject to inundation from the 100-year design storm runoff.

W. "Floodway" means the channel of a river, arroyo or other water course and adjacent land areas that must be reserved in order to safely discharge the 100-year design storm runoff.

X. "Fully Developed Watershed" means a hydrologic condition in which all areas upstream and downstream of a point in question are assumed completely developed, including any undeveloped areas which are assumed to be developed in accordance with mid-range development densities as established by the Comprehensive Plan, appropriate area plans or sector plans, adopted facilities master plans and the hydraulic and hydrologic standards established by this ordinance.

Y. "Grading Plan" means a plan describing the existing topography and proposed grading, including retaining wall locations and details, interfaces with adjacent properties, streets, alleys and channels, referenced to mean sea level based on a City Bench Mark, and showing sufficient contours, spot elevations and cross-sections to allow a clear understanding by reviewers, contractors and inspectors.

Z. "Maintenance" means the cleaning, shaping, grading, repair and minor replacement of drainage, flood control and erosion control facilities, but not including the cost of power consumed in the normal operation of pump stations.

AA. "Major Arroyo" means any channel whose watershed exceeds 320 acres in a 100-year design storm whether such watershed is in its natural or unaltered state or has been altered by development, runoff diversions, or detention facilities.

BB. "Major Facility" means any facility, including a street or alley, which would collect, divert or convey a peak discharge of more than fifty (50) cubic feet per second (50 cfs) or store more than 2.0 acre-feet of runoff in the event of a 100-year design storm.

CC. "Master Planned Facility" means any drainage control, flood control or erosion control facility recommended in the adopted "Albuquerque Master Drainage Plan" (1981), amendments thereto, or any voter approved general obligation bond financed drainage control, flood control or erosion control facility.

DD. "Minor Facility" means any facility which would collect, divert or convey a peak discharge of 50 cubic feet per second (50 cfs) or less in the event of the 100-year design storm.

EE. "Multiple Use Facility" means a drainage control, flood control or erosion control facility in which other secondary uses are planned or allowed, including but not limited to recreation, open space, transportation and utility location.

FF. "Nuisance Waters" means those waters leaving a site and entering a public street which do not result from precipitation, such as landscape over-watering or car washing.

GG. "One Hundred Year Design Storm," also referred to as a "100-Year Design Storm," means that storm whose precipitation within a six (6) hour period and resulting runoff has a one percent chance of being equaled or exceeded in any given year.

HH. "Temporary Drainage Facility" means a non-permanent drainage control, flood control or erosion control facility constructed as part of a phased project or to serve until such time that a permanent facility is in place, including but not limited to desilting ponds, berms, diversions, channels, detention ponds, bank protection and channel stabilization measures.

II. "Ten Year Design Storm," also referred to as a "10-Year Design Storm," means that storm whose precipitation within a six (6) hour period and resulting runoff has a ten (10) percent chance of being equaled or exceeded in any given year.

JJ. "Traffic Engineer" means the chief administrative engineer of the City's Traffic Engineering Division or his authorized representative.

(63-1982)

7-9-6 GENERAL PROVISIONS.

A. The City of Albuquerque is and shall remain an active participant in the National Flood Insurance Program. The City endorses the program goal of flood damage reduction through the regulation of development within flood hazard areas and the preservation of floodways. This ordinance is intended to complement and supplement the Flood Hazard Ordinance, and shall be administered in concert therewith.

B. All developed land within the City of Albuquerque shall be provided with adequate drainage, flood control and erosion control facilities. The protection of life and property shall be considered the primary function in the planning, design, construction and maintenance of drainage control, flood control and erosion control facilities, but other concerns, not limited to the following, shall be addressed: channel capacity, watershed characteristics, channel stability, maintenance, transitions between treatment types, multiple use goals, appearance. The needs of the community in transportation, utility services, recreation, and open space shall be considered in planning, design, construction, and maintenance (especially in the selection of channel treatment measures). These needs shall always be considered subsidiary to the primary function of the drainage control, flood control and/or erosion control facility.

C. The design, construction and maintenance of dams, levees and diversions that fall within the jurisdiction of the State Engineer of the State of New Mexico shall meet or exceed standards established by the State Engineer.

D. The design, construction and maintenance of flood control facilities shall be coordinated with AMAFCA.

E. All major facilities shall be constructed within dedicated rights-of-way or recorded drainage easements granted to and accepted by the proper public authority.

F. All detention ponds defined as minor facilities shall be constructed on private property unless otherwise authorized by the City Engineer. Except as is necessary for the treatment of nuisance water, all ponds shall be designed and constructed to be emptied in twenty-four (24) hours or less. The use of individual lot ponding shall be governed by the standards established by the City Engineer.

G. Wherever flood control, drainage or erosion control improvements are necessary within dedicated public open space, such improvements shall be designed and constructed in a manner reasonably consistent with the natural surroundings. All construction and maintenance activities in dedicated open space shall be performed so as to minimize the disruption and destruction of vegetation and adjacent land forms. Where such disturbance or destruction is unavoidable, revegetation shall be performed at the earliest practical time by those responsible for such disturbance and/or destruction.

H. The City Engineer is responsible for establishing criteria, procedures and standards for design and construction of flood control, drainage control and erosion control improvements within the City of Albuquerque. The City Engineer shall provide for variance from normal criteria and standards; when a variance is required or requested, the City Engineer shall document the justification for his decision and retain as public records such actions and justifications; appeals of the City Engineer's variance decisions is as provided in Section 15 of this ordinance. The City Engineer is also the designated flood control official for the City in accordance with the requirements of the Federal Insurance Administration.

(63-1982)

7-9-7 SURFACE USE OF STREETS FOR DRAINAGE AND FLOOD CONTROL PURPOSES.

A. The surface of streets may be used for drainage and flood control purposes, to the extent such use does not interfere with the safe transportation of people and vehicles.

B. The 100-year design storm runoff shall not exceed a depth of 0.87 feet at any point within the street right-of-way, or 0.2 feet above top of curb, in any street nor enter private property from a street, except in recorded drainage or flood control easements or rights-of-way (or historic channels and watercourses where easements or rights-of-way cannot be obtained).

C. The 10-year design storm runoff shall not exceed a depth of 0.5 feet in any arterial street and shall flow such that one twelve (12.0) foot driving lane in each direction is free of flowing or standing water. The 10-year

design storm runoff shall not exceed a depth of 0.5 feet in any collector street. Arterial and collector streets that are in the State Highway system may require more stringent drainage criteria.

D. The product of depth times velocity shall not exceed 6.5 at any location in any street in the event of a 10-year design storm (with velocity calculated as the average velocity measured in feet per second and depth measured at the gutter flowline in feet).

E. The discharge of nuisance waters to public streets shall be discouraged. Arterial and collector streets shall be protected from damages to the pavement surface and from the safety hazards created by surface flow of nuisance waters across them.

F. All developed land within the City of Albuquerque shall be served by at least one paved access that shall be an all-weather facility during a 100-year design storm, with all channel-crossing structures beneath the roadway being able to pass a 100-year design storm runoff event.
(63-1982)

7-9-8 CROSSINGS.

A. Channel crossing structures shall be provided on all arterial and collector streets to safely pass the 100-year design storm runoff from major arroyos assuming a fully developed watershed.

B. Streets other than arterial, collector and sole access may cross major arroyos and other watercourses by means of a "dip section" or "overflow section" provided depth times velocity (with velocity calculated as the average velocity measured in feet per second and depth measured in feet at the upstream edge of the roadway including sidewalk) does not exceed 6.5 for that portion of the 10-year storm runoff crossing on the street.

C. Where feasible, temporary crossings shall be designed so they may be incorporated into the future permanent crossing structure and so that they meet street design standards established by the Traffic Engineer.

D. Crossings of major arroyos by arterial and collector streets shall be at public expense. Crossings of arroyos by streets other than arterials and collectors shall be constructed at developer expense and shall meet street design standards established by the Traffic Engineer.

E. Temporary crossings required for access, including those on arterials and collectors, shall be constructed at developer expense.

(63-1982)

7-9-9 FINANCIAL RESPONSIBILITY.

A. The City of Albuquerque may participate in the construction of permanent flood control facilities to the extent that public benefits are derived from such construction and consistent with Capital Improvements Program (CIP) priorities. Reimbursement for private funding of such projects may also be available under these conditions.

B. The City of Albuquerque may participate in the costs of channel crossing structures on arterial and collector streets which are required for sole access to a development. The developer's share shall not exceed the cost required to meet the minimum street width standards established by the Traffic Engineer.

C. The City of Albuquerque shall not participate in the funding of flood control facilities whose sole intent is the reclamation of undeveloped land located within a flood hazard area for private development purposes.

D. All drainage control and flood control facilities which directly result from a proposed land use change are the responsibility of the developer. Developer financed facilities include all those within the boundaries of the development, those required for development adjacent to a major arroyo or within a flood hazard area and all temporary and permanent off-site drainage facilities. Master planned facilities shall be the responsibility of the City and in some instances AMAFCA. However, if such facilities are not programmed and funded at the time of development, the developer shall construct the master planned facilities or provide for temporary facilities, constructed to City Engineer standards within a temporary or permanent drainage easement until such time that

the City or AMAFCA constructed facilities are in place. If the construction of such facilities is a condition of plat approval or building permit issuance, then financial guarantees of such construction satisfactory to the City Engineer shall also be provided as a prerequisite. The City Engineer shall coordinate the construction and location of temporary facilities with AMAFCA and other City Departments. If the ultimate on-site drainage control, flood control and/or erosion control facilities require permanent rights-of-way or easements, such rights-of-way or easements shall be dedicated at the time of platting or building permit issuance whichever occurs first.

E. Except as allowed by AMAFCA Resolution 81-8 and amendments thereto, the dedication of land for public purposes does not relieve a developer of responsibilities for the construction of drainage control, flood control and erosion control facilities that would otherwise be necessary. The dedication of rights-of-way or easements for drainage control, flood control or erosion control facilities does not relieve a developer of responsibilities that would otherwise exist for the construction of other public infrastructure.

(63-1982)

7-9-10 MULTIPLE USE OF RIGHTS-OF-WAY AND EASEMENTS.

A. Multiple use is encouraged for drainage rights-of-way and drainage easements, e.g., for utility corridors and for recreation trails. Where multiple use is planned by the City, another public agency, or a public utility, the City may require that dedication statements include language which permits said use(s) in addition to the primary drainage function. However, land required to be dedicated for drainage rights-of-way and easements shall be limited to those land areas necessary for drainage control, flood control, erosion control and necessary appurtenances.

B. Drainage rights-of-way and easements may be credited for open space, except for any area which is exclusively used for the drainage control or flood control function.

(63-1982)

7-9-11 MAINTENANCE RESPONSIBILITY.

A. Except as otherwise noted herein, all permanent major facilities shall be maintained by the City or other

public body. The maintenance of multiple use facilities to which the general public is denied access shall be the responsibility of the owners and shall be performed to City Engineer standards. The City Engineer may allow private maintenance within public right-of-way or easement provided that adequate guarantees and indemnifications are supplied.

B. Minor facilities shall be maintained by their owners to City Engineer standards.

C. The maintenance of temporary facilities constructed at private expense (except crossing structures) is the responsibility of the developer until permanent facilities are in place.

D. The developer shall be responsible for maintaining or replacing temporary crossing structures for a period of six (6) years or until a permanent structure is built, whichever comes first. The City shall maintain temporary crossings which are designed and built such that they may be directly incorporated into the ultimate facilities.

(63-1982)

7-9-12 GENERAL ADMINISTRATION.

A. The design, construction and maintenance of all drainage control, flood control and erosion control facilities within the City of Albuquerque shall be performed in accordance with procedures, criteria and standards formulated by the City Engineer and in accordance with the policies established in this ordinance.

B. All construction activities within the jurisdiction of the City of Albuquerque shall conform to the requirements of the City Engineer with respect to drainage control, flood control and erosion control. Original construction and modifications and/or additions to existing structures constituting less than 500 square feet, in plan view, are excluded.

1. Construction, grading or paving on any lot within the jurisdiction of the City of Albuquerque shall not increase the damage potential to upstream, downstream or adjacent properties or public facilities. Damages shall be defined as those caused by flooding from the 100-year design storm and all smaller storms and from erosion and sedimentation resulting from the 10-year design storm and all smaller storms.

2. During the months of July, August or September, any grading within or adjacent to a watercourse defined as a major facility shall provide for erosion control and the safe passage of the 10-year design storm runoff during the construction phase.

3. Grading, cut, fill or importation of material in excess of 500 cubic yards or grading of any area of one (1.0) acre or more shall conform to drainage control, flood control and erosion control policies and to standards, criteria and procedures established by the City Engineer with respect to drainage, flood control and erosion control. A grading permit, issued by the City Engineer, shall be required for projects involving more than 500 cubic yards of material or one (1.0) acre or more in area. Applications for development of areas known to have been sanitary landfills shall be accompanied by a report which discusses potential health and soil mechanics problems and their solutions. Such reports shall be prepared by a New Mexico Professional Engineer competent in soil mechanics.

4. Paving an area larger than 1000 square feet shall require a paving permit. Applications for paving permit shall be accompanied by a drainage plan if deemed necessary by City Engineer. Repaving of existing paved areas in which no grading is planned is excluded.

5. The City Engineer shall not issue a grading or paving permit unless the proposed grading or paving is in compliance with the policies of this ordinance and the standards and criteria of the City Engineer as provided for by Section 13 of this ordinance.

C. The City may participate with the private sector, other public bodies and agencies operating within the jurisdiction of this policy in order to accomplish the goals and implement the policies adopted in this ordinance. This includes, but shall not be limited to, the development and adoption of masterplans, participation in the construction of projects and exercising control through the planning, platting, zoning, and permitting processes. Projects involving City funding shall be prioritized, funded and scheduled within the guidelines of the CIP and with CIP Projects.

D. It shall be the responsibility of the City Engineer to produce, approve, make and retain records of all drainage plans, drainage reports, design analyses, design

drawings, as-built drawings, and maintenance schedules related to all drainage control, flood control and erosion control facilities constructed within City rights-of-way or easements.

E. Applications for all land use changes shall address drainage control, flood control and erosion control in terms of the interactions of these parameters with other requirements and needs produced by the proposed land use changes.

F. Requests for the platting of land for the purpose of subdivision or development shall be accompanied by appropriate drainage control, flood control and erosion control information.

G. The City Engineer shall not approve any plan or report pertaining to proposed construction, platting or other development where the proposed activity or change in the land affected would result in downstream capacity being exceeded.

Downstream capacity is determined based on the assumption of fully developed watersheds. This assumption prevents "the first come, first served" approach where downstream development unduly constrains upstream development. Parameters used in the determination of downstream capacity include, but are not limited to:

1. Channel stability
2. Crossing structure hydraulic capacity
3. Reservoir capacity
4. Hydraulic capacity of street, storm sewer, or channel
5. Public safety
6. Maintenance constraints

Planned public storm drainage facilities are assumed as in place in determining downstream capacity, provided that construction funds are available and design has progressed to the point where capacity can be ascertained.

H. Temporary facilities are only allowed and/or required on a case-by-case basis as determined by the City

Engineer. The level of protection to be provided by temporary facilities shall be determined by considering:

1. The likelihood and consequences of a failure.
2. Length of time until permanent facilities will be in place.
3. The acceptance of maintenance responsibilities and legal liabilities.

I. Requests for approvals of development and/or platting proposals to the City Engineer shall be accompanied by drainage control, flood control and erosion control information and/or commitments. The particular nature, location and scope of the proposed development defines the degree of detail. One or more of the following levels of submittal may be required based on the following:

1. Conceptual Grading and Drainage Plan: A graphic representation of existing and proposed grading, drainage, flood control and erosion control information. The information should be of sufficient detail to determine project feasibility. The purposes of this plan are to check the compatibility of the proposed development within grading, drainage, flood hazard and erosion control constraints as dictated by on-site physical features as well as adjacent properties, streets, alleys and channels. Modifications to the Comprehensive Plan and the development of area plans, sector plans, site development plans and landscaping plans on tracts of five (5) acres or more are appropriate applications of conceptual grading and drainage plans.

2. Drainage Plan: A short detailed presentation required for approval of small, simple development approvals. Drainage plans are prepared with or on the detailed grading plan and address both on-site and off-site drainage control, flood control and erosion control issues. Drainage plans are required for building permits, site development plans and landscaping plans for developments involving less than five (5) acres.

3. Drainage Report: A drainage report is a comprehensive analysis of the drainage control, flood control and erosion control constraints on and impacts resulting from a proposed platting, development or construction project.

Drainage reports are required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more, platting or construction within a designated flood hazard area and for any platting or development adjacent to a major arroyo.

4. Erosion Control Plan: An erosion control plan is usually incorporated into the drainage plan or drainage report. Erosion control plans address all phases of each project from initial grading through and including final occupancy. Phased projects require special attention. All construction projects, both public and private, within the jurisdiction of this ordinance unless specifically excluded require an approved erosion control plan prior to start of construction.

J. Drainage control considerations specifically address safety, convenience and economics for both private property and public facilities.

K. The Albuquerque 100-year design storm is the 100-year 6-hour storm as defined by the National Oceanic Atmospheric Administration (NOAA) and by the storm distributions for time and areas as developed by the City Engineer. The 100-year storm has a 1% probability of occurring in any year. Watersheds with times of concentration greater than six (6) hours will require the use of the 100-year 24-hour storm volumes and distributions. Detention basins with longer than six (6) hour evacuation times shall use a twenty-four (24) hour or longer storm volume and distribution.

Design circumstances may require larger or smaller storm volumes; Examples are emergency spillways for dams and erosion control plans respectively. The sources for rainfall data are current NOAA publications and the City Engineer. When the need for other design storms is apparent, the City Engineer will provide requirements concerning appropriate storms, frequencies and durations.

L. The City Engineer shall, within 14 to 30 calendar days after the submission to him of a request in writing for the approval of a plat, development plan, drainage submittal or exemption, approve or deny the request and mail a copy of his decision to the applicant. If the request is denied, the reasons for such denial shall be stated in writing. Appeal of such decisions is as provided in Section 15 of this ordinance.

(63-1982)

7-9-13 ADMINISTRATIVE PROCEDURES, CRITERIA AND STANDARDS.

A. Rules concerning procedures, criteria and standards shall be adopted, amended or abolished in compliance with the policies of this ordinance and as provided by the procedures of this section.

B. Proposed rule changes relating to procedures, criteria and standards pursuant to this ordinance are initiated by the City Engineer or any person may submit such proposed rule changes to the City Engineer. If a person other than an official of the City of Albuquerque submits such a proposal, there may be a processing fee of up to fifty dollars (\$50.00) set by a rule of the City Engineer.

C. Prior to the adoption, amendment or repeal of any rule pursuant to this ordinance (hereafter, rule change), the City Engineer shall:

1. Publish summary notice of the proposed rule change and solicit comments in a daily newspaper of general circulation in the City of Albuquerque and also where appropriate in trade, industrial, or professional publications as will reasonably give public notice to interested persons; and

2. Send the proposed rule change to all City departments and AMAFCA and solicit written comments; and

3. Send the proposed rule change to any person or group filing written request for notice of all such rule changes. A fee may be charged those requesting notices to cover reasonable City costs.

4. Solicit written comment on proposed rule changes for a period of 30 days from the date of their distribution and consider all comments before ruling on proposed rule changes.

5. Upon adoption of a contested rule change, issue a concise statement of his principal reasons for the rule change and statement of positions rejected in adopting the rule change together with the reasons for the rejection. All persons who submit any writing to be considered in connection with the proposed rule change shall promptly be given a copy of the decision, by mail or otherwise.

D. If a proposed rule change is approved by the City Engineer after receiving comments, notice shall be posted in a conspicuous place in City Hall and a reasonable effort shall be made to notify all interested parties. Proposed rule changes shall not take effect sooner than 30 days from posting of notice or sooner than 90 days from original distribution for comment.

E. In the event of an emergency, the Mayor may direct that rules concerning procedures, criteria or standards take effect immediately upon their posting and distribution. The Mayor's finding of an emergency and brief statement of the reasons for this finding shall be incorporated in the emergency rule change. Upon adoption of an emergency rule change which shall remain in effect for longer than 60 days, notice to the public shall be given within seven days and opportunity for public comment shall be given in the manner required in this section for proposed rules.

F. Appeal of the City Engineer's rulemaking decisions is as provided in Section 15 of this ordinance. Regular rules, adopted under D of this section, do not take effect until an appeal is decided if they are appealed prior to taking effect. Emergency rules adopted under E of this section and regular rules which have taken effect prior to appeal are in effect until such time as they may be reversed by appeal action.

(63-1982)

7-9-14 ENFORCEMENT.

A. Whenever necessary to make an inspection to enforce any of the provisions of this ordinance, the City Engineer or his authorized representative may enter such premises at all reasonable times to inspect the same or to perform any duty imposed upon him by this ordinance; provided that if such premises be occupied, he shall first present proper credentials and demand entry; and if such premises be unoccupied, he shall first make a reasonable effort to locate the owner or other persons having charge or control of the premises and demand entry. If entry is refused or if the owner or other responsible person is not found, the City Engineer or his authorized representative shall proceed to obtain a search warrant by filing a complaint made in the Metropolitan Court or District Court upon oath or affirmation. The complaint shall (1) set forth the particular premises, or

portion thereof sought to be inspected, (2) state that the owner or occupant of the premises, or portion thereof, has refused entry, (3) state that inspection of the premises, or portion thereof is necessary to determine whether it complies with the requirements of this ordinance, (4) set forth the particular provisions of this ordinance sought to be enforced, (5) set forth any other reason necessitating the inspection, including knowledge or belief that a particular condition exists in the premises, or portion thereof which constitutes a violation of this ordinance, (6) state that the complainant is authorized by the City to make the inspection. Each inspector shall be furnished with an identification card signed by the City Engineer and by the Mayor indicating his authority and must present same to the Metropolitan Court or District Court for the purpose of this subsection and to other persons, when requested to do so during the performance of his duty. No owner or occupant or any other person having charge, care or control of any premises shall fail or neglect, after proper demand is made as herein provided, to promptly permit entry therein by the authorized inspector for the purpose of inspection and examination pursuant to this ordinance.

B. Where, after investigation, an order has been issued by the City Engineer to the owner of the property on which a violation has occurred and the order is not complied with, within such reasonable time as may be prescribed by the City Engineer, or if the responsible party or violator cannot be found or determined, the City Engineer may cause such remedies as are necessary to be made. The reasonable cost of such remedies shall constitute a lien against the property on which the violation occurred and was remedied. The lien shall be imposed and foreclosed in the manner provided in 3-36-1 through 3-36-6 New Mexico Statutes Annotated, 1978 Compilation.

C. A person who violates any provisions of this ordinance shall be subject to punishment by a fine not to exceed \$300 or imprisonment for a period not to exceed ninety (90) days or both. Each day of violation is considered a separate offense.

(63-1982)

7-9-15 APPEALS; TECHNICAL STANDARDS COMMITTEE.

A. Any applicant aggrieved by a decision as to actions provided for in Sections 6, 12 and 13 of this ordinance of the City Engineer or absence of such decision, may appeal

such decision to the Technical Standards Committee of the City. Such appeal shall be made by notice of appeal in writing addressed to the Chairman of the Technical Standards Committee and delivered to the office of the City Engineer within thirty (30) days after the date the decision was mailed to the applicant. The Chairman of the Technical Standards Committee shall notify the applicant and the City Engineer of the date, time, and place of the appeal hearing at least five days prior to the hearing date. Such hearing shall be conducted not earlier than ten (10) days nor later than thirty (30) days after the filing of the notice of appeal. At the hearing, the Technical Standards Committee may consider such facts, exhibits, and engineering principles as may be presented by the appellant or the City Engineer or his Designee, or of which the members may have knowledge or experience, and may affirm, reverse or modify the decision appealed from, and attach as conditions to their decision such requirements as in their opinion may be necessary or appropriate in compliance with the policies of this ordinance to safeguard persons and property from storm water runoff. Each decision of the Technical Standards Committee shall be in writing and shall state reasons therefor. A copy of the decision shall be promptly mailed to the applicant and to the City Engineer.

B. The City Engineer or applicant aggrieved by any decision of the Technical Standards Committee may appeal such decision to the City Council. Such appeal shall be requested by notice of appeal in writing addressed to the President of the City Council and delivered to the office of the City Council within thirty (30) days after the date a copy of the decision was mailed to the applicant. Such appeal shall be heard after notice at the first available meeting of the City Council. The City Council may affirm, reverse, or modify the decision of the Technical Standards Committee.

C. There is hereby created a Technical Standards Committee, consisting of five (5) members who shall be appointed by the Mayor with the advice and consent of the City Council, and who shall serve without pay. Two (2) members shall serve for a term ending August 1, 1983, one (1) member shall serve for a term ending August 1, 1984, and two (2) members shall serve for terms ending August 1, 1985. Subsequent terms shall be for three (3) years. Four (4) of such members shall be registered in this State as professional engineers, be competent in the science of surface water hydrology, and have experience in solving surface drainage problems. The members shall select one (1) member to serve as Chairman, and

their decisions shall be by majority vote of the members attending a hearing. A quorum shall consist of three (3) members. The Technical Standards Committee shall hear and determine all appeals as provided by this section. The Committee may from time to time recommend modifications of this Ordinance to the Mayor. The City Engineer shall provide such facilities, supplies, and services, including postage, stationery and secretarial assistance, as may be required by the Committee.

(63-1982)

7-9-16 WARNING AND DISCLAIMER OF LIABILITY.

The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This ordinance does not imply that land outside flood hazard areas or uses permitted within such areas will be free from flooding or flood damages. This ordinance shall not create liability on the part of the City or on any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made thereunder.

(63-1982)

7-9-17 INTERPRETATION.

In the interpretation and application of this ordinance, all provisions shall be:

1. Considered as minimum requirements;
2. Liberally construed in favor of the City of Albuquerque;
3. Deemed neither to limit nor repeal any other powers granted under State statutes;
4. Not deemed to repeal or limit any other ordinance adopted by the City Council unless expressly so stated herein.

(63-1982)

AMENDMENT TO THE STORM DRAINAGE FLOOD & EROSION CONTROL ORDINANCE

ORDINANCE

AMENDING SECTIONS 7-9-5 and 7-9-10 R.O. 1974; THE STORM DRAINAGE FLOOD AND EROSION CONTROL ORDINANCE; CONCERNING REGULATION OF AREAS ALLOWED AS BOTH DRAINAGE RIGHTS-OF-WAY AND AS DETACHED OPEN SPACE UNDER THE ZONING CODE.

BE IT ORDAINED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. Section 7-9-5 R.O. 1974 is hereby amended by inserting the following two definitions in appropriate alphabetical order and relettering the following subsections accordingly:

"Drainage Right-of-Way" means a public right-of-way acquired, whether in fee or in easement, by the City, County, AMAFCA, or the State of New Mexico for the primary purpose of handling storm drainage."

"Freeboard" means that part of a drainage channel that is designed to contain the wave action of the 100-year design storm.

Section 2. Section 7-9-10 R.O. 1974 is hereby amended as follows:

"10. MULTIPLE USE RIGHTS-OF-WAY AND EASEMENTS.

A. Multiple use is encouraged for drainage rights-of-way and drainage easements including, but not limited to, utility corridors and recreation trails. Where multiple use is planned by the City, another public agency, or a public utility, the City may require that dedication statements include language which permits said specified multiple uses in addition to the primary drainage function. However, land required to be dedicated for drainage rights-of-way shall be limited to those land areas necessary for drainage control, flood control, erosion control and necessary appurtenances.

B. Certain drainage rights-of-way in Sector Development Plans may be credited for Zoning Code detached open space, except for any area which is exclusively used for the drainage control or flood control function.

1. The amount of drainage right-of-way required exclusively for drainage control is defined as the width that would be necessary to contain a trapezoidal concrete-lined channel designed to convey the full 100-year design storm, including all

necessary freeboard and also the outer limits of a 12 foot maintenance road on one side of the channel. In order to receive detached open space credit for a portion of the drainage right-of-way, the developer shall be responsible for reseeding any disturbed land within the drainage right-of-way except roads, trails, and the channel which is designed or retained to carry the 100-year design storm runoff; reseeding shall be with native and naturalized plant materials in the species, amounts, and proportions of plants associated with undisturbed soils in a specific area, to the satisfaction of the Director of the City Parks and Recreation Department and the City Engineer. Upon completion of said reseeding, the developer shall also be responsible for maintaining reseeded areas until whichever comes first, the end of three years or when the City gives notice of termination of the developer's responsibility caused by governmental undertaking of significant additional development or treatment in a given area; such maintenance shall be to the satisfaction of the Director of the City Parks and Recreation Department. Subsequently, maintenance becomes the responsibility of the City.

2. Alternatively, a more intensive landscaping scheme proposed by the developer may be approved for open space credit by the Director of the City Parks and Recreation Department and the City Engineer; the developer shall then be responsible in perpetuity, for the maintenance of said landscaping.

3. Any developer maintenance obligation specified by 1 and 2 of this subsection shall be detailed by a binding legal agreement between the developer and the City specifying the type and schedule

of maintenance required by the developer. Such agreement shall be satisfactory to the Director of the City Parks and Recreation Department and the City Attorney. Such agreement shall be executed before any benefits of open space designation accrue to the developer. The City's remedies for a developer's failing to meet the obligations of the maintenance agreement include but are not limited to terminating the developer's credit for detached open space. Where appropriate, a developer's obligations may run with the land. Further detailing of these provisions may be adopted as regulations in the City's Development Process Manual. See the Zoning Code, esp. Sec. 7-14-40.H.3 R.O. 1974.

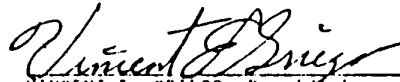
Section 3. Severability Clause. If any section, paragraph, clause or provision of this ordinance shall for any reason be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect the remaining provisions of this ordinance.

Section 4. Compiling Clause. This ordinance shall be incorporated in and compiled as part of the Revised Ordinances of Albuquerque, New Mexico, 1974.

Section 5. Effective Date and Publication. This ordinance shall be effective five days after publication in full

PASSED AND ADOPTED THIS 3rd DAY OF FEBRUARY, 1986.

BY A VOIE OF 9 FOR AND 0 AGAINST.


VINCENT E. GRILGO, President
City Council

APPROVED THIS 27th DAY OF February, 1986.


KEN SCHULTZ, Mayor
City of Albuquerque

ATTEST:


City Clerk



BANK OF THE CALABACILLAS ARROYO, WEST OF GOLF COURSE ROAD.

C. MAJOR OPEN SPACE ARROYOS

Major Open Space Arroyos* are to remain in a natural* or semi-natural* condition with native vegetation and channel stabilization consisting primarily of naturalistic treatments such as ungrouted riprap and gabions. Tinted concrete or soil cement may be used in limited applications such as in low-flow channels* or as needed to control erosion at points where developed runoff enters the arroyo. The existing open space characteristic of these arroyos will be preserved to the greatest extent feasible in order to provide visual and psychological relief from urbanization, and to protect the natural drainage process. Acquisition and maintenance of the public right-of-way associated with Major Open Space Arroyos over-and-above that required for drainage will be the responsibility of the City. Dedication of arroyo rights-of-way as open space or parks or the granting of recreational easements, where appropriate, are the preferred methods of acquisition.

From The Facility Plan for Arroyos

*See Definitions, Appendix A

APPENDIX F
SOIL CONSERVATION INFORMATION

USDA-SOIL CONSERVATION SERVICE
Albuquerque Field Office
3520 Pan American Frwy., NE
Albuquerque, NM 87107

and

CENTRAL RIO GRANDE SOIL
AND WATER CONSERVATION
DISTRICT
(same address)

2/21/90

TO: Paula Donahue
City of Albuquerque
Planning Dept.
1 Civic Plaza
Albuquerque, N.M. 87103

RE: Recommendations for the Bear Canyon Arroyo Corridor Plan.

OBJECTIVE: To provide wind and water erosion protection and to enhance the esthetic value of the corridor.

CONSIDERATIONS: Soils (Etc,EmB) are moderately erodible. They are low in organic matter and fertility. Water is not available for sustained irrigation. Foot traffic will be minimal except for the rest areas. The plant integrity of the bosque, down stream, should not be threaten by encroachment of any species planted in the corridor.

PLANT SPECIES:

Shrubs:

Four Wing Saltbush (*Atriplex canescens*)
Bird of Paradise (*Caesalpinia quilliesii*)
Winterfat (*Ceratoides lanata*)
Big Rabbitbrush (*Chrysothamnus nauseosus*)
Cliffrose (*Cowania mexicana*)
Apache Plume (*Fallugia paradoxa*)
Broom Dalea (*Dalea scopana*)
Yellow Rabbitbrush (*Chrysothamnus viscidiflorus*)
Prairie Sage (*Artemisa Ludoviciana*)

Trees:

Desertwillow (*Chilopsis Lineraia*) Hope
Desertwillow (*Chilopsis linearis*) Barranco
Rocky Mountain Juniper (*Juniperus scopulorum*)

Grasses:

Blue Grama (*Bouteloua gracilis*) Hachita
Side Oats Grama (*Bouteloua curtipendula*) Niner
Giant Dropseed (*Sporobolus giganteus*)
Spike Dropseed (*Sporobolus contractus*)

TREATMENT:

Because of the arid nature of Bear Canyon Arroyo the most effective treatment of the slopes is rock mulch and seeding. 150 to 200 tons per acre of 2" to 3" diameter rock will provide protection from erosion. Grass seeding in conjunction with rock cover has a very good chance of success. The rock mulch concentrates water in a reduced area and provides shading to allow the moisture to remain at the surface, where it can be utilized by the seedling.

Grass seeding, alone, will not provide water erosion protection. However, it will provide some protection from water erosion and considerable protection from wind erosion.

A low growing shrub, such as Prairie Sage (*Artemisa Ludoviciana*) will be much more effective in soil protection than just grass. If these shrubs are planted in contour furrows along the slopes they will become very effective in erosion control.

Mulching will be required for all seeding, grass or shrubs. The mulch can be hay, woodchips or something similar. Enclosed is a guide for Critical Area Treatment that will give more information.

Resting areas and along trails at selected sites. These areas are, also, suitable for a combination of shrubs and grasses. The grasses that have been listed have varying heights and with careful planning can be arranged for screens, and color contrasts for a very attractive setting.

Watering - All containerized plantings should be watered until established. There are several methods that can be used to provide additional natural water for selected plants. This can be done with proper layout, diverting water to the plant or entrapment of water to be used during dry periods. The Soil Conservation Service will be available to assist the city on a specific site.

Trees - The trees that have been recommended will not be comfortable in the bosque setting.

The trees will require additional water for establishment. They will be able to survive without additional watering once they have taken root. However the height of the tree is somewhat proportional to the amount of water that they receive each year. Special planting considerations should be given in planting these trees. Refer to the report for the Calabacillas Arroyo.

There are a couple of sites directly in the arroyo that could be developed into a near wetland. With the introduction of a few hydrophytic plants these sites could be an attractive addition to the corridor. These could be a real outdoor classroom for the public and would require very little maintenance.

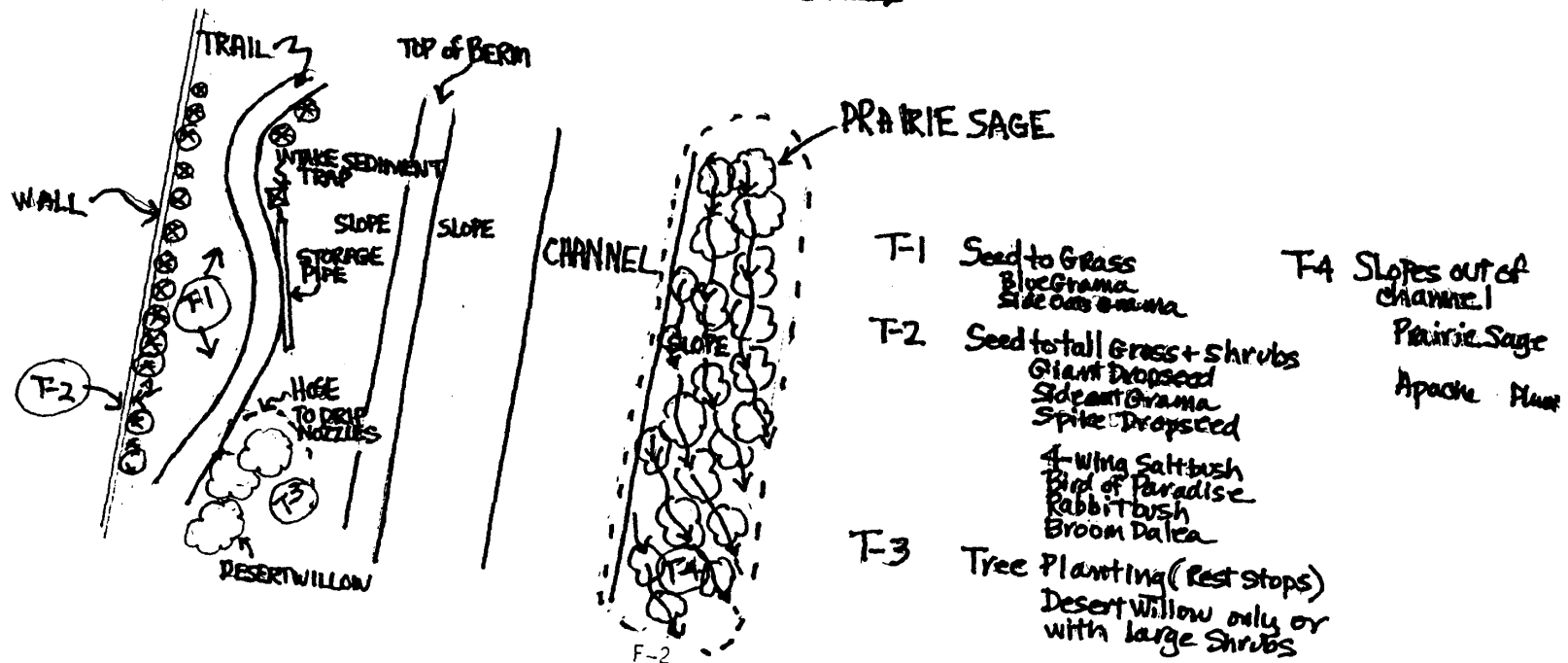
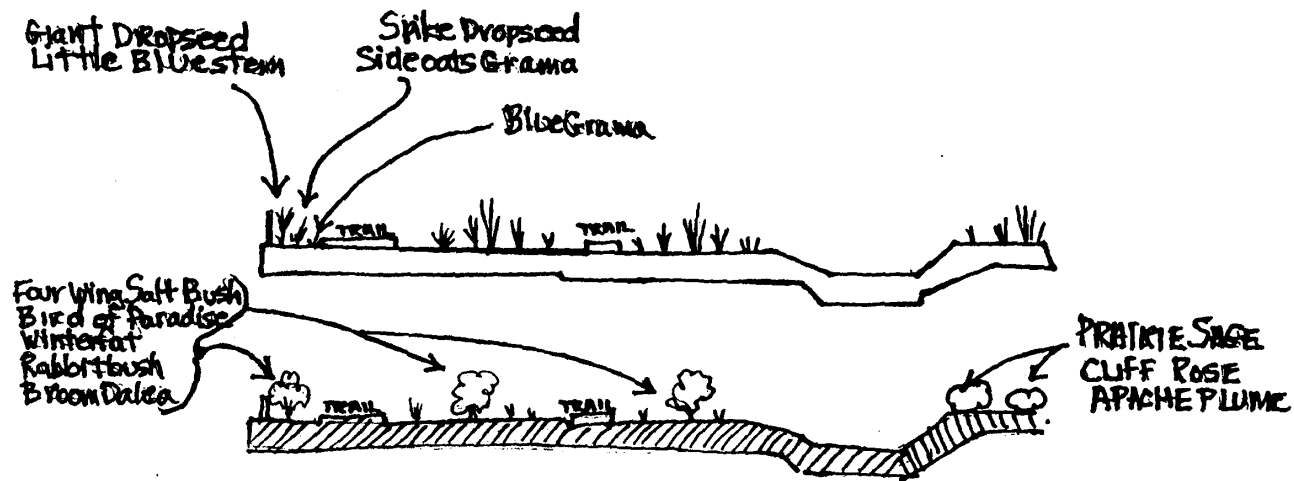
A few grade stabilization structures will be required along the trail.

Hopefully, this information will assist you. If you have any questions please call.

Thank you,

John

F-1 John Werner,
District Conservationist



APPENDIX G
TRAIL STANDARDS

DRAFT TRAIL DESIGN STANDARDS AND OBJECTIVES

The following draft trail standards have been reviewed and approved by the Greater Albuquerque Recreational Trails Committee and the Greater Albuquerque Bicycle Advisory Committee (GABAC). This draft is submitted for inclusion in the Development Process Manual.

PURPOSE

The purpose of these standards is to identify ideal right-of-way conditions and establish design consistency for off-road recreational trails. The guidelines were developed by the Albuquerque Planning Department/Planning Division based on interviews with other cities and advice from local citizen groups and technical staff.

OBJECTIVES

The trail standards represent a range of acceptable design solutions. Objectives are included here to aid in determining the appropriate standard to apply.

I. Landscaping/Buffers

Landscaped buffers along trail corridors address the following objectives:

1. To prevent accidental falls into an arroyo or drainageway by establishing adequate spatial separation as a more aesthetic alternative to constructing a barrier adjacent to the channel.
2. To provide spatial separation from traffic lanes.
3. To limit potential user conflicts by providing adequate spatial separation between trails.
4. To limit trail maintenance by:
 - a. generally relying on revegetation with native or naturalized plant species that do not require irrigation to maintain.
 - b. concentrating intensive (irrigated and/or mowed) landscaping in a limited number of nodal parks .
5. To provide shaded rest areas, seasonal color and visual diversity.
6. To soften the visual impact of hard surfaces - such as paved trails, drainage channels, walls and buildings.
7. To soften the linear character of the corridor by providing clusters of trees and shrubs.
8. To provide screening for parking and service areas.
9. To provide privacy screening for adjacent residential development.
10. To prevent erosion.
11. To provide wildlife habitat.

II. Trails in Urban Areas

Trail segments through urban areas will meet the following general objectives:

1. To provide an off-road, recreational trail system incorporating native landscaping, small parks and trail-related amenities along public rights-of-way, linking urban areas with peripheral open space. Public rights-of-way can include drainage easements, alleys, old roads, utility easements, and property provided for trail use as part of the subdivision process.
2. To provide an alternative to use of the private automobile within the urban area by linking activity centers (such as retail, employment and institutional uses) with residential development utilizing streets only as necessary to create linkages.
3. To accommodate a variety of user groups - including the commuter cyclist - and a heavy volume of trail traffic.
4. To provide accessible outdoor recreation to a variety of user groups, including the very young, the elderly and the handicapped.
5. To complement adjacent urban development through the use of color, materials and landscaping.
6. To provide a sense of enclosure, safety, and human scale in the urban area through landscaping and architectural elements.
7. To develop loop networks for recreational users.

III. Trails in Open Space and Rural Areas

Trail segments in open space and rural areas will meet the following general objectives:

1. To provide controlled, limited access to open space and other fragile environments.
2. To accommodate primarily recreational users, including equestrians, where desirable.
3. To incorporate educational/interpretive elements and identify cultural and natural features found along the trail.
4. To prevent adverse environmental impacts and maximize the contrast with urban development by minimizing trail widths, paved surfaces, and initial disturbance to topsoil and vegetation and prohibiting access where appropriate.
5. To preserve a sense of openness through selection of landscaping and architectural elements that blend visually with surrounding open space.

SUMMARY

Trails located in urban areas will choose from the higher end of the ranges proposed regarding trail width and surface durability due to the anticipated number and diversity of users. In contrast, trail design in open space areas will draw from the lower range of trail width, minimize paved surfaces, and accomodate equestrian users where deemed appropriate.

Trails for commuter bicycle traffic will generally provide hard, durable surfaces, straighter alignments, wider trails and fewer rest stops. Trails designed to accomodate recreational users will provide for slower speeds, a greater number of educational/interpretive elements, shade, rest areas and landscaping to add visual interest and variety.

Most trails will be combined until a greater number of trails exist and the possibility of separating user types substantially improves. One factor which makes this shared trail approach tenable is that, generally, the time of use for commuter and recreational users is different. Recreational users are generally on the trails earlier and later than most commuters.

Landscape maintenance will be limited through the design of nodal parks and use of native and naturalized plants.

TRAIL DESIGN GUIDELINES

	PEDESTRIAN ONLY
1. Trail Width	1. 3'-6'
2. Ideal Grade	2. $\leq 5\%$
3. Maximum Sustained Grade	3. 8-10%
4. Maximum Grade, Short Distance	4. $\leq 15\%$
5. Vertical Clearance	5. 8-9'
6. Horizontal Clearance	6. 0' (except when needed to obtain a clear sight triangle)
7. Surface Requirements	7. Dirt, compacted surfaces, paved surfaces optional
8. Separation from other trails	8. Optional
9. Separation from bank edge*	9. $\geq 10'$ preferred - varies with edge conditions, use of railings.
10. Separation from walls and buildings	10. 10'-15' recommended for privacy and landscaping***
11. Separation from streets**	11a. 6'-12' preferred, 11b. raised curb and sidewalk, or 11c. other barrier
12. Location in relation to floodplain	12. Where a prudent line arroyo treatment is used, the trail maybe located within the prudent line, but outside of the 100 year floodplain, except at road crossings. See the <u>Road Crossings</u> section of these Trail Standards.

KEY

- * Source: 10' accommodates typical landscaping equipment. Trails could meander within the standard right-of-way, if so desired.
- ** The Development Process Manual recommends a 12' buffer between curb and sidewalk on major arterials. 6' is adequate on less heavily traveled streets. A raised curb and sidewalk provides minimal separation where limited right-of-way is available.
- *** This separation may be reduced for short trail segments where: 1) the trail segment serves as an access to a major trail; 2) the segment serves as a pedestrian link between streets in a neighborhood; and 3) for already platted property, where inadequate right-of-way exists.

JOGGING TRAILS*

- | | |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1a. Trail Width | 1a. 8'-10' (9' allows 3 pedestrian lanes, i.e. - jogging in pairs with ability to pass) |
| 1b. Cross grade | 1b. 2-3% preferred, 4% maximum |
| 2. Running Grade | 2. $\leq 5\%$ |
| 3. Maximum Sustained Grade | 3. 8-10% |
| 4. Maximum Grade, Short Distance | 4. $\leq 15\%$ |
| 5. Vertical clearance | 5. 8-9' |
| 6. Horizontal clearance | 6. 0' |
| 7. Surface Requirements | 7. Hard packed dirt is preferred; crusher fines or ground bark over crushed rock base can also be used |
| 8. Separation from bank edge, walls, streets, buildings and floodplain | 8. See Pedestrian Standards |
| 9. Other | 9a. Must be well drained, side ditches recommended |
| | 9b. Provide signed and measured distances. Recommend: 1500 meters, 440 yards, 1/2 mile, 1 mile |
| | 9c. avoid cross traffic, especially bicycles and cars |
| | 9d. provide stretching stations at beginning points, i.e. a wood rail (4"x 4" x 8" orig.) set horizontally at 30" above grade |

* Source: City of Eugene, Oregon, Parks and Recreation Planning Development Division, 210 Cheshire Street, Eugene, Oregon.

BIKE TRAILS

- | | |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width (two-way traffic) | 1a. 8'-10' paved width |
| | 1b. 1'-1.5' shoulders |
| | (note: where large volumes of trail users are anticipated, a 12' width should be considered and/or a center stripe; also, trails should be wider where steeper slopes are encountered.) |
| 2. Ideal Grade | 2. $\leq 3\%$ |
| 3. Maximum Sustained Grade | 3. $\leq 5\%$ |
| 4. Maximum grade for limited distances | 4. $\leq 15\%$ |
| 5. Vertical Clearance | 5. 8'-12' |
| 6. Horizontal Clearance | 6. 1.5'-3' (expand for steeper trails) |
| 7. Surface Requirements | 7. asphalt, porous pavement*, soil cement, compacted surfaces |
| 8. Separation from other trails | 8. separation preferred on high-speed bike trails |
| 9. Recommended Turning Radius | 9. 50' |
| 10. Separation from bank edge, walls, streets, buildings and floodplain | 10. See Pedestrian Standards |
-

MOUNTAIN BIKES

- | | |
|------------------------------------------------------------------------|-----------------------------|
| 1. Trail Width | 1. 3'-4' |
| 2. Ideal Grade | 2. $\leq 5\%$ |
| 3. Maximum Sustained Grade | 3. $\leq 10\%$ |
| 4. Maximum Grade for limited distances | 4a. $\leq 15\%$ |
| 5. Vertical Clearance | 5. $\geq 8'$ |
| 6. Horizontal Clearance | 6. $\geq 3'$ |
| 7. Surface Requirements | 7. unpaved |
| 8. Separation from Other Trails | 8. not required |
| 9. Separation from bank edge, walls, streets, buildings and floodplain | 9. See Pedestrian Standards |

* Porous pavement is specifically listed here in order to avoid drainage and erosion problems associated with paved surfaces. The issue is especially pertinent to drainage corridors. The New Mexico State Highway Department routinely installs porous pavement in new construction. See US Environmental Protection Agency report #600-2-80-135, "Porous Pavement Phase One, Design and Operational Criteria", by Elvidio Diniz. Contact the EPA, Municipal Environmental Research Laboratory, Cincinnati, Ohio, for copies of the report.

ACCESSIBLE TRAIL DESIGN FOR PEOPLE WITH PHYSICAL DISABILITIES

These standards are based on providing wheelchair accessibility, but will serve a variety of users with physical disabilities. Some of the standards are divided by level of difficulty. The levels are intended to provide flexibility in types and phasing of improvements to permit the most economic and effective use of public funds.

- | | |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width | 1a. One-way -- 3' minimum |
| | 1b. Two-way -- 5'4" - 6' minimum |
| | 1c. 1' - 1.5' shoulders |
| 2. Grade | |
| a. easiest | 2a. $\leq 3\%$ (anything greater is considered a ramp) |
| b. more difficult | 2b. $\leq 5\%$ |
| c. most difficult | 2c. 6 - 8% with short pitches up to 12% |
| d. landing/passing bay | 2d. needed every 200' (5' X 5') |
| 3. Ramps (short distances, such as curbs) | 3a. $\leq 8\%$ for maximum rise of 30" |
| | 3b. level landing needed at the top of curb ramp |
| 4. Cross grade | 4. $\leq 2\%$ |
| 5. Vertical Clearance | 5. $\geq 9'$ preferred, 6'8" minimum (See ANSI 4.4.2) |
| 6. Horizontal Clearance | 6. $\geq 3'$ (See ANSI 4.4.1) |
| 7. Surface Requirements | |
| a. easiest | 7a. concrete or asphalt |
| b. more difficult | 7b. asphalt, soil cement or crusher fines (free of any openings larger than 1/2" |
| c. most difficult | 7c. hard packed sandy loam |
| 8. Separation from other trails | |
| a. pedestrians | 8a. None |
| b. bikes/equestrians | 8b. Preferred - see Bike and Equestrian Standards |
| 9. Separation from bank edge, walls, streets, buildings and floodplain | 9. See Pedestrian Standards |
| 10. Shelter and Seating (easiest): | 10. Every 1/8 mile |
| 12. Accessibility: | 12. Using standards on page 9, ensure access to and from adjacent parking lots, streets and sidewalks, and public facilities such as restrooms and drinking fountains. |
| 13. Parking Areas: | 13. Refer to Albuquerque Comprehensive Zoning Code. Section 40.A for more detail |
| a. Lot Cross Slope: | 13a. 2% or 1:50 maximum |
| b. Handicap Accessible Spaces: | 13b. One space for every 25 total spaces (preferably one van and one car space per every 25 spaces or less). 12'6" wide or 8'6" wide with a 5' aisle, 24' long. Place sign and ground graphics at each accessible space. |
| 14. Restrooms, Drinking Fountains and Park Furniture: | 14. Refer to ANSI handicap accessibility standards. |

- | | |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15. Vegetation: | 15. Avoid thorny plants next to trail. Select plants with a variety of textures and fragrances. |
| 16. Signs: | 16. Raised or incised sign surfaces with simple, bold typefaces and symbols.
Sharp color contrast.
Texture trail surface to indicate the presence of a sign.
Either shade raised sign surfaces or spray with swimming pool decking surface to keep cool.
(Refer to ANSI standards for more detail) |
| 17. Railings: | 17. 30 - 34" above ground level with a second lower rail 24" above ground level for children
-must be continuous, non-abrasive, and stable.
-Ramps 6' long that rise 6" or more (1:10 slope) should have 2 handrails.
-Handrails should extend 12" beyond the top and bottom of ramps. |
| 18. Curb Ramps: | 18. Locate at all wheelchair accessible trail entrances and street crossings.
36" wide, \leq 1:12 or 8% grade, tactile warnings (see item 20)
Texture and tint curb ramps at street crosswalks to warn people with visual impairments. Use materials that differ from connecting trails and sidewalks. Curb ramp texture should not exceed 1/4 inch vertically. |
| 19. Visual Cues | 19. Change color and texture of path at changes in slope |
| 20. Tactile Warnings (for the visually impaired) | 20. Insert raised strips or grooves and change of color on the trail surface 48" before change in grade or other hazards. |

* These standards were compiled from the American National Standards Institute, Inc., (ANSI-A117.1-1986) and the National Forest Service Trails Management Handbook (1985), and Accessible Fishing: A Planning Handbook, prepared for the NM Natural Resources Department with advice from the Governor's Committee on Concerns of the Handicapped. Some people with physical disabilities may be able to use trails with less ideal conditions if they are forewarned about the level of difficulty they may encounter.

EQUESTRIAN TRAILS*

- | | |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width | 1. 5'-8' (18"-30" tread width in the center of a 5' clear trail) |
| 2. Ideal Grade | 2. $\leq 5\%$ |
| 3. Maximum Sustained Grade | 3. 8-10% |
| 4. Maximum Grade, short distance | 4. $\leq 15\%$
(note: horses are capable of traversing steeper slopes for short distances so long as surface conditions are adequate) |
| 5. Vertical Clearance | 5. 10'-12' |
| 6. Horizontal Clearance | 6. see item 1 above |
| 7. Surface Requirements | 7. dirt, crushed aggregate, bark, gravel, oil coat |
| 8. Separation from other trails | |
| a. Pedestrian and handicapped: | 8a. optional |
| b. Bikes | 8b. separation preferred |
| c. All: | 8c. Trails may converge for distances up to 1/4 mile where inadequate right-of-way exists for separation or where it may be undesirable to have separate trails |
| 9. Separation from parallel street* | |
| a. Local street | 9a. 4' from driving lane |
| b. Collector | 9b. Without barrier - min. 9' from curb |
| c. Arterials | 9c. Without barrier - min. 15' from curb |
| d. 6-8 lane expressways | 9d. Without barrier - 25' from curb |
| e. All | 9e. Where multiple trails are parallel to the roadway, equestrians should be farthest from traffic |
| 10. Suggested Fencing/Barriers | |
| a. Other trails | 10a. minimum 3'6" high post and rail fence |
| b. Streets | 10b. minimum 3'6" high post and rail fence or concrete "jersey" barrier |
| c. All | 10c. no barbed wire or sharp edges on guard rails |
| 11. Terrace Steps Up Slopes | 11. Railroad ties w/ 3'-4' minimum tread width, 3' minimum depth, 16" maximum height |
| 12. Separation from bank edge, walls and buildings | 12. $\geq 10'$ preferred |
| 13. Separation from floodplain | 13. See Pedestrian Standards. |

* Recommended by Horseways, Inc., a local equestrian organization, based on interviews with other cities. For more detailed design of trails and structures see A Trail Manual for the East Bay Regional Park District. Prepared by Jana Olson and Hanson Hom. October 5, 1976; and Bikeways and Horse Trails, Section 8, Design Procedures and Criteria, City of Scottsdale, Arizona, Revised July 1985, City of Scottsdale Community Development Department. Loan copies available from the Planning library.

ROAD CROSSINGS

Pedestrians, bikes, and equestrians may converge at road crossings. All trail crossings should offer an unobstructed view of oncoming vehicular and trail traffic.

Trail users will be of all ages and physical abilities. Therefore, a major objective is to provide safe, convenient road crossings that will minimize the trail user's exposure to vehicular traffic. Grade-separated or signalized crossings are preferred for arterial streets. Mid-block at-grade crossings are adequate for collector streets, although signalized crossings are preferred. Unsignalized crossings are more appropriate for local streets which are planned to carry considerably less traffic at slower speeds.

I. ARTERIALS

A. AT-GRADE CROSSINGS are most feasible when a signalized intersection is located within 300'* of the trail, or when a signalized, mid-block crossing can be provided. Unsignalized mid-block crossings are the least desirable option for recreational trails.

- | | |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Minimum Crossing Width | 1. 12'-15' (if shared with equestrians) with curb ramps, tactile warnings |
| 2. Surface Treatment | 2. Textured pavement or other non-slip surfacing for equestrians |
| 3. Waiting Bay for equestrians | 3. 20' x 10' with 10' setback from road |
| 4. Hand Activated Signals | 4. 6' for equestrians, 4' for handicapped |
| 5. Separation of Uses | 5. All trail uses may be combined at crossing |
| 6. Median Holding Zone | 6. $\geq 10'$; 20' median width preferred, with curb ramps and tactile warnings. Note that "holding" equestrians in median is undesirable from a safety standpoint |

* 300' is based on walking distance and is the length of a typical City block in the downtown area. Up to 600' is considered reasonable by the State of Wisconsin/Highway Department.

B. BELOW-GRADE CROSSINGS: are the preferred crossing for convenience and safety reasons, where there is sufficient clearance. Bridges are preferable to culverts, since they provide greater visibility and aesthetic quality.

- | | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width | 1. 9'-14' |
| 2. Surface | 2. Trail Standards. For equestrians, consider dirt, pea gravel, wood, roughened concrete, in order of priority |
| 3. Grade | 3. Trail Standards |
| 4. Trail Location (re floodplain) | 4. Generally, paved trails should be located outside the 10 year floodplain; locating all trails outside of the 100 year floodplain is optimum; however, if necessary, paved trails may be located up to the 2 year floodplain |
| 5. Culverts or Tunnels | |
| a. Optimum clearance/max. length | 5a. $\geq 12' \times 12'$ preferred; 10'h \times 12'w acceptable \times 156' length with median opening for daylight (height provides clearance for equestrians, length is suitable for 4 lane road)* |
| | 5b. 8'w \times 8'h/156' with median opening for daylight (height is suitable for bikes, pedestrians and handicapped uses)** |
| | 5c. 125' maximum length with no median opening for daylight |
| 6. Bridges | 6. Use vertical clearance standards based on trail use. Length should be minimized, $\leq 250'$ preferred. |

* and ** Culvert sizes recommended by Horseways, Inc. and the Open Space Task Force respectively.

C. ABOVE-GRADE CROSSINGS

Past experience in Albuquerque indicates that above-grade structures tend to be used less than at-grade crossings, unless traffic volumes exceed 20,000 vehicles per day with speeds of 35 mph or greater.

CROSSING STRUCTURES

- | | |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width | 1. $\geq 10'$ |
| 2. Grade | 2. See applicable Trail Standards |
| 3. Surface | 3. Textured concrete or wood, non-slip surfacing |
| 4. Side Treatment | 4. For equestrians: solid-sided barrier (or appearance of same) along bottom 3'; chain link or similar fencing up to 6'-8' total height; leave top uncovered or with at least 10' of clearance) |
| 5. Separation of Uses | 5. See River Crossings, below, however not recommended for handicapped or equestrian uses if other crossings can be provided |
| 6. Structure Width | 6. 20' is typical |
| 7. Roadway Clearance | 7. 17'-22' |
| 8. Intersection Clearance | 8. Locate outside of "clearsight triangle" as defined by Zoning Code |

RIVER CROSSINGS

Totally separate bridges for non-motorized traffic are preferred per the Development Process Manual.

- | | |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Trail Width | 1. 10'-12' (with equestrians) |
| 2. Grade | 2. Trail standards |
| 3. Surface | 3. Textured concrete or other non-slip surfacing |
| 4. Side Treatment | 4. For equestrians: solid-sided barrier along bottom 3', chain link or similar fencing up to 6'-8' total height |
| 5. Separation of Uses | 5. Post YIELD TO SLOWER TRAFFIC signs for trail users. Separate equestrians from bikes with railings or fences $\geq 3'$ -6" high. Separate trails from vehicular traffic with similar railings |

II. LOCAL AND COLLECTOR STREETS

At-Grade crossings are feasible either at mid-block or at intersections. Signalized crossings are preferred for Collector Streets.

At Grade

- | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------|
| 1. Minimum Crossing Width | 1. 12'-15' (with equestrians) |
| 2. Surface Treatment | 2. Textured pavement or other non-slip surfacing for equestrians |
| 3. Waiting Bay | 3. Flared trail width at street |
| 4. Hand Activated Signals | 4. 6' for equestrians, 4' for handicapped |
| 5. Separation of Uses | 5. Use YIELD TO SLOWER TRAFFIC signage |
| 6. Median Holding Zone | 6. $\geq 10'$, with 20' median width preferred, and curb ramps with tactile warnings for handicap accessibility |

LANDSCAPING

- | | |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1. Native Grasses Buffer Strip | 1. $\geq 10'$ width typical, 20' optimum for establishing plant community |
| 2. Width of Area for Tree Planting: | 2a. 15' for individual trees or a row of trees; provides for adequate crown space for native species. |
| | 2b. 30'-40' for tree clusters. |
| | 2c. Maintain $\geq 4'$ distance from trails, walls for root space |
| 3. Width of Area for Screening Hedge | 3. 10'-20' |
| 4. Nodal Parks | 4a. Prefer 3 acre minimum if turfed |
| | 4b. In parks < 3 acres in size, use irrigated groundcovers (other than turf and native landscaping) that do not require mowing |

ACKNOWLEDGEMENTS

The Planning Division would like to thank the following individuals and organizations for participating in developing the Trail Standards.

Floyd Thompson, John Barksdale, U.S. Forest Service
Judy Myers, Director, Governors Committee on Concerns of the Handicapped
Cliff Anderson, AMAFCA
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Dan Hogan, Hydrology Planning, PWD
Pat Westbrook, Diane Scena, Parks and Recreation
Janet Saters, Parks and Recreation
Barbara Baca, Open Space Division
Bill Coleman, Traffic Engineering, PWD
Subhas Shah, MRGCD
Jim Lewis, OSTF, Bikeways, Inc.
Vicki McGill, Horseways, Inc.
Phil Dugan, County Parks and Recreation
Bob Cole, Planning Division
Ellen Harland, Building Codes Consultant
Dan Soranio, Traffic Engineering, PWD
Jessie Ortiz, Design Engineering, PWD
Hope Reed, Coordinator, Barrier Free Programs
Mil Flege, Landscape Architect
Larry Caudill, Environmental Health Department
Julia Bernman, Plants of the Southwest
Sallie Pennybacker, Horseways, Inc.
Judith Phillips, Bernardo Beach Native Plants
Greater Albuquerque Recreational Trails Committee
Greater Albuquerque Bicycling Advisory Committee
Open Space Advisory Board

The Planning Division gathered information from the following cities and states to establish a common range of trail widths, grades, clearances, road crossings and landscaping requirements.

Scottsdale, Arizona
Tucson, Arizona
Davis, California
Monterey, California
San Diego, California
Boulder, Colorado
Fort Collins, Colorado
Minneapolis, Minnesota
Santa Fe, New Mexico
Eugene, Oregon
State California, Bay Area Rapid Transit System
State of California, East Bay Regional Park District
State of Oregon, Highway Department
State of Wisconsin, Governor's Office of Highway Safety

APPENDIX H
OPEN SPACE ACQUISITION INFORMATION

OPEN SPACE ADVISORY BOARD MEETING

MINUTES

JANUARY 22, 1991

Attending:	Annette Anaya	EPC
	Karen Aragon-Lyons	Real Property
	Barbara Baca	Open Space
	Chris Carter	FOTAP
	Paula Donahue	City Planning
	Jim Fitzgerald	OSAB
	Pete Ford	OSAB
	Rex Funk	Open Space
	Laura Gilliam	J. B. Robert Neighborhood Assoc.
	Jeanne House	OSAB
	Lawrence Klink	Denish & Associates
	Daniel Martinez	CIP
	Ellie Mitchell	OSAB
	George Molzen	OSAB
	Mark Money	Real Property
	Nancy Montoya	Real Property
	Marti Partridge	J. B. Robert Neighborhood Assoc.
	Michael E. Partridge	J. B. Robert Neighborhood Assoc.
	Randy Reed	City Planning
	Barbara Rosnagle	League of Women Voters
	Matt Schmader	Open Space
	Diane Souder	National Park Service
	Floyd A. Thompson III	Cibola National Forest
	Jim Trump	OSAB

A MOTION WAS DULY MADE, SECONDED AND UNANIMOUSLY PASSED BY THE OPEN SPACE ADVISORY BOARD THAT THE MINUTES OF THE DECEMBER 18, 1990 MEETING BE APPROVED.

NEW BUSINESS

Bear Canyon Arroyo / Albuquerque Conservation Trust - Lawrence Kline

A MOTION WAS DULY MADE, SECONDED AND UNANIMOUSLY PASSED BY THE OPEN SPACE ADVISORY BOARD THAT THE BEAR CANYON TRACT BE MOVED TO THE FIRST PRIORITY LIST AND A LETTER OF INTEREST BE WRITTEN FOR THE PURCHASE OF THE PROPERTY UPON CONFIRMATION BY THE BOARD OF PARTICIPATION BY THE NEIGHBORHOOD ASSOCIATION AND SUBJECT TO THE AVAILABILITY OF FUNDS AND ALSO THAT AN EXPRESSION OF INTENT BE MADE TO THE RTC OF THE CITY'S INTENT TO BUDGET \$180,000.00 FOR THE ACQUISITION OF THIS PROPERTY.

CRITERIA FOR ACQUISITION OF MAJOR PUBLIC OPEN SPACE LANDS OR INTERESTS DESIGNATED IN THE ALBUQUERQUE/BERNALILLO COUNTY COMPREHENSIVE PLAN OR OTHER ADOPTED CITY PLANS AND A FIRST PRIORITY ON THE MAJOR PUBLIC OPEN SPACE ACQUISITION PRIORITY LIST

LANDS THAT CAN BE MANAGED TO PRESERVE THEIR NATURAL CHARACTER

LANDS THAT SERVE ONE OR MORE OPEN SPACE PURPOSE

LANDS THAT CAN BE USED BY PEOPLE THROUGHOUT THE METROPOLITAN AREA

LANDS THAT ARE PHYSICALLY, VISUALLY, OR FUNCTIONALLY RELATED TO OTHER OPEN SPACE

LANDS OFFERED WITH SUBSTANTIAL ASSOCIATED DONATION

LANDS IN WHICH THE CITY'S INTEREST IS FINANCIALLY SECURE

LANDS THAT CAN BE DEVELOPED WITHOUT FURTHER SUBDIVISION OR SITE PLAN APPROVAL

INTERESTS IN LANDS THAT WILL SERVE AN OPEN SPACE PURPOSE AND ARE OFFERED AT SIGNIFICANTLY LESS THAN MARKET VALUE



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 28, 1990

Mrs. Ida Pearle Jeffers
President, Albuquerque Conservation Trust
13313 Cedarbrook Avenue NE
Albuquerque, New Mexico 87111

Dear Mrs. Jeffers:

Ellie Mitchell and I spoke about the Albuquerque Conservation Trust after I presented a recently released draft of the Bear Canyon Arroyo Corridor Plan to The Open Space Advisory Board this August. She suggested that I write you a short note and send you a copy of the draft plan. I hope that after reviewing the plan's proposals the Trust Board will consider helping to preserve lands in the Bear Canyon Arroyo floodplain.

The plan recommends using portions of existing Open Space along the Bear Canyon and Embudito Arroyos for trail network and discusses the need to connect fragmented Open Space in the Bear Canyon Arroyo floodplain between Juan Tabo and Tramway to form a continuous trail network for hikers, bicyclists, equestrians and people who use wheelchairs.

The John B. Roberts Neighborhood Association is very interested in preserving the floodplain as Open Space and has expressed interest in working with the Albuquerque Conservation Trust. The neighborhood has already demonstrated their willingness to steward these lands. People keep wildlife journals and organize trash pick ups on a regular basis. The association's president, Laura Gilliom, may be contacted ~~at 768-3932 or by mail at 10000 1st Ave. NE, Albuquerque, NM 87111~~

If you would like to discuss the plan proposals or have any questions please call me at 768-3932. Thank you very much for your time.

Sincerely,

Paula J. Donahue

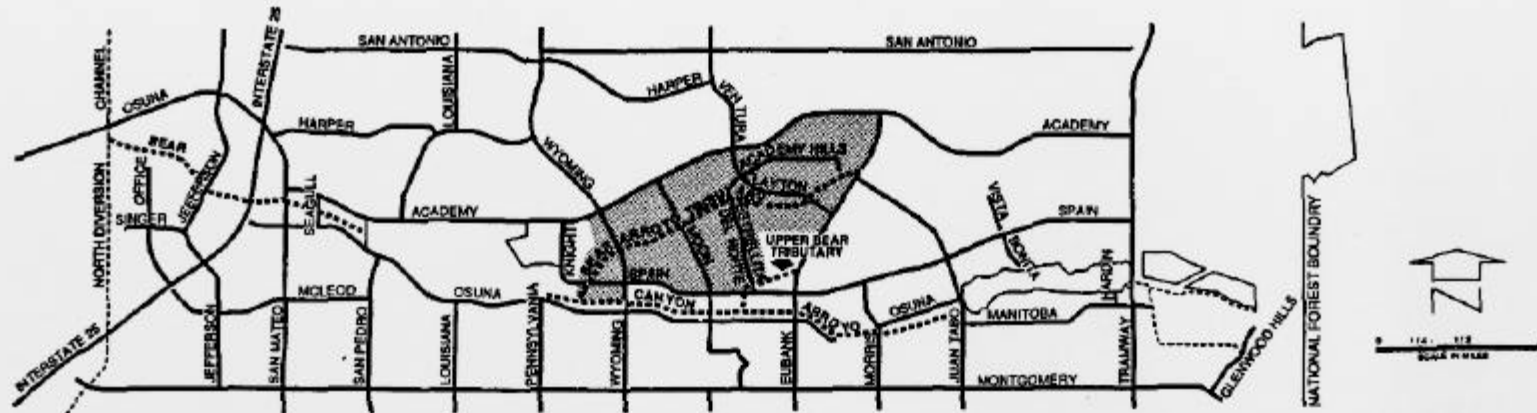
Enclosures:
Draft Plan
Planning Time Line

cc: Laura Gilliom
Advance Planning Reading File

AN EQUAL OPPORTUNITY EMPLOYER

APPENDIX I
BEAR TRIBUTARY TRAIL PROPOSALS AND COSTS FOR CONSIDERATION BY ADJOINING NEIGHBORHOODS IN THE FUTURE

BEAR ARROYO TRIBUTARY



In the future, if adjacent neighborhoods reconsider their position and request the following trail projects, this segment of the Bear Canyon Arroyo Corridor (the Bear Arroyo Tributary from Academy Park to Wyoming) could serve bicyclists, runners and hikers (including people who use wheelchairs). Paved and unpaved trails could connect Academy Park on the east to bikeway network connections at Layton, Moon and Wyoming. The trail could either terminate on the west at Wyoming 1/4 mile north of Arroyo del Oso Park and Bear Canyon Arroyo trails or a connection to Arroyo del Oso Park could be possible with considerable arroyo reconstruction and slope terracing for trails. Expensive trail projects of this type may be possible with private sector involvement.

LOCATION

1. **ACADEMY PARK**
North Side of Park at
Concrete Drainage Rundown

DESCRIPTION

1. CONSTRUCT TWO WHEELCHAIR CURB RAMPs (one on each side of concrete rundown at park sidewalk)

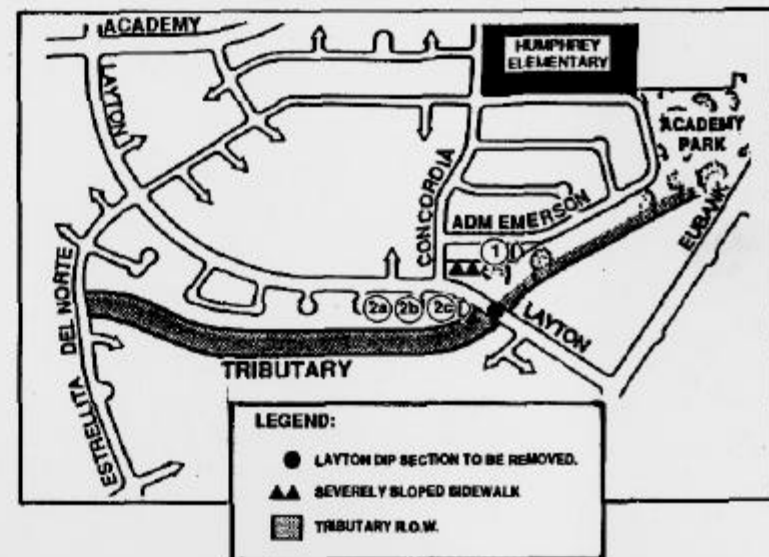
2. **LAYTON**

As part of a Layton Dip Section Removal project, wheelchair curb ramps will be built on both sides of the street.

- 2a. CONSTRUCT WHEELCHAIR ACCESSIBLE TRAIL ENTRANCE ON NORTH SIDE OF TRIBUTARY (west side of Layton)

- 2b. ERECT TRAILHEAD SIGN (on north side of tributary)

- 2c. ERECT SIGN REQUIRING BICYCLIST TO YIELD TO PEDESTRIANS



3. **LAYTON - ESTRELLITA DEL NORTE**
South Side of Tributary
 Approx. 2,800 linear ft. or
 .53 miles

3a. CONSTRUCT 8 FOOT WIDE UNPAVED
 RUNNING TRAIL

3b. CONSTRUCT DRAINAGE SWALE
 (between slope and trail to
 prevent further erosion)

3c. PLANT CHAMISA, ASTERS AND
 OTHER DROUGHT RESISTANT PLANTS FOR
 STABILIZATION AND LANDSCAPING (on
 slope to the south) (See Appendix
 E)

3d. PROVIDE OPENING FOR TRAIL
 ACCESS (at rundown entrance on
 Regal Ridge Trail)

3e. IMPROVE SLOPE AND TRAIL
 ENTRANCE AT ESTRELLITA DEL NORTE

4. **LAYTON - ESTRELLITA DEL NORTE**
North Side of Tributary
 Approx. 2,600 linear ft. or
 .49 miles

4a. CONSTRUCT 10 FOOT WIDE
 WHEELCHAIR ACCESSIBLE PAVED
 PEDESTRIAN/BICYCLE TRAIL PER ANSI
 A117.1-1986

4b. PLANT ASTERS, CHAMISA AND
 OTHER DROUGHT RESISTANT PLANTS
 (between trail and tributary and
 trail and private property)

4c. INSTALL 3 TO 4 WHEELCHAIR
 ACCESSIBLE REST STOPS WITH SEATING
 AND SHADE (one every 1/8 mile)

5. **ESTRELLITA DEL NORTE**

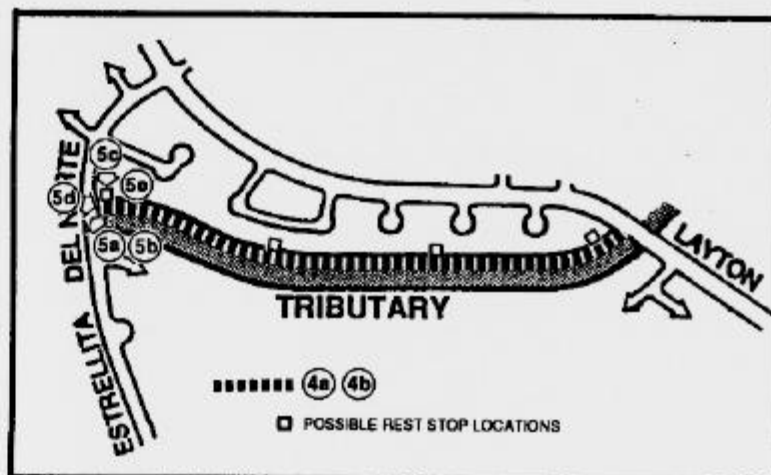
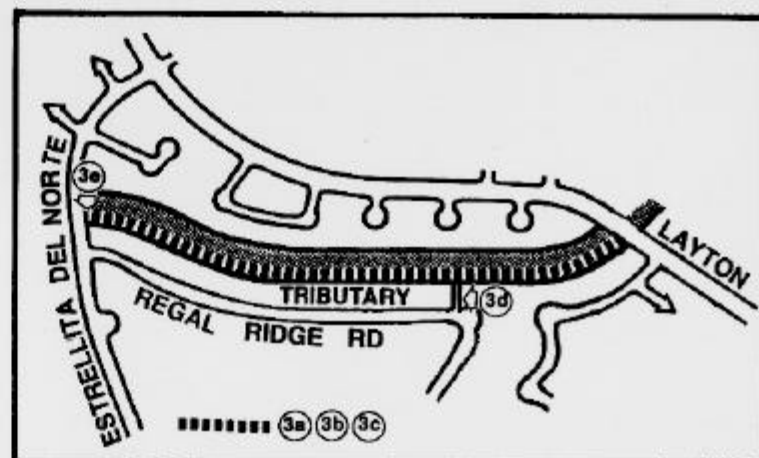
5a. CONSTRUCT WHEELCHAIR CURB
 RAMPS (on both sides of the street)

5b. CONSTRUCT WHEELCHAIR ACCESS-
 IBLE TRAIL ENTRANCES (on both the
 east and west sides of Estrellita
 del Norte)

5c. ERECT TRAILHEAD SIGN AND REST
 STOP (on east side of the street,
 north side of the tributary)

5d. ERECT PIPE RAIL GATE DESIGNED
 TO ALLOW TRAIL USERS WHILE
 PROHIBITING MOTORCYCLES (on both
 sides of the street)

5e. ERECT SIGN REQUIRING
 BICYCLISTS TO YIELD TO PEDESTRIANS



6. ESTRELLITA DEL NORTE - MOON
North Side of Tributary
Approx. 1,800 linear ft. or
.34 miles

6a. CONSTRUCT 8 TO 10 FOOT WIDE
PAVED PEDESTRIAN/BIKE TRAIL PER
ANSI A117.1-1986

6b. PLANT ASTERS, CHAMISA AND
OTHER DROUGHT RESISTANT PLANTS
(between the trail and the
tributary)

6c. PLANT DROUGHT RESISTANT
SHRUBS TO FORM A SCREEN BETWEEN
THE TRAIL AND PRIVATE PROPERTIES

6d. INSTALL 2 TO 3 WHEELCHAIR
ACCESSIBLE REST STOPS WITH SEATING
AND SHADE (one every 1/8 mile)

6e. ACQUIRE TRAIL EASEMENT FOR
NEIGHBORHOOD ACCESS (at either
Canyon Vista Road or Canyon Crest
Place)

7. MOON

7a. ERECT TRAIL IDENTIFICATION
SIGN

7b. CONTINUE WHEELCHAIR ACCESS-
IBLE TRAIL (on north side of the
tributary)

7c. INSTALL 8 FOOT WIDE
WHEELCHAIR ACCESSIBLE PEDESTRIAN/
BIKE BRIDGE (across the tributary)

7d. CONSTRUCT WHEELCHAIR ACCESS-
IBLE ENTRANCES TO TRAIL AND BRIDGE
(from sidewalks on Moon north and
south of the Tributary)

8. MOON - WYOMING
North Side of Tributary
Approx. 2,200 linear ft. or
.42 miles

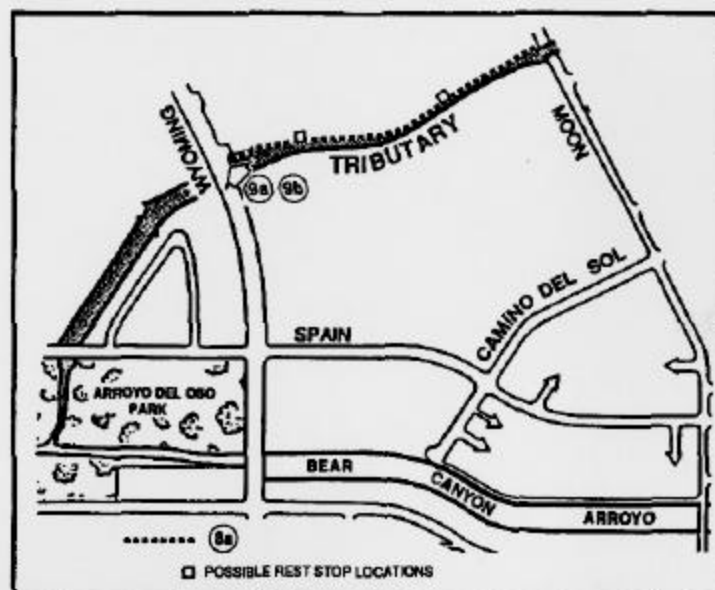
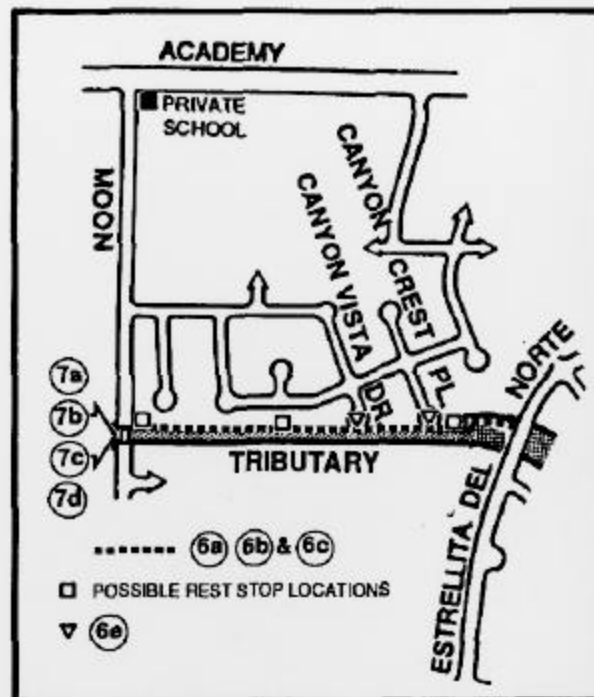
8a. CONSTRUCT 10 FOOT WIDE PAVED
PEDESTRIAN/BIKE TRAIL PER ANSI
A117.1-1986 (on existing 12 foot
wide maintenance road)

8b. INSTALL 2 TO 3 WHEELCHAIR
ACCESSIBLE REST STOPS WITH SEATING
AND SHADE (one every 1/8 mile)

9. WYOMING

9a. CONSTRUCT WHEELCHAIR ACCESS-
IBLE ENTRANCES (on north side of
tributary from sidewalk on east
side of Wyoming)

9b. ERECT TRAILHEAD SIGN (include
information directing trail users
to Bear Canyon Arroyo trails and
Arroyo del Oso Park 1/4 mile south)



SEGMENT 7 - THE BEAR TRIBUTARY

<u>Item</u>		<u>Quantity</u>
<u>Cost</u>		
Asphalt Trail	6800 L.F.	\$115,600
Sand Seal Coat	6800 L.F.	\$ 37,700
Unpaved Trail	2800 L.F.	\$ 14,000
Landscaping	7400 L.F.	
Shrubs	1480	\$ 37,000
Meters and UEC	2- 1"	\$ 6,400
	1- 3/4"	\$ 2,500
Drip irrigation	lump sum	\$ 25,000
Mulch	46,000 S.F.	\$ 1,500
Native seed	?	?
Subtotal		\$ 72,400
Signs & Trail Furniture		
Signs	3 large/misc.	\$ 7,500
Rest Stops	10 w/ shelters	\$ 25,000
Bridge @ Moon	100 feet	?
Land Acquisition for trail entrances	?	?
from adjacent cul-de-sacs		
Extraordinary grading to solve prob-	?	?
lems with side slopes and ap-		
proach slopes at street inter-		
sections		
TOTAL FOR SEGMENT 7:		\$272,200

TECHNICAL TEAM AND OTHERS WHO HAVE CONTRIBUTED TO THE PLAN

ALBUQUERQUE METROPOLITAN FLOOD CONTROL AUTHORITY

Cliff Anderson

ALBUQUERQUE PUBLIC SCHOOLS

Vicky Kay

Sam Adamo

BUILDING CODES CONSULTANT

Ellen Harland, 1980-1988

CITY OF ALBUQUERQUE

Albuquerque Police Department

Karen Fishcer

Officer Stephen Stevens

Environmental Health Department

Fred Malone

Human Services Department

Gordon Z. Bernell, Handicap Affairs Coordinator, 1990

Mary Lou Haywood-Spells, Neighborhood Coordination

Mary Davis, 1990

Land Resources and Regulation Department

Jay Hart, Open Space Division

Barbara Baca, Open Space Division

Isabelle Alves, Property Management

P.J. Ruble, Property Management

Doug Crandall, Zoning Enforcement

Legal Department

Bob White

Mayor's Office

Al Pistone, (Handicap Coordinator), 1987-1988

Parks and Recreation Department

Diane Scena

Pat Westbrook

Janet Saiers

Planning Department

Dan Martinez, Capital Implementation Program

Public Works Department

*John Kelly, (Arroyo Maintenance), 1987-1988

Albert Gonzales, (Arroyo Maintenance)

Fred Aguirre, (Hydrology)

Dwayne Sheppard, (Hydrology), 1987-1988

*Former City Employees

Public Works Department (continued)

Jim Fink, (Hydrology), 1987-1988

Dan Hogan, (Hydrology), 1988-1990

Steve Boberg, (Hydrology), 1989-1990

Kapil Goyal (Hydrology Planning) 1990

Bill Coleman, (Traffic Operations)

Dan Soriano, (Traffic Operations)

*Jim Milton, (Transportation Development), 1987-1988

Dave Harmon, (Transportation Development)

Jerry Widdison, (Transportation Planning)

Joe Luehring, (Utilities)

Jean Witherspoon, (Utilities Planning)

Bill Westmoreland, (Water and Sewer), (1987-1990)

Greg Olson, (Utilities Development), (1990)

Doug Daily, (Water Utilities)

COUNTY PUBLIC WORKS DEPARTMENT

John Taschek, 1987-1988

Tucker Green, 1987

Carl Lovato, 1989-90

Steve Miller, 1989-90

COUNTY PLANNING AND ZONING

Frank Sandoval, 1990

CIBOLA NATIONAL FOREST SANDIA RANGER DISTRICT

Floyd Thompson

John Hayden

GOVERNOR'S COMMITTEE ON CONCERNS OF THE HANDICAPPED

Judy Myers, Director

Hope Reed

NEW MEXICO STATE HIGHWAY & TRANSPORTATION DEPARTMENT

Sayeed Afsar

PUBLIC SERVICE COMPANY OF NEW MEXICO

Judy Suiter, 1987-1988

SOIL CONSERVATION SERVICE

Janet Stuart, 1987-1988

John Werner, 1989-1990