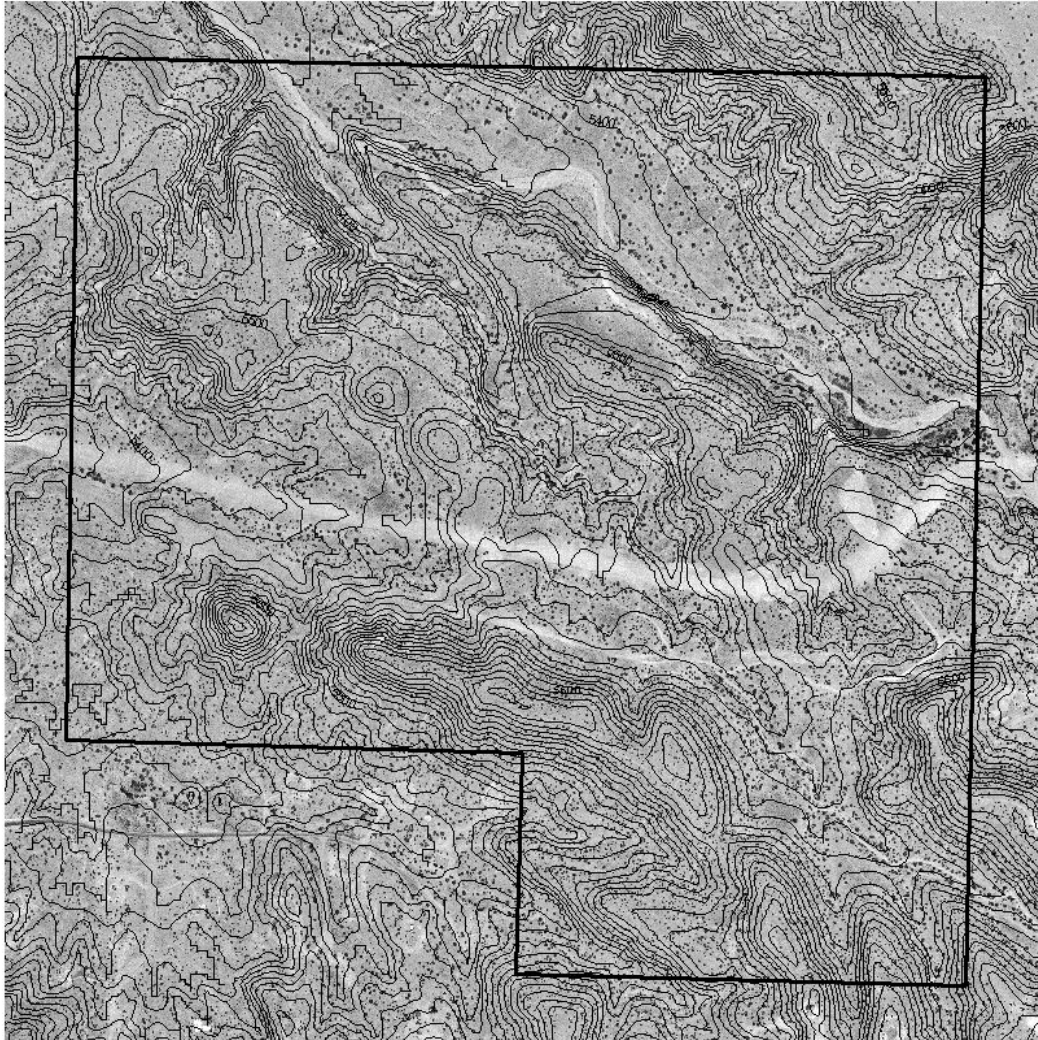


Placitas Open Space Master Plan

February 2002



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Appendix – Public Comments

Graphic Master Plan

Introduction

Since 1995, Placitas residents have been actively working with the City of Albuquerque Open Space Division to preserve the 560-acre Placitas Open Space as an undeveloped natural and low-impact recreational site. The site is a pocket of natural beauty and cultural history that provides wildlife habitat and outdoor enjoyment for the community. The need to preserve the site is increasingly evident as surrounding development continues and Open Spaces, in general, become more and more scarce.

An ongoing effort has been made since 1995 to fully understand the site and its importance to the community as Major Public Open Space. Major Public Open Space (MPOS) as defined in the Albuquerque/Bernalillo County Comprehensive Plan is discussed in more detail in Chapter 4.

“Community needs” Environmental and cultural resource surveys have been conducted. Community needs and desires have been assessed and neighborhood meetings have been held in Placitas to assure input from residents of areas adjacent or in proximity to the site. This Master Plan is the culmination of a thorough site analysis effort. It consists of a site plan, and management guidelines to ensure the preservation of Placitas Open Space which provides improvements to the site and maximize the potential use of the site for all.

The Placitas Open Space Master Plan has been prepared for approval by the City of Albuquerque's Environmental Planning Commission (EPC) and the Sandoval County Commission.

1. Project Location and History

Placitas Open Space is located approximately three miles northwest of the village of Placitas in Sandoval County, New Mexico. The City of Albuquerque purchased a 640-acre parcel in 1966 from the Bureau of Land Management (BLM) under the Recreation and Public Purposes Act “for reservation type park and recreation area purposes only”. As part of the Elena Gallegos Land Exchange, 80 acres were traded in the early 1980’s resulting in the current 560 acres of Placitas Open Space. The property covers Township 13N, Range 4E, S 1/2 of Section 24, N 1/2 of the NW ¼ and NE ¼ of Section 25 as shown on the U.S. Geological Survey Placitas Quadrangle, New Mexico.

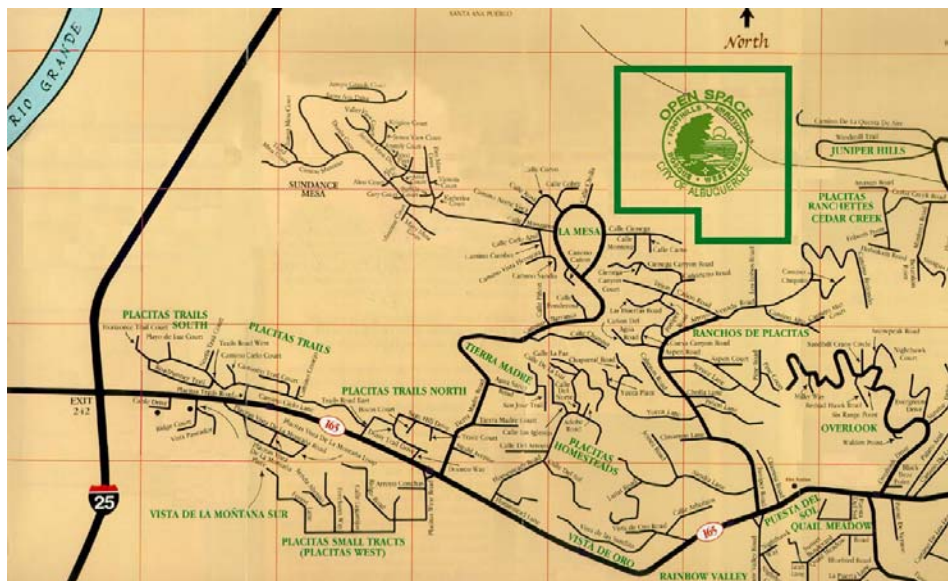


Figure 1 Location Map

The project history begins in 1995, when an Albuquerque resident's proposal to use Placitas Open Space as a sporting clays facility was considered and denied by the City of Albuquerque Open Space Advisory Board. Consequently, the Committee for a Las Huertas Creek Nature Reserve formed and later merged with Las Placitas Association for the purpose of working with the government agencies and the general public to prepare a long-term site plan and management plan for the Placitas Open Space. Other groups such as the High Desert Conservancy also took a more active interest in the property. In 1995, Mid-America Pipeline Company (MAPCO) also began constructing a pipeline through Placitas that crossed the Open Space. MAPCO agreed to set up an escrow fund to help protect the Placitas Open Space. Funding from other sources, including the State of New Mexico has since been granted to assist in this preservation effort. A series of environmental and cultural resource surveys of the site began in 1997. In 1999, Sites Southwest was contracted by the City of Albuquerque to work with all involved entities to produce the Placitas Open Space Master Plan.

2. Site Data and Analysis

2.1 Data Collection

The City of Albuquerque and Las Placitas Association coordinated a series of extensive site analysis surveys which constitute a large portion of the data used to produce this Placitas Open Space Master Plan:

- **Scurlock, Dan.** An Eco-Cultural Overview of the 560-Acre Open Space Tract, Las Huertas Basin, Sandoval County, New Mexico, November 1997.
- **Dunmire, William W.** Biological/Environmental Survey: Placitas Open Space, December 1997.
- **Schwarz, Hart R.** Placitas Open Space Bird Survey: March 1997-February 1998, March 1998.
- **Daniel, Carolyn L. and Jeanne A. Schutt.** Cultural Resources Inventory of Placitas Open Space: from the Northern Boundary to the MAPCO Pipeline, Archaeological and Historical Research Institute, May 1998.
- **Goar, T. R., et al.** Cultural Resources Survey of Placitas Open Space: from the MAPCO Pipeline to the Southern Boundary, Albuquerque Archaeological Society, September 1998.

Summarized below are data from these documents as well as additional data collected by City of Albuquerque Open Space and Sites Southwest. Additional data were obtained through site visits and from two public meetings held on August 17 and September 20, 1999. Where referenced, the above documents should be consulted for further detail.

2.1.1 Natural Factors

Climate

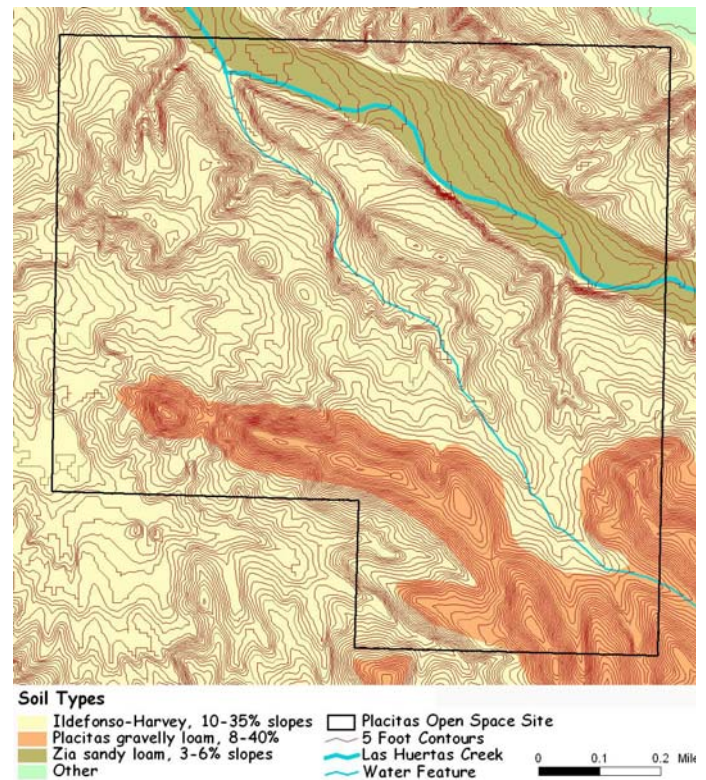


Figure 2 Soils and Contours

The Placitas Open Space is located in a semi-arid region. Average annual precipitation at the site is approximately 12-13 inches, sixty-eight percent of which falls between May and October, particularly between July and August. The average relative humidity is less than forty-three percent. Prevailing winds are westerly or southwesterly except during colder months when northerly winds prevail. On average, the number of frost-free days is 160 (Scurlock) and the average annual air temperature is 52 to 54 degrees Fahrenheit (Soil Conservation Service).

Physiography, Geology and Soils

The Placitas Open Space lies within the Basin and Range province of the southwest. The site is characterized by alluvial fans and pediments cut by deep valleys. As demonstrated by the Las Huertas drainage, these valleys have been filled by alluvial deposits (Daniel).

The Placitas Open Space is entirely underlain by Santa Fe group geologic strata. This strata dates from the Miocene epoch of the Tertiary period (7-25 millions years ago) and consists of sandstones varying in composition and texture.

Overlying the Santa Fe group base rock are surface deposits of limestone, sandstone and igneous cobbles and boulders. These boulders likely washed into the area from the Sandia Mountains and other nearby ranges during major floods in the recent past. Fossils of marine life such as brachiopods, crinoids, fusulinids and corals are evident in some of these boulders (Dunmire).

The soils of the Las Huertas Creek terraces are Zia sandy loam formed in sandstone-derived mixed alluvium and eolian sediments. This soil is found on three to six percent slopes and is characterized as deep and well drained with slight water erosion hazard and moderate soil blowing hazard.

The soils of terraces above the floodplain are the Ildefonso-Harvey association. The Ildefonso soil is a gravelly sandy loam formed in basalt-derived alluvium, colluvium and eolian material. This soil is found on 10-35 percent slopes and is characterized as deep and well drained with moderate water erosion hazard and slight soil blowing hazard. The Harvey soil is a loam formed in eolian material and mixed alluvium. This soil is found on 10-15 percent slopes and is characterized as deep and well drained with moderate water erosion hazard and moderate soil blowing hazard.

The soils of the fan terraces are Placitas gravelly loam formed in conglomerate-derived material. This soil is found on 8-40 percent slopes and is characterized as moderately deep and well drained with moderate water erosion hazard and moderate soil blowing hazard (Soil Conservation Service).

Hydrology

Las Huertas Creek is the most prominent hydrologic feature across the Placitas Open Space. This 14.5-mile long Creek originates at about 9,000 feet elevation just below Capulin Peak at the north side of the Sandia Mountains and drains into the Rio Grande near Algodones, draining approximately 26 square miles. The Creek channel crosses the Open Space in a southeast to northwest

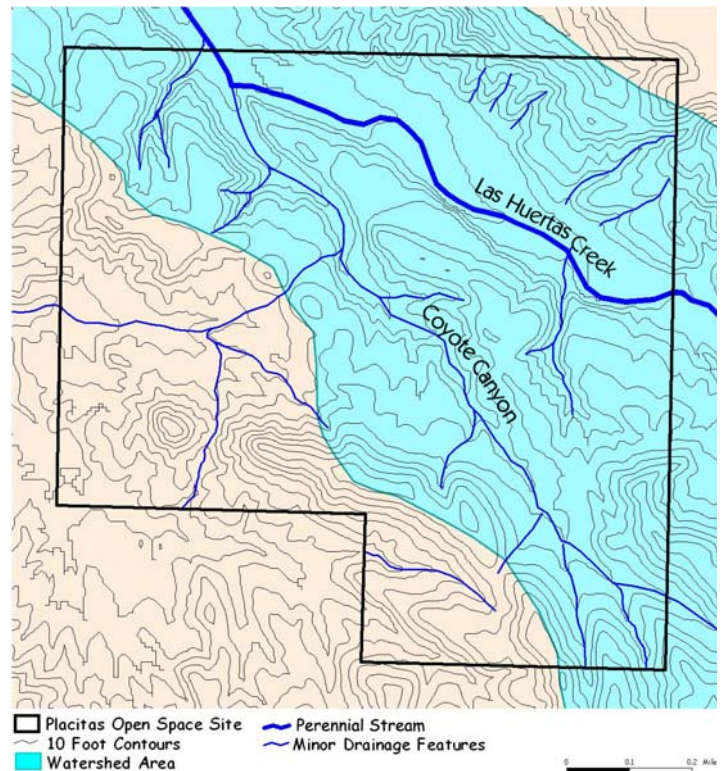


Figure 3 Watershed and Water Features

direction at an average width of about 100 feet. Here, the Las Huertas valley floor is approximately 1,000 feet wide. Increased creek flows occur during floods, and from spring and early summer runoff in years with higher-than-average snowpacks in the Sandias.

Otherwise, Las Huertas Creek is a perennial although very narrow, springfed water course that fails to flow in some locations. Estimated 5-year storm flows in the Open Space area are 2,500 cubic feet per second and estimated 100-year storm flows at the mouth of the Creek are 7,500 cubic feet per second.

No major tributaries of Las Huertas Creek exist within the Placitas Open Space. The uplands of the site are drained by smaller arroyos across the site (Scurlock) and the minor drainage which Schwarz refers to as Coyote Canyon. This drainage enters the site at the southeast corner and joins Las Huertas Creek near the northwest boundary and is mostly dry except for infrequent flash flood runoffs.

Elevation/Topography and Slope/Aspect

The elevation of the site ranges from 5,360 to 5,660 feet above sea level. The topography is characterized by low, rolling hills and mesas cut by arroyos. The Las Huertas Creek floodplain is a broad valley that divides the northern half of the site (Dunmire).

The slope/aspect of the site is characterized by a predominance of slopes greater than 25%. Most of these slopes either face north/northeast or south/southwest.

Vegetation

Four distinct vegetation communities are found on the site: piñon-juniper woodland, juniper grassland, floodplain grassland and semi-riparian communities. Dunmire discusses these in detail along with a complete plant species list in his report. Piñon-juniper woodland community constitutes approximately 80 percent of the site and is dominated by piñon pine (*Pinus edulis*) and one-seed juniper (*Juniperus monosperma*). The shrubs of this community include needleleaf dogweed (*Dyssodia acerosa*), joint-fir (*Ephedra torreyana*), feather dalea (*Dalea formosa*) and narrowleaf yucca (*Yucca glauca*). The grasses include New Mexico feathergrass (*Stipa neomexicana*), black grama (*Bouteloua eriopoda*) and hairy grama (*Bouteloua hirsuta*). Dunmire also recorded 31 species of forbs as common or abundant. The Pinon-Juniper community occurs on slopes, hillsides and minor arroyos and is found on rocky or cobbly areas with poor soil development.

Juniper grassland community occurs across approximately 13 percent of the site. The Pinon-Juniper community is dominated by dense patches of grasses including black grama, galleta (*Pleuraphis jamesii*), and New Mexico feathergrass. One-seed juniper is found in this community as well as broom snakeweed (*Gutierrezia sarothrae*), narrowleaf yucca, joint-fir, and 30 species of forbs recorded as common or abundant. This community is found on sandy clay loam with less surface rock and cobbles than the piñon-juniper community and more clay than the floodplain grassland substrate.

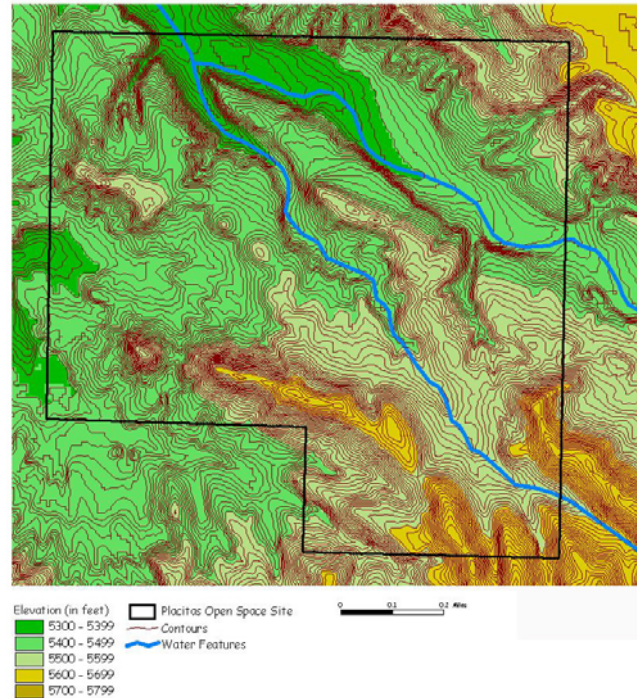


Figure 4 Elevation

Floodplain grassland community covers approximately six percent of the site and has the highest plant diversity of the four communities. One-seed juniper is common and shrubs are dominated by two species of rabbitbrush (*Chrysothamnus nauseosus* and *C. viscidiflorus*), broom snakeweed and fourwing saltbush (*Atriplex canescens*). Dominant grasses are galleta and black grama, however, Indian ricegrass (*Oryzopsis hymenoides*) and sand and spike dropseed (*Sporobolus cryptandrus* and *S. contractus*) are also abundant. This community is found on broad flats along Las Huertas Creek. The sandy to sandy-clay loam is sandier and siltier than the juniper grassland substrate. Occasional flooding in this community results in a less stable surface.

The fourth community is the semi-riparian community and includes one-seed juniper with occasional fremont cottonwood (*Populus fremontii*) and coyote willow (*Salix exigua*) growing along the Creek. Invasive non-native species also found along the Creek are Russian olive (*Elaeagnus angustifolia*), Siberian elm (*Ulmus pumila*) and salt cedar (*Tamarix pentandra*). Shrubs include Apache plume (*Fallugia paradoxa*) and rubber rabbitbrush (*Chrysothamnus nauseosus*). Grasses include side-oats grama (*Bouteloua curtipendula*), silver and big bluestem (*Bothriochloa laguroides* and *Andropogon gerardii* var. *gerardii*) and meadow fescue (*Festuca pratensis*). A number of exotic grasses and forbs which have washed down from upstream farms and developments are also included in this community. These germinate in the Creek bed soils and include rescuegrass (*Bromus catharticus*), barnyardgrass (*Echinochloa crus-gavonis*), Japanese brome (*Bromus japonicus*), and green bristlegrass (*Setaria viridis*). Introduced species include wheat (*Triticum aestivum*), alfalfa (*Medicago sativa*) and sweet clover (*Melilotus* spp.). This community is found on the sand and cobbles of the inner Las Huertas Creek arroyo and principal side arroyos.

Of special note, bare soils across the Placitas Open Space support cryptogamic crusts, a combination of cyanobacteria, mosses, lichens, green algae, microfungi and bacteria. These brown, black or grey crusts are well developed on the floodplain grassland soils and are found throughout the site except on semi-riparian soils and on the steepest slopes. These crusts help stabilize soils against wind and water erosion and enhance natural plant succession by adding organic matter and nitrogen to the soil (Dunmire), retaining soil moisture and protecting plant seeds during germination. However, they are fragile, easily disturbed and can take many years to regenerate following disturbance, particularly overgrazing.

No threatened or endangered plant species were observed or are anticipated at the site.

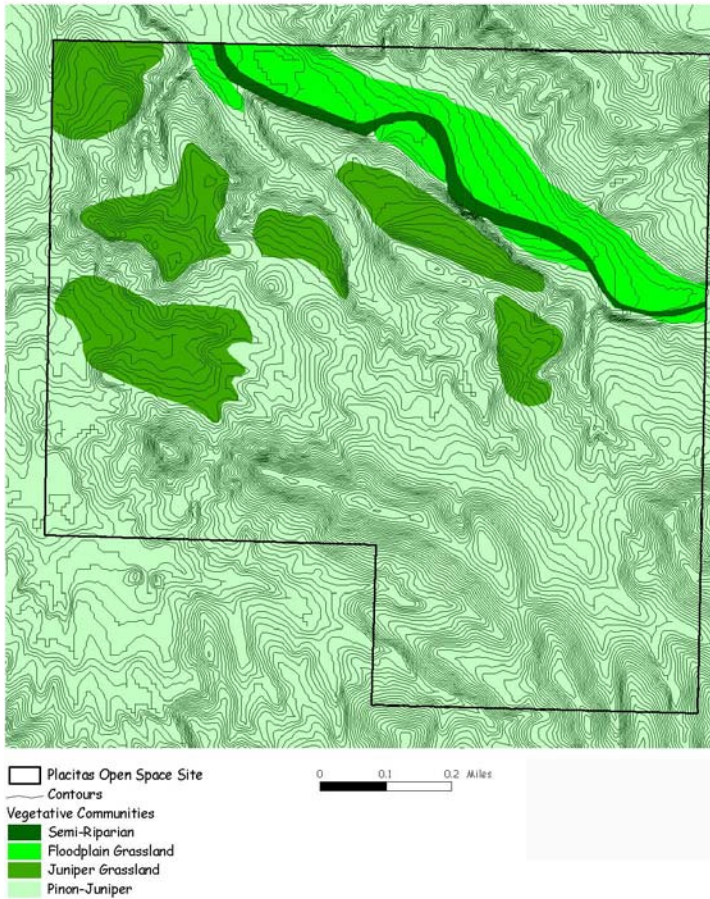


Figure 5 Vegetative Communities

Wildlife

Species lists of mammals, reptiles and amphibians that may potentially be found on the site are included in Dunmire's report. These lists were based upon known species distribution and habitats in New Mexico as well as field surveys and reflect species typical of juniper and grasslands habitats. The reptile and amphibian list also reflects species typical of riparian zones in the Placitas Open Space area.

The bird survey conducted by Schwarz identifies a high diversity, at least 75 species, present at the site. The survey lists 23 breeding species, of which breeding was confirmed for 15. Nineteen species of year-round residents, 29 species of transients and 10 species of winter visitors are on the list. Also included in the species list are the grey vireo (*Vireo vicinior*) and the loggerhead shrike (*Lanius ludovicianus*). The Grey vireo has been sighted in the Placitas Open Space. This bird is currently on the state's threatened and endangered species list. However, the species would be considered a rare transient at the site. The loggerhead shrike is currently listed as federal species of concern and was placed on the species "watch" list. The BLM includes the loggerhead shrike on its sensitive species list. Schwarz documents the species as a regular year-round visitor at the site.

Schwarz also mentions that four bird boxes were placed on the site on February 21, 1998 to attract mountain bluebirds, ash-throated flycatchers, juniper titmice and possibly Bewick's wrens.

No threatened or endangered species are permanent residents nor are nesting on the site. No known habitats will be disturbed.

2.1.2 Cultural Resources

Scurlock provides a comprehensive eco-cultural overview of Las Huertas Basin. This area, of which Placitas Open Space is a part, extends from the north Sandia Mountains to the Rio Grande and is rich with at least 11,000 years of Puebloan, Spanish and Anglo-American utilization and occupation.

In 1998, the Archaeological and Historical Research Institute (AHRI) conducted a cultural resources survey of the northern half of the site and the Albuquerque Archaeological Society (AAS) surveyed the southern half of the site. A total of 72 sites were recorded, 16 of which are recommended as eligible to the National Register of Historic Places (NRHP), five are potentially eligible and the remainder are ineligible. A grant was obtained by the Las Placitas Association to list these areas on the NRHP. The site is now listed on the State Register of Cultural Properties as a Cultural Landscape District of historical significance. The majority of the 72 sites recorded are prehistoric lithic scatters, that is, sites containing stone tool artifacts such as projectile points, knives, scrapers, and flakes. Included in the sites are four Puebloan structural sites, four historical Hispanic structural sites and one previously recorded Puebloan structural site. The recorded sites offer the potential for additional data regarding the historic Pueblo and Hispanic settlements in the greater Las Huertas Basin.

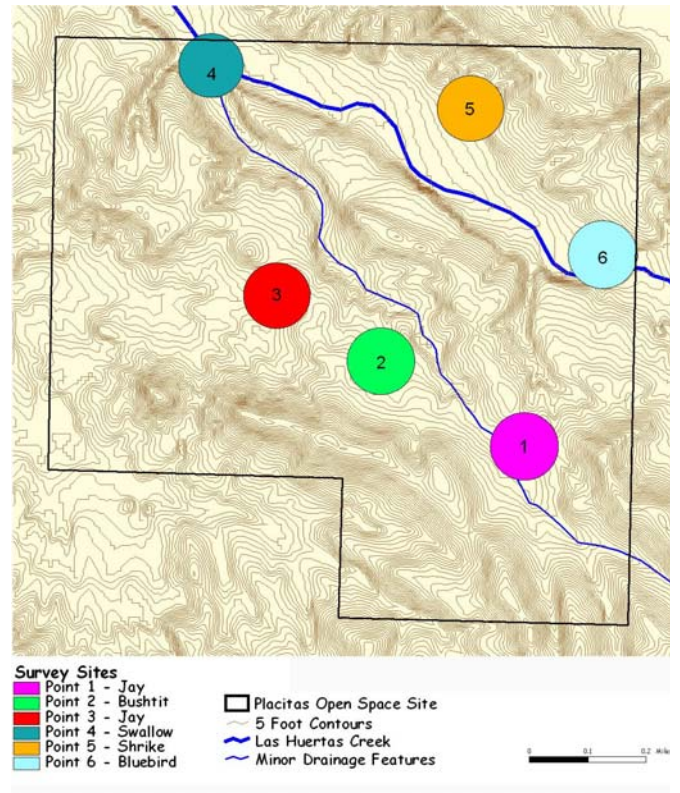


Figure 6 Breeding Bird Survey Sites

Due to the cultural significance of these sites, locations are not to be made public in order to discourage visitation and prevent damage.

2.1.3 Existing Conditions and Use

Adjacent Landholdings/Land Uses

The Placitas Open Space is currently bordered by BLM land to the north and four subdivisions (Placitas Ranchettes, Tres Vidas, Ranchos de Placitas and La Mesa to the east, south and west. Sundance Mesa subdivision lies west of La Mesa and also borders BLM land. The BLM land to the northwest is currently regulated for grazing, mining and off-road vehicular use but is closed to shooting.

Two pipeline corridors bisect the Open Space in an east-west direction. These include a Cortez CO₂ 36" pipeline owned and operated by Kinder-Morgan, an Equilon owned 16" petroleum pipeline, 3 natural gas liquids pipelines owned and operated by Williams-MAPCO, and an abandoned natural gas pipeline that used to be owned by Gas Company of New Mexico. One of the Williams-MAPCO pipelines has been leased to Navajo Refining and as of October 11, 1999 is running refined products such as gasoline and diesel fuel.

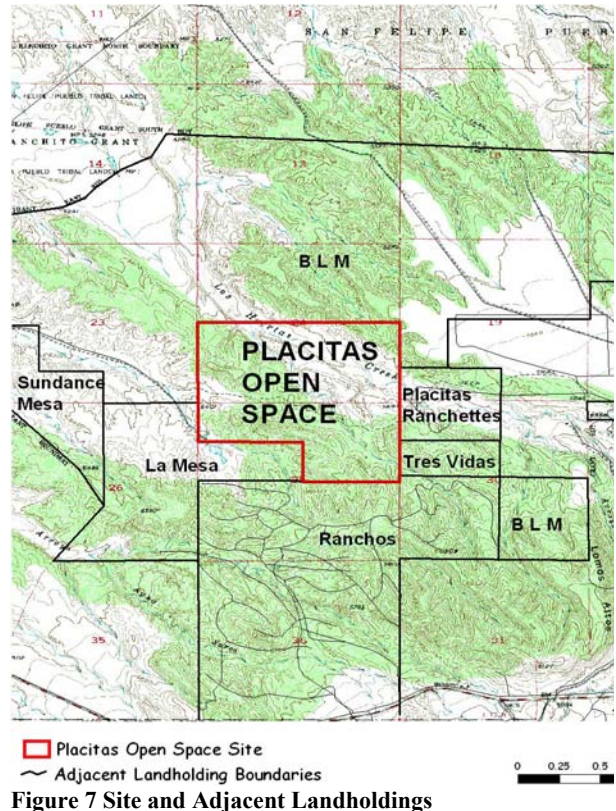


Figure 7 Site and Adjacent Landholdings

The construction and maintenance of all pipelines, present and future must be in full compliance with National Pipeline Safety Standards Act in letter and spirit. It is crucial that appropriate safety protocols be followed when grading around pipelines in order to avoid damaging them, either directly or indirectly.

Access/Parking

The primary legal public access and parking area is located at the northeast corner of the site. A BLM right-of-way was granted in 1983 for this access. It is reached via Highway 165 to Camino de las Huertas to Llano del Norte and over approximately one-mile of two-track dirt road through BLM land. Because of the existing fencing alignment for the BLM grazing lease at this location, visitors are inconvenienced by two drop gates as they drive to the parking area.



Photo 1. View from existing northeast access/parking area

Local residents and other current users of the site have also created unofficial routes and access points at various locations along the perimeter of the site. These include:

- Foot-trails and access points from adjacent private properties directly to the Open Space
- The existing pipeline service two-track where it crosses the east and west boundaries of the site. At the end of Cloudview Court, within the Sundance Mesa Subdivision, local public access is gained to the Open Space approximately three quarters of a mile across BLM property. BLM and the City of Albuquerque are currently pursuing plans for a general public access and small parking area on BLM land. The proposal is currently being coordinated with the residents of Sundance Mesa and other interested parties. The current west access point includes a horse walk over gate.
- The existing lot between lots 24 and 25 on Calle Cienega in La Mesa subdivision which is platted as a private park and is under the ownership of the La Mesa Home Owners Association.
- The existing 50-foot-wide public access and public utility easement at the end of Calle Rosa in La Mesa subdivision. KGA Development Corporation maintains a 10-foot-wide access control here, and local residents currently use this as a route to the pipeline service two-track that enters the site on the west.
- The existing two-track along Las Huertas Creek where the Creek exits the site to the north (this road is currently accessed via the powerline to the west of the site).

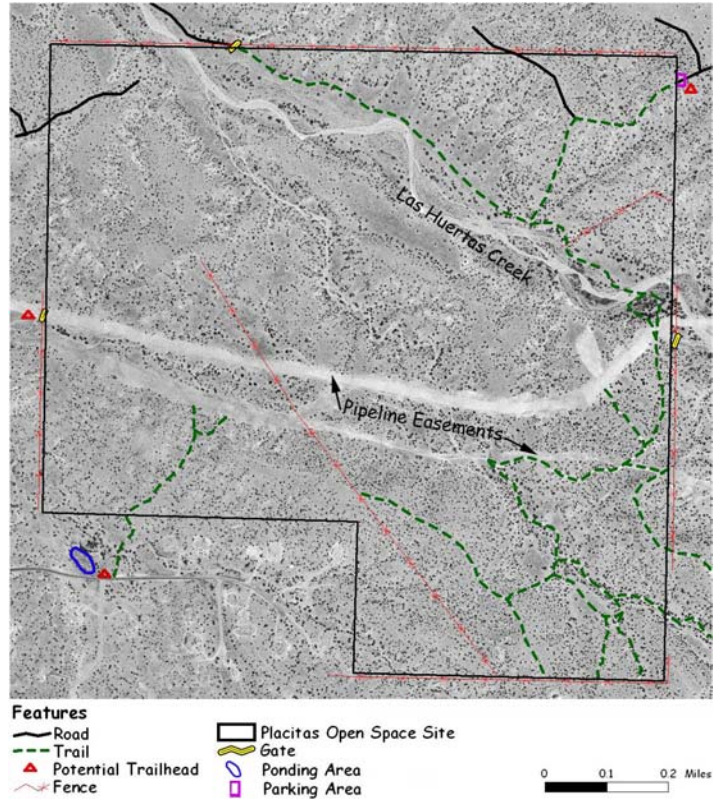


Figure 8 Features and Conditions

Trails/Signage

A number of trails currently access the site and are being used. In general they follow the existing animal trails, two-track roads, pipelines, arroyos and drainages (including Las Huertas Creek). At present, there are no trail designations regarding use. City of Albuquerque Open Space signs exist at the northeast access point/parking area and at the west gate that indicate general Open Space regulations.

Current Uses/Activities

Current uses of and activities at the Placitas Open Space include:

- Hiking/jogging/foot travel
- Dog-walking
- Mountain biking
- Environmental Education
- Horseback riding



Photo 2. Horseback riding within Open Space

- Illegal activities including vandalism of existing signs and structures, motor vehicular activity, evidence of past skeet shooting from adjacent properties into the Open Space

Site Constraints

Physical constraints at the site include:

- Establishment of invasive exotic plant species along Las Huertas Creek including Russian olive, Siberian elm and salt cedar
- Erosion along Las Huertas Creek
- Erosion along the pipeline (abandoned pipes are exposed in some locations) –see photo 3.
- Remains of former grazing fences within the site
- Incomplete/un-maintained perimeter fencing
- Lack of adequate access
- Unprotected cultural sites
- Unplanned/informal trails
- Sensitive habitats
- Cryptogamic soils



Photo 3. Erosion at abandoned pipeline

2.2 Site Data Analysis

2.2.1 Sensitive Area Buffers and Suitability Analysis

Based on a review of the site data, Sites Southwest used GIS overlaying to establish a suitability analysis for the site. Of the many site resources which need to be protected, two were identified as critical; these are 1) The Las Huertas Creek basin and, 2) the Traditional Cultural Properties, of which there are 16. The criteria below were established based on similar US Forest Service guidelines to create sensitive area buffer zones in the process of master planning. The criteria are as follows:

- Maintain a minimum 100 yards distance from the existing outer edge of Las Huertas Creek drainage for multi-use trails except at crossings.
- Maintain a minimum 100 yards distance, for all uses, from cultural resource sites recommended as eligible and potentially eligible to the NRHP.

2.2.2 Projected Usage of Site

After looking at other Open Space parcels within the City of Albuquerque, none had characteristics which enabled a precise comparative analysis to quantify present or predicting future use. As a rough approximation, the Elena Gallegos Open Space, located next to a metropolitan area of 600,000 residents, receives approximately 150,000 visitors per year. Applying the same 25% resident visitor rate to the estimated population of 3,000 from Placitas and surrounding developments, results in an estimate of 750 visitors per year to the Placitas Open Space. A higher level of use might be expected, given the proximity of Open Spaces to the cities of Albuquerque and Bernalillo and the frequency of local repeat visitors. However, without undertaking extensive surveys of potential users, this figure is only an estimate.

Generally speaking, local populations, future growth in the adjacent communities, and additional access or parking areas will determine the usage of the site. The site will typically be used by the communities in the Placitas area. At specific times, groups may use the site for organized events such as equestrian rides and star gazing parties. The Las Placitas Association offers a series of public educational hikes under an Open Space permit that draw people from around Bernalillo and Sandoval Counties. In addition, Albuquerque Boy Scouts have used the site for compass training. Otherwise it is not anticipated that major numbers of additional people would use the site.

3. Public Input/Community Needs, Desires and Vision

Two Placitas Open Space public meetings were held in Placitas on August 17 and September 20, 1999 to generate the following community needs, desires and visions for the Placitas Open Space:

- Maintain site as a passive recreation, low-impact Open Space
- Provide additional access/improve existing northeast access
- Limit private access
- Provide fencing around perimeter
- Establish low-impact trail system and designate trail uses
- Minimize impacts to natural and cultural resources
- Minimize disturbance/enhance wildlife habitat
- Restore Las Huertas Creek
- Provide educational opportunities
- Provide astronomy/star-gazing opportunities
- Provide restroom facilities
- Provide accessibility in parking lots
- Involve Sandoval County in site management including site patrol/law enforcement;
- Establish a joint operating agreement between City of Albuquerque Open Space Division and Sandoval County

Public comments and correspondence have been included in the Appendix.

In a meeting with Open Space staff, representatives from San Felipe Pueblo stated they had no particular objection to the proposed Master Plan although they expressed minor concerns regarding trespassing. The

BLM Environmental Assessment on the proposed Sundance Mesa west access and parking area should detail the consultations they have held with the pueblo.

4. Master Site Plan

A synthesis of the site analysis and the public input/community needs, desires and vision has produced the master site plan for the Placitas Open Space. The Master Plan was developed using the established guidelines and policies discussed in the City of Albuquerque Major Public Open Space Facility Plan (1998/1999).

Specific Goals of Major Public Open Space are:

- Conservation of natural resources and environmental features
- Provision of opportunities for outdoor education and recreation
- Shaping of the urban form.
- Conservation of archaeological resources
- Provision of trail corridors
- Protection of the public from natural hazards

The following sections in Chapter 4 will discuss specific components of the Placitas Open Space Master Plan (see Master Plan Drawing, end map).

4.1 Access/Parking

An access easement through BLM property for the general public currently exists at the northeast corner of the site. On the west, an access road and parking area on BLM land is going through an Environmental Assessment and related approval process.

The public access at the northeast corner of the site should be improved. The existing right-of-way easement through BLM land should be modified and additional easements should be sought from the BLM if necessary, to allow for the following improvements:

- Realignment of the northeast entry trail to follow the topography and construction of switchbacks to prevent future erosion and for increased safety.
- Construction of a parking area to accommodate 10 to 20 cars and to provide picnic tables and shelters.
- Installation of cattle guards and swing gates to eliminate the current inconvenience of having to drive through two-drop gates to access the parking area.
- Parking accommodations for horse trailers
- Horse crossovers to allow equestrian passage
- Realignment and resurfacing the two-track road with gravel.

A paved road through the Sundance Mesa Subdivision is proposed as a western entry access to the BLM and Open Space. The proposed western access road is an approximately 1/2-mile long, 50-foot-wide public access easement. A gravel road will lead from Sundance Mesa Subdivision to a parking lot that will accommodate 20 cars including 2 accessible spaces and four horse trailers. Both the access road and parking lot are proposed to be maintained by Sandoval County and will be fenced and gated to allow authorized vehicular access only to the BLM land and Open Space at this location. A path will connect the parking lot to the existing western gate of the Open Space along the existing MAPCO pipeline road.

Additional access points will be also be designated at the following subdivision locations for private use of local residents:

- Ranchos de Placitas – existing trail along Coyote Canyon from southeast corner of site. Private access for multi-use. At present, residents of Tres Vidas and Ranchos can only gain access to the Open Space by crossing private land. The City of Albuquerque Open Space Division should therefore consider purchase of property or an easement to provide a formalized point of entry that is more directly accessible to all of the residents of these neighborhoods.
- La Mesa – the lot between lots 24 and 25 on Calle Cienega which is platted as a private park. This lot should provide private access for pedestrians, mountain bikers, and equestrians.
- La Mesa – the existing 50-foot-wide public access and public utility easement at the end of Calle Rosa in La Mesa subdivision. KGA Development Corporation maintains a 10-foot-wide access control here. This location currently provides access for pedestrians and mountain bikers from the local neighborhoods to the western pipe gate via BLM land.
- BLM north at Las Huertas Creek. This should provide access for equestrians, pedestrians, and mountain bikers.
- On the east from Placitas Ranchettes, access to the Open Space can be gained along the pipeline maintenance easement, which currently is gated and locked. Residents will need to obtain permission from the pipeline companies and private property owners to use this route. No formal access at this location is proposed in the Master Plan.

Vehicle access will be maintained at the east and west ends of the pipelines. These will remain gated and locked for authorized vehicle access such as pipeline maintenance, Open Space operations, and law enforcement.

Any improvements should be undertaken, of course, with appropriate sensitivity to any nearby cultural and natural resource sites.

4.2 Trails/Signage

In order to provide continuous circulation through the site while minimizing impacts to natural and cultural resources, a hierarchical trail system of approximately 26,800 linear feet is proposed to be established which maximizes use of approved existing trails (17,500 LF) and minimizes the creation of new trails (9,300 LF). Sensitive areas at environmental and cultural resources should be avoided. All trails will be dirt trails and any new trails will be created by hand to the appropriate width, which is dependent upon the designated use. Switchbacking of trails on steep slopes will help minimize erosion and trail gradient. Signage should be used to designate multi-use and pedestrian-only trails.

Existing informal trails not included in the proposed trail system shall be reclaimed, (approximately 27,700 LF) and will be closed off at junctures with designated trails by posting signs and/or by laying wattles (i.e.,



FRONT ELEVATION

Figure 9. Brush & Rubble Pile Wattle

woven barriers of branches intertwined with twigs or sticks and rocks) across the trail (see Figure 9). The wattles could be built using on-site materials such as fallen sticks, branches, or fence posts (assuming proper care is taken not to disturb environmentally sensitive areas). These trails can be allowed to re-

vegetate naturally, although reclaiming them by seeding grasses native to the site is recommended to hasten natural processes. Revegetation at junctions with new or remaining trails, at a minimum, will serve to “hide” abandoned trails from further public use. The seed mix should be as per City of Albuquerque native seed specifications.

Interpretive, regulatory, directional, and trail hierarchy signage should be used on all approved trails. These should be made of natural (such as stone cairns, see Figure 10) or recycled materials that are low maintenance, vandal resistant, and comply with COA-OSD standards. Larger signs at trailheads can be protected with structures. The Open Space Division will post signs listing regulations at designated access points and along unfenced areas on the boundary to inform people that they are entering the Open Space. Signs marking boundaries with private land are the responsibility of private property owners.



Photo 4. Covered Interpretive Sign/Kiosk



Figure 10. Stone Cairn

In the interest of preserving the trails and in maintaining safety for all users, the City of Albuquerque Open Space Division encourages Sandoval County to adopt leash laws similar to those of the City of Albuquerque and Bernalillo County.

4.2.1 Multi-Use Trails

Multi-use trails will be designated by signage for pedestrian, mountain bike and equestrian uses only. These trails will provide a circuit experience of the larger site. They will be natural surface trails. Periodic maintenance, especially due to erosion after heavy storms, may be required for the safety of the diverse group of users.

4.2.2 Pedestrian-Only Trails

Due to the sensitive nature of some areas or terrain constraints, some trails will be designated for use by pedestrian traffic only by signage. They will be natural surface trails with a minimal level of maintenance. Mountain bikers would be required to walk their bikes along these trails. Special interpretive opportunities may exist along these trails. Possible dismount areas with hitching posts could be provided at junctions with multi-use trails.

4.3 Picnic Tables/Shelters, Trash Receptacles and Recycling Bins

Picnic tables/shelters are proposed at the northeast access/parking location. Three picnic tables/shelters, one trash receptacle and one set of recycling bins for aluminum, glass and plastic should be provided at each location. These can be all constructed of recycled plastic/or of native materials (see Figure 11). Shade structures can compliment picnic tables (see Photo 5). An agreement with Sandoval County regarding maintenance would have to be developed or an independent service would have to be contracted for the maintenance of these facilities.



Figure 11. Structure made with on-site materials



Photo 5. Covered picnic table

4.4 Restroom Facilities

Restroom facilities are proposed at the northeast access. Solar-powered composting toilets can be installed in rustic enclosures that are built of locally mined or recycled materials and are aesthetically appropriate to the site. Solar panels will provide power for venting and improved composting conditions. Maintenance items will be determined and agreed upon between the City of Albuquerque and Sandoval County or an independent service would have to be contracted for the maintenance of these facilities.

4.5 Programmatic Opportunities

The Placitas Open Space is rich in natural and cultural resources and offers a tremendous opportunity as an outdoor classroom, in addition to the recreational uses. Any large organized group events would require a special use permit by the Open Space Division.

4.5.1 Educational and Interpretive Opportunities – Natural and Cultural Resources

Interpretive opportunities regarding natural resources/environmental education and cultural resources include:

- General public access/parking areas – recycling bins, site furnishings constructed of local or recycled materials, indigenous materials and building techniques solar-powered composting toilets, environmental overview of the site
- Las Huertas Creek – natural environment in general, cryptogamic soils, the Creek itself, restoration efforts along the Creek and within the Open Space site.
- Las Huertas Creek – human cultural history (hunting routes, agriculture, habitation)

Interpretive signage and/or printed literature could be developed about these topics. Organized hikes at the Placitas Open Space, which have usually been led from the northeast corner, often draw people from Albuquerque and Rio Rancho and could potentially draw even more if information were widely disseminated in those communities.

4.5.2 Astronomy Opportunities

Community desire for astronomy/star-gazing opportunities such as nighttime “star-parties” can be accommodated at the northeast access location. This location could provide accommodations such as a parking area, restroom facilities and picnic tables/shelters. The parking area could serve as a staging site for such events, with parking along an improved two-track road. This location, while located away from light sources, is currently difficult to get to for visitors from outside the community. This location provides vehicular access to a level, high point that is ideal for astronomical observations.

4.6 Restoration Opportunities

4.6.1 Las Huertas Creek

Exotic, invasive and high water consumptive vegetation such as Russian olive, Siberian elm and salt cedar displace native vegetation and, particularly in the case of salt cedar, drain available water resources. These can be removed by either mechanical and/or chemical methods. The City of Albuquerque Open Space Division has established effective procedures for dealing with these exotics in the Rio Grande Valley State Park, which can be adapted and used in Placitas Open Space. Precautions must be taken to prevent disturbance to cultural resource sites. Areas in which exotics have been removed and other sparsely vegetated areas along Las Huertas Creek should be revegetated with native grasses, shrubs, native cottonwood (*populus deltoides*) pole planting, and coyote willow whips for habitat and erosion control. Some work has been completed by the Las Placitas Association in coordination with the New Mexico Riparian Council and OSD including: pole planting of native cottonwood and willow species, removal of non-native species, installment of rock structures to induce meandering, and monitoring of poles. The following may be necessary to ensure successful removal of exotics and establishment of native plants:

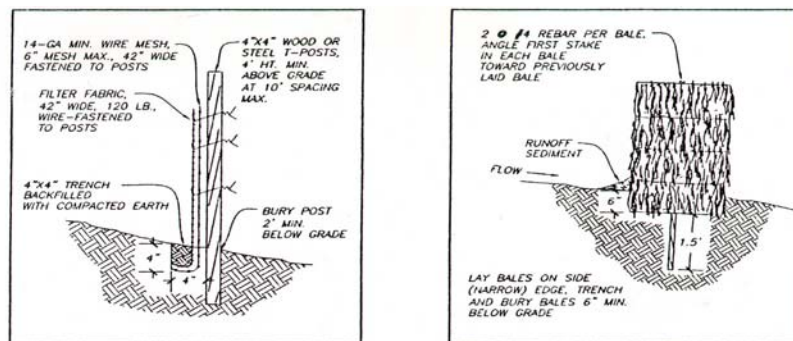


Figure 12. Temporary silt fence and straw bale sediment barrier detail

- Correspond removal efforts with the seasons to facilitate most effective results while minimizing any potential environmental effects.
- Correspond timing of the plantings with spring and early summer runoffs to maximize natural water availability. Water harvesting techniques should be successful at this site.
- Install temporary check dams or other erosion controls (see Figure 12) where appropriate to prevent erosion from heavy rains and runoff and to help retain water for plant establishment.
- Establish supplemental watering program to ensure successful establishment of plants along Creek. Water trucks can be used in less sensitive areas such as parking lots.
- Install temporary guy wires on larger pole plantings to stabilize the plant during establishment.
- Establish a follow-up monitoring and maintenance program as discussed in Section 6.3

4.6.2 Trails and Pipelines

Where erosion problems exist or occur along trails and pipelines, these areas should be re-graded and re-seeded with grasses native to the site. Coordination should be established between City of Albuquerque Open Space Division and pipeline owners to ensure that proper procedures are followed and additional disturbance to the site is minimized. It should be noted that the pipeline owners are not responsible for restoration except in the case of damage caused by pipeline maintenance activities or pipeline accidents.

4.7 Other/Miscellaneous Opportunities

4.7.1 Fence Removal/Repair/Installation

The Open Space Division will remove existing remains of former grazing fences only where they present an obstacle to wildlife movement, conflict with proposed trails, or pose a safety hazard to people or wildlife. Volunteer groups should be permitted to remove the rest of the fencing, as long as the work is done in an environmentally sensitive manner.

The existing perimeter fencing should be extended, using continuous four-strand smooth wire in areas where the terrain and/or adjacent land use would permit easy access for motorized vehicles (for instance, at the cul de sac in Tres Vidas and along the western boundary between the existing BLM fence and the western gateway). Other areas should be handled on a case-by-case basis. Signage should be used to indicate ownership where boundary fences are deemed unnecessary.

4.7.2 Gate Replacements/Repairs

Drop gates should be replaced with cattle guards as noted on the Master Plan map to provide easier access for appropriate uses while restricting other uses.

5. Implementation Plan

5.1 Phasing

Implementation of Master Plan recommendations will be determined and phased based on City of Albuquerque annual funding cycles and on level of coordinated volunteer efforts focused towards the Placitas Open Space. Initial priorities for City of Albuquerque Open Space Division should be to complete perimeter fencing and improve limited public access. Additionally, an agreement with Sandoval County for consolidated management and maintenance operations and law enforcement should be completed. Coordination between City of Albuquerque Open Space Division and volunteer groups can concentrate on the site-specific physical improvements of the Master Plan as outlined below.

5.2 Volunteers/Community Involvement

Continued volunteer/community involvement during the implementation phase of this project will be important in fostering a sense of community ownership and stewardship for the site. Volunteer programs can perform the following:

- Trail establishment: Proposed new trail segments will be hand-cleared dirt paths. Exact placement of trails will be determined in the field to minimize disturbance. On steep slopes, trails will be switchbacked to minimize erosion. Trail width will depend on the designated use of that trail 3 to 4 feet for multi-use trails and 2 to 3 feet for pedestrian use only trails.
- Signage installation: Trail hierarchy can be marked with signage or cairns (see section 4.2). Additional educational or interpretive signage can be installed to promote the special and sensitive nature of the site.
- Restoration efforts: Abandoned trails can be closed and reclaimed with native plantings. Exotic and invasive plant species (especially along Las Huertas Creek) can be removed and replaced with native species. Erosion control methods (both vegetative and other) can be employed where required along trails, at the pipelines, and other areas where appropriate.

In addition, the City of Albuquerque should consider establishing a citizen's advisory board that would meet regularly to discuss management issues regarding the Placitas Open Space. This idea has been proposed but should only be pursued once this Master Plan has been adopted and there are approved guidelines, policies, and procedures in place for the advisory board to follow.

5.3 Potential Funding Sources

Minimal initial funds exist from mining revenues earmarked for this particular project. However, an annual contribution of approximately \$30,000 is expected from the adjacent mining activities for continuing maintenance and operation. Potential sources of additional funding and/or in-kind support for implementation of the Placitas Open Space Master Plan include the following:

- City of Albuquerque Open Space Division Annual Operating Budget
- Sandoval County
- Private Foundation and Government Grants
- Local Volunteer Organizations
- State of New Mexico

- US Forest Service
- Corporate Support

The following cost estimate, based on the Master Plan, has been developed to help guide funding for future improvements and prioritization.

Estimated Costs of Improvement for the Placitas Open Space Master Plan

ITEM #	ITEM DESCRIPTION	UNIT	QUANTITY	COST / UNIT	TOTAL ITEM COST
Infrastructure Improvements					
1	Install Priority Fencing	LF	4,000	\$ 2.00	\$ 8,000.00
2	Existing fencing - Priority Removal	LS	1	\$ 300.00	\$ 300.00
3	Realign, Regrade, and Gravel 9' Wide Road (Northeast Access)	LF	800	\$ 7.00	\$ 5,600.00
4	Grade and Gravel Parking Lot (East)	SY	800	\$ 7.00	\$ 5,600.00
5	Cattle Guard/30" Swing Gate Combination	EA	2	\$ 2,000.00	\$ 4,000.00
6	8 Ft. Swing Gate	EA	1	\$ 500.00	\$ 500.00
Trails¹					
7	Upgrade Existing Trail for Multi-use Trail	LF	21,476	\$ 0.12	\$ 2,577.12
8	Build Multi-Use Trail	LF	5,610	\$ 1.00	\$ 5,610.00
9	Build Pedestrian Trail	LF	1,300	\$ 0.20	\$ 260.00
Site Furnishings					
10	Open Space Regulatory Signs	EA	7	\$ 250.00	\$ 1,750.00
11	Closed Trail Sign & Barriers ¹	EA	25	\$ 250.00	\$ 6,250.00
12	Directional Trail Sign/Stone Cairns ¹	EA	7	\$ 150.00	\$ 1,050.00
13	Covered Interpretive Sign	EA	2	\$ 750.00	\$ 1,500.00
14	Picnic Table / Shelter	EA	3	\$ 1,500.00	\$ 4,500.00
15	Trash Receptacle/Recycle Bins	EA	1	\$ 1,500.00	\$ 1,500.00
16	Solar-Powered Composting Toilets, Solar Panels, and Building	EA	1	\$ 20,000.00	\$ 20,000.00
Reclamation and Restoration Materials					
17	Stream Vegetation Restoration (Cottonwood Pole Planting etc.) ¹	Allowance	1	\$ 5,000.00	\$ 5,000.00
18	Stream Temporary Erosion Control (Straw Bales/Sediment Fencing) ¹	Allowance	1	\$ 2,000.00	\$ 2,000.00
19	Existing Trail to be Reclaimed (Native Grasses and Shrub Seeding)	LF	28,192.70	\$ 0.30	\$ 8,457.81
Subtotal					\$ 84,454.93
Contingency 20%					\$ 16,890.99
TOTAL²					\$ 101,345.92
Other Long Term Maintenance and Operations^{1,3}					
20	Law Enforcement Patrol and Response	Annual	1 YR	\$ 15,000.00	\$ 15,000.00
21	Seasonal Road and Parking Area Grade and Gravel	SY	1600	\$ 1.00	\$ 1,600.00
22	Trash/Recycle Collection	LS	1	\$ 500.00	\$ 500.00
23	Weekly Restroom Facility Clean Up	LS	1	\$ 3,000.00	\$ 3,000.00
24	Trails, Signage, Gates, and Misc. Site Furnishings Upkeep/Replacement	Allowance	1	\$ 2,500.00	\$ 2,500.00
M&O Subtotal					\$ 22,600.00
Contingency 20%					\$ 4,520.00
M&O TOTAL					\$ 27,120.00

Notes:

All costs are estimated installed construction costs, no soft costs have been included

1. Use of volunteer materials and/or labor for this item will reduce costs based on level of effort

2. Total for upfront constructible projects. No tax has been included in total costs

3. All M&O costs are based on an estimated per annum amount

Glossary

LF-Linear Foot

SY-Square Yard

LS-Lump Sum

EA-Each

6. Management

The City of Albuquerque Open Space Division and Sandoval County are currently negotiating a memorandum of understanding (M.O.U) regarding management, maintenance, and law enforcement for the Open Space. This agreement will be finalized before any major improvements are undertaken that would be affected by the resolution of these issues.

6.1 On-Site Patrol/Law Enforcement

A M.O.U for a shared patrol/law enforcement responsibility between City of Albuquerque Open Space Division and Sandoval County Sheriff's Department is under development. The M.O.U also includes the Sandoval County Managers office for potential maintenance of parking areas. This M.O.U will be presented to the Sandoval County Commission for their review and approval in 2002. In addition, a volunteer watch program by residents of adjacent neighborhoods and Open Space users would be beneficial. Trail watch volunteers are required to attend a one-day training course, provided by the Open Space Division, to become certified.

6.2 Protection of Resources and Improvements

Protection of natural resources including cryptogamic soils, native vegetation, wildlife habitat and Las Huertas Creek will be accomplished by:

- Maintaining the trail system as designated
- Enforcing designated uses
- Educating visitors to stay on the trails
- Establishing and maintaining a native vegetation restoration program, particularly along Las Huertas Creek as discussed above and below
- Establishing a bird monitoring program including regular maintenance and monitoring of bird boxes placed on the site

Regarding cultural resources, Las Placitas Association has been awarded a \$4000 grant from the Albuquerque Community Foundation for the purpose of nominating the 16 recorded eligible cultural resource sites to the State Register of Historic Places. The Association has raised additional funds to cover the full costs of this process. Sites that have been recorded indicate great potential for providing additional information about Pueblo and Spanish settlements in Las Huertas Valley and the general region. The nomination process is recommended to help preserve the qualifying cultural resource sites at Placitas Open Space.

Technically, all resources and improvements to the site will be protected by official patrol/law enforcement as discussed above. Practically, it will take a strong commitment from the local community to educate users, report abuses, and to use the site in a sensitive manner.

6.3 Follow-up and Long-term Monitoring and Maintenance of Restoration Areas

A regular, long-term follow-up monitoring and maintenance program is essential to ensure the successful removal of exotic, invasive vegetation and the successful establishment of new plantings along Las Huertas Creek. This includes:

- Regular, long-term follow-up exotics control to prevent re-establishment of these plants. This may be by either mechanical (i.e., hand-pulling/removal of seedlings) and/or approved biodegradable chemical methods.
- Removal of temporary check dams or other non-vegetative erosion control methods upon successful establishment of new plantings
- Removal of guy wires upon successful establishment of new plantings

Follow-up monitoring and maintenance in areas of pipeline restoration will entail:

- Monitoring for subsequent erosion problems
- Monitoring for successful establishment of native species in re-seeded areas

6.4 Volunteers/Community Involvement

Continued volunteer/community involvement during the management phase of this project will also be important in maintaining the site. A volunteer program during this phase of the project would be desirable for:

- On-site citizen patrol, reporting, and education of appropriate uses of the site
- Litter control, trail and signage up-keep
- Restoration efforts (monitoring/follow-up removal of exotics and monitoring/follow-up maintenance of new plantings)
- Coordination/organization and permitting of educational programs/events at the site
- Interested volunteers should go through the day-long COA-OSD Volunteer Training Program to become certified.

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