development concept plan

may 1982

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BANDELIER

UPPER FRIJOLES AND BACK GATE

NATIONAL MONUMENT / NEW MEXICO

DEVELOPMENT CONCEPT PLAN

Upper Frijoles and Back Gate
Bandelier National Monument
New Mexico

Denver Service Center
National Park Service
United States Department of the Interior

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INTRODUCTION

Bandelier National Monument, which lies on the Pajarito Plateau in north-central New Mexico, was set aside by Presidential Proclamation 1322 on February 11, 1916, for the preservation, protection, and study of its archeological resources and the interpretation of these outstanding values for the benefit of the American people.

The Final Master Plan for Bandelier National Monument was approved in April 1977, and the Final Environmental Statement (FES) was approved in March 1976. The plan proposed federal acquisition of the headwaters of the Rito de los Frijoles (Upper Frijoles area) in order to preserve the natural character of the headwaters, thereby protecting the monument's resources downstream. The 3,076-acre tract was acquired from the Baca Land and Cattle Company in 1977. The plan and FES called for limited development of the Upper Frijoles area for visitor use. The area does not have a history of recreational use nor does it currently contain any facilities.

In addition, the plan called for improvement of the Back Gate area, including the Ponderosa campground. At present, the Back Gate area supports concentrated recreational use and has minimal facilities.

A wilderness area of some 21,110 acres was proposed in the Wilderness Recommendation (August 1972) and Final Environmental Impact Statement (July 1973). On October 20, 1976, Public Law 94-567 designated 23,267 acres within Bandelier National Monument as wilderness. The wilderness area adjoins the southern portion of the Upper Frijoles area.

NEED FOR THE PROPOSAL

This Development Concept Plan (DCP) for the Upper Frijoles and Back Gate areas bridges the gap between the Final Master Plan concepts and comprehensive design for facilities to fulfill those concepts. The proposals and alternatives in this DCP conform to the general strategies of the plan, and the impacts associated with their implementation are adequately covered in the FES. Therefore, the actions proposed in this DCP are in compliance with the National Environmental Policy Act. Site-specific conformance with regulations concerning endangered species, floodplains and wetlands, and cultural resources are contained in this document.

This DCP is needed in order to implement actions described in the plan and FES, including providing additional visitor use and improving and upgrading existing visitor facilities. Although the cultural resources are the prime reason for Bandelier, these limited recreational uses and facilities at Upper Frijoles and Back Gate were deemed necessary throughout the master planning process. Neither area contains prime cultural resources.

MASTER PLAN/ENVIRONMENTAL STATEMENT CONCEPTS

Upper Frijoles

The land classification for Upper Frijoles, as indicated in the FES, was primitive (class V). Using the newer management zoning terminology, this would translate to the natural zone. The management emphasis in this zone is on conservation of natural resources and processes and accommodation of uses that do not adversely affect these resources and processes.

In the FES, the proposal for development in Upper Frijoles included a small visitor contact station, a 25-vehicle parking area, two vault-type toilets, 5 miles of road improvement, 8 miles of trail construction, and 18 miles of right-of-way and boundary fencing. Visitor contact facilities would probably be located near the junction of Dome Road and New Mexico State Route 4 (SR 4). The total development would feasibly occupy 2 to 3 acres or less.

Back Gate

The land classification for Back Gate, as stated in the plan, was general outdoor recreation (class II). Again, using the newer management zoning terminology, this would translate to the park development zone. The management emphasis in this zone is on provision and maintenance of park developments to serve the needs of management and visitors.

In the plan, the proposal for Back Gate called only for separating group camping and picnicking facilities. The FES detailed a proposal for four group campsites that would accommodate approximately 200 people total and 20 designated picnic sites. In addition, the access road (500 feet) would be improved, and flush toilets would be installed to replace existing pit toilets. The total development would occupy 6 to 10 acres.

EXISTING CONDITIONS, FACILITIES, AND USE

UPPER FRIJOLES

The 3,076-acre Upper Frijoles area is located in the extreme northwestern corner of the monument. It is bordered by the Santa Fe National Forest on the east and the national forest and Bandelier wilderness area on the south; private land surrounds the remaining area (see Vicinity map). This private land (the Baca location) includes Valle Grande (Jemez Caldera), the crater of an ancient volcano. Geothermal energy research has been ongoing for years, and many wells to tap underground steam have been drilled on this tract. The Baca demonstration project was a proposed geothermal power-producing plant located on the Baca Grant. The project has been cancelled, although private companies continue to explore and drill wells in the area. Nonfederal geothermal leases still exist in the Upper Frijoles area, although none have been developed. These leases have been extended to the year 2071.

The national forest lands provide some grazing, commercial timbering, wood-gathering, and public recreational use, including hunting. Some trails are common to the forest and the monument; therefore, public use pressures for hiking and cross-country skiing affect both.

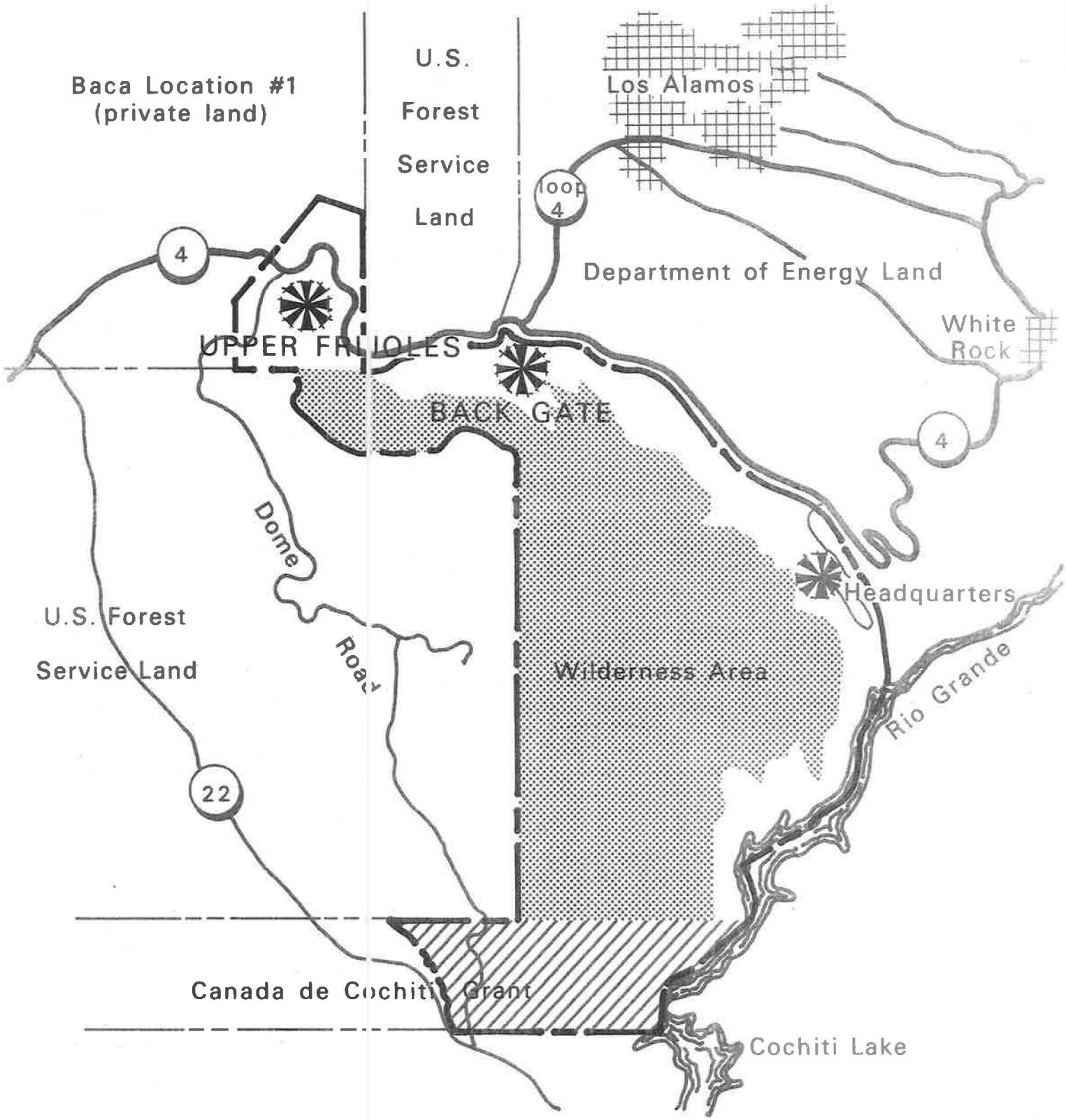
The Upper Frijoles area is bisected by SR 4, a two-lane paved road. The road and approximately 60-foot right-of-way are not included in federal ownership. Dome Road, a two-lane dirt road, runs southwest from SR 4 through Upper Frijoles into the Santa Fe National Forest. Weather permitting, Dome Road provides access to the Canada de Cochiti Grant, south of the monument. The road is occasionally plowed in the winter by commercial timber operators, but rarely for its entire length. Pursuant to the purchase agreement with the Baca location, Dome Road is under an easement retained by the U.S. Forest Service.

Existing NPS development in the Upper Frijoles area is limited to continuous fencing along all road rights-of-way and along the common borders with the Forest Service. There are no utilities in the area.

BACK GATE

The Back Gate area is part of Escobas Mesa in the north-central section of the monument. It is bordered on the north by the SR 4 right-of-way and Department of Energy land, on the east by Burnt Mesa and a portion of the wilderness area, on the south by Canyon de los Frijoles and a portion of the wilderness area, and on the west by a dirt fire road and a sheer incline to Apache Springs Mesa.

Present NPS development at Back Gate consists of a short, unpaved access road; a trailer used for seasonal housing; the Ponderosa campground; and a graveled trailhead parking area. The trailhead parking area can accommodate about 20 cars. The campground includes a graveled parking area for approximately 20 cars, 4 undefined group camping or picnic sites with grills, 2 pit toilets, and 1 dumpster.



vicinity

BANDELIER NATIONAL MONUMENT

NEW MEXICO

north

0 2 miles

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AUTHORIZED
FUTURE ADDITION

Utilities include electricity, water, and telephone, all coming underground into the monument from the SR 4 right-of-way. Natural gas is also available on the north side of SR 4. The seasonal residence is served by a 1,000-gallon septic tank.

There are some physical problems associated with the campground. The camping areas are crowded, are close to each other and SR 4, and are exhibiting moderate to severe soil compaction with little ground vegetation. The pit toilets are unsightly and difficult to maintain. The toilet enclosures are constructed of thin plastic, which has oxidized and weakened from exposure to the sun, and winds can topple and shatter them. The toilets have been moved every two years, and suitable relocation areas are becoming extremely limited.

VISITOR USE AND TRENDS

Visitation at Bandelier National Monument has increased steadily over the past few years after a drop in 1977. This drop was probably a result of gasoline shortages as well as the extensive La Mesa forest fire, which occurred in June of that year. From the 1977 total of 136,000, visitation increased to 176,000 in 1980 and to 197,500 in 1981. A little more than half of the visitors to the monument are New Mexico residents, and about 70 percent of the visitors are from the Southwest in general. Most of the remaining 30 percent are from Texas, Colorado, and California. With such a high percentage of local and regional visitation, the increase in use is expected to continue, consistent with the recent trend of vacationing close to home. In addition, the growing population in the southwestern "sun belt" is expected to contribute to rising visitation at southwestern parks in general.

Peak use at Bandelier occurs during the spring and summer months, but demands by local area residents are increasing for winter recreation opportunities such as cross-country skiing.

UPPER FRIJOLES

This area has been closed to public use historically and since its acquisition by the National Park Service. A stipulation of the purchase agreement was that boundary fencing must be erected before public use could be permitted. Dome Road is used for cross-country skiing when it is not plowed in the winter. Cars are parked on the SR 4 right-of-way when this activity occurs. On weekends and holidays, with favorable snow conditions, as many as 80 cars are parked at the intersection of SR 4 and Dome Road. Some nonwinter hiking (by trespass) has occurred in the area, and poaching incidents are not uncommon.

The demand for cross-country skiing and hiking is expected to increase, particularly because of the closure of Valle Grande to public use. Some use pressure may be drawn away from park lands if Dome Road is plowed during the winter and parking is available on Forest Service land at Graduation Flats (just south of Upper Frijoles).

Forest activities south of Upper Frijoles will affect visitor use on both Forest Service and Park Service property. Some of these variables include extent of timber sales, number of logging trucks using Dome Road, and whether the roads are plowed or not. Activities requiring that Dome Road be kept open may tend to decrease the number of users at Upper Frijoles and increase use on Forest Service land south of the area. Conversely, if timber sales do not materialize and the road is not kept open, this visitor use projection could be reversed. In any case, the amount of snow cover is a determining factor in the amount of winter use.

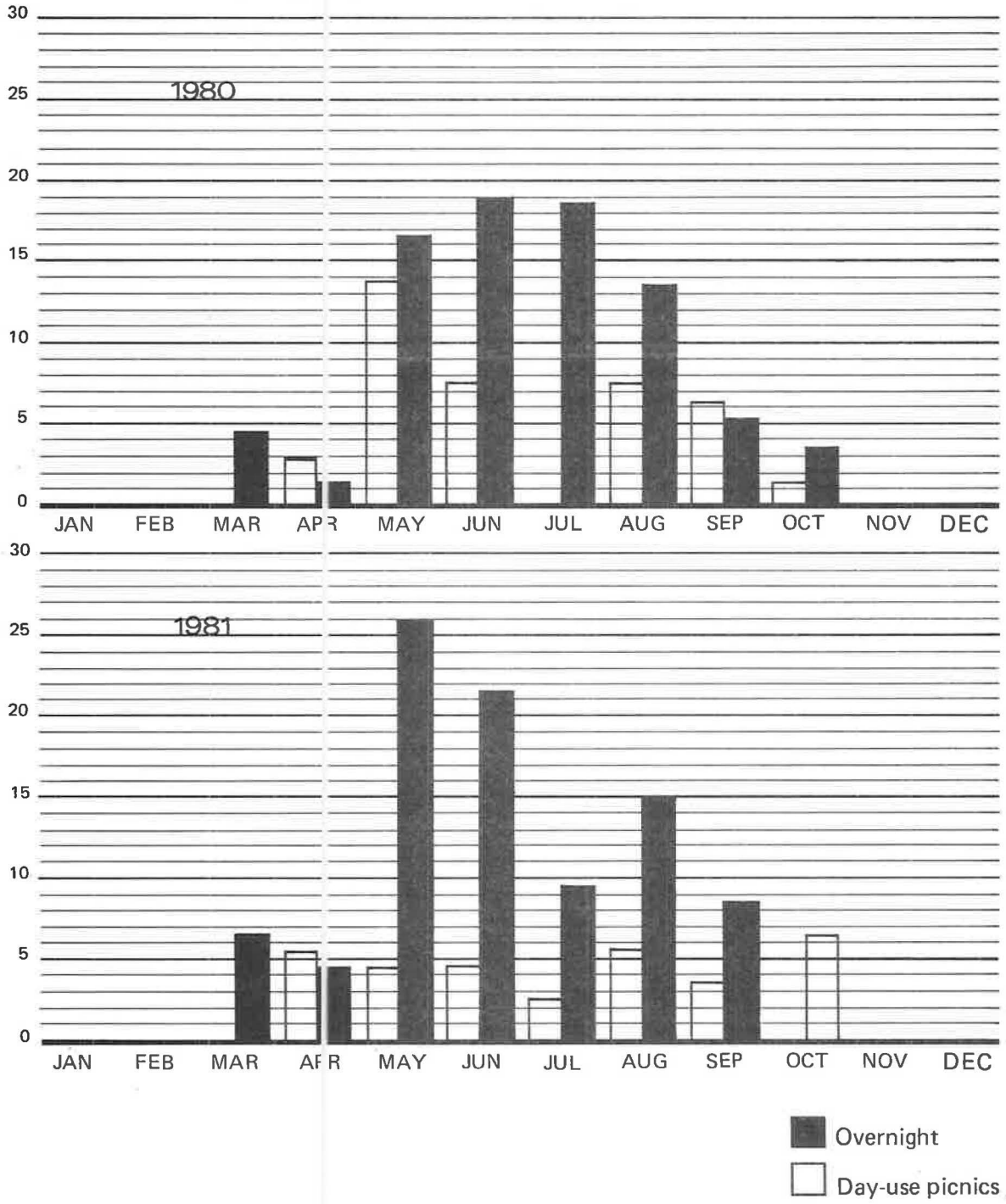
BACK GATE

The Ponderosa campground is used for both group camping and group picnicking. Peak use occurs during May and June, but some groups use the area as early as March and as late as September and October (see accompanying chart). Most of the groups are from local and regional schools, and the remainder are primarily scout or church groups. Group sizes vary from less than 20 to more than 200.

The four sites are full only a few nights during the summer, and the park staff feels the current capacity of the campground is adequate for both group camping and group picnicking. Individual family and small group picnicking is accommodated in Frijoles Canyon, and family camping is accommodated at Juniper campground.

The trailhead at Ponderosa campground is one of the most heavily used in the monument. Most hikers take a one-way trip to Frijoles Canyon, and trail counters register approximately 200 hikers on busy summer days and up to 400 hikers on some peak days. The park staff believes the present trailhead parking capacity is adequate to handle existing use.

PONDEROSA CAMPGROUND
NUMBER OF VISITOR GROUPS BY MONTH 1980-81



SITE ANALYSIS

A site analysis was undertaken covering percent slope/soil type, extent of the La Mesa fire, potential flash-flood areas, wildlife habitat, wilderness potential as defined in the Wilderness Act of 1964, and cultural resources. This analysis concentrated on areas close to existing roadways except for wilderness potential. These factors and potential areas for development are shown on the Site Analysis map.

PERCENT SLOPE/SOIL TYPE

Slope and soil were grouped together to identify areas with few engineering limitations and low erosion potential. Soils generally fell into two groups: Group A - soils with few engineering limitations but subject to erosion if steep, and group B - soils with few engineering limitations but subject to accelerated erosion. Because of these erosion potentials, slopes were considered in only two categories: Category 1 - slopes of 0 to 5 percent for soil group B, and category 2 - slopes up to 10 percent for soil group A.

LA MESA FIRE

Back Gate was impacted by the La Mesa fire in June 1977. Hazards still exist, including unstable standing timber and increased ground fuel loading.

SURFACE WATER

Streams flow most of the year in the Upper Frijoles area, but during extremely dry summer and fall periods, they become intermittent. There are several small stock ponds near the intersection of SR 4 and Dome Road. Flash-flood probability is confined to drainageways and the steeper areas leading into Frijoles Canyon. Therefore, no development can be proposed in these areas.

Surface waters flow intermittently in the Back Gate area. Runoff usually occurs only after periods of precipitation. The area has generally dry gullies, which could be subject to flash-flood waters. These small drainage gullies are near the head of the drainages; however, any development must avoid all drainageways and adjacent areas.

When 100-year floodplains cannot be delineated, a worst-case analysis can be used. For Upper Frijoles and Back Gate, this analysis concludes that all gullies and adjacent drainageways possess both flash-flood and 100-year floodplain hazards. All areas of drainage will be avoided.

WILDLIFE

The number of wildlife species inhabiting the areas is limited by elevation (7,500 to 10,200 feet) and minimal aquatic and riparian habitat. Three

species of note are elk (Cervus elaphos), Merriams turkey (Meleagris gallopavo), and the Jemez Mountain salamander (Plethodon neomexicanus). The elk move through and use portions of Upper Frijoles and Back Gate. The herd generally calve in the Valle Grande and migrate through both areas to lower elevations for the winter. The turkeys require specific summer and winter habitats, which are available in areas of Upper Frijoles and the Upper Frijoles Canyon. They occur in small numbers in the Upper Frijoles area. The Jemez Mountain salamander uses a specific habitat of moist, north-facing slopes above 7,000 feet. All major or specialized areas of wildlife habitat must be protected according to management objectives.

Animal species on the federal endangered list include the bald eagle (Haliaeetus leucocephalus) and the American peregrine falcon (Falco peregrinus anatum). The bald eagle has been sighted flying over the monument area but mainly stays in the southeastern corner. However, there are no known nesting sites in the monument. The peregrine falcon has rarely been sighted flying over the area, and no nesting or perching sites have been recorded to date.

Although within the suspected range, the endangered black-footed ferret (Mustela nigripes) has never been sighted, and there are no indications of its presence. This species is usually associated with prairie dog towns, and there are none in the Upper Frijoles or Back Gate areas.

Species on the state endangered list include the Jemez Mountain salamander (Plethodon neomexicanus) and the whooping crane (Grus americana). This salamander is endemic to the monument but seldom seen because of its living habits. The whooping crane has been sighted flying over but not landing in the area. Mink (Mustela vison) and pine marten (Martes americana) are not known to occur in the project area but were mentioned as possibilities by the New Mexico Department of Game and Fish.

Grama grass cactus (Pediocactus papyracanthus) is on the federal endangered species list. It is widely scattered throughout the region but has not been recorded within the monument.

In accordance with the Endangered Species Act of 1973, as amended, a biological assessment has been prepared and reviewed by the U.S. Fish and Wildlife Service. The National Park Service has concluded that the proposed actions will have no effect on endangered species.

WILDERNESS

As previously stated, 23,267 acres in Bandelier were designated as wilderness in 1976. This area covers most of the interior of the monument and is generally depicted on the Vicinity map. The portion of Upper Frijoles south of SR 4 and adjacent to the existing wilderness will be examined for wilderness suitability and will not be prejudiced by any development. Wilderness suitability will be determined by comparing the attributes of the area to the definition of wilderness, as contained in the Wilderness Act.

Existing wilderness area

Area suitable for wilderness (approximately 1,450 acres)

Area impacted by the La Mesa fire of 1977

Areas of soil and slope suitable for development (near existing access)

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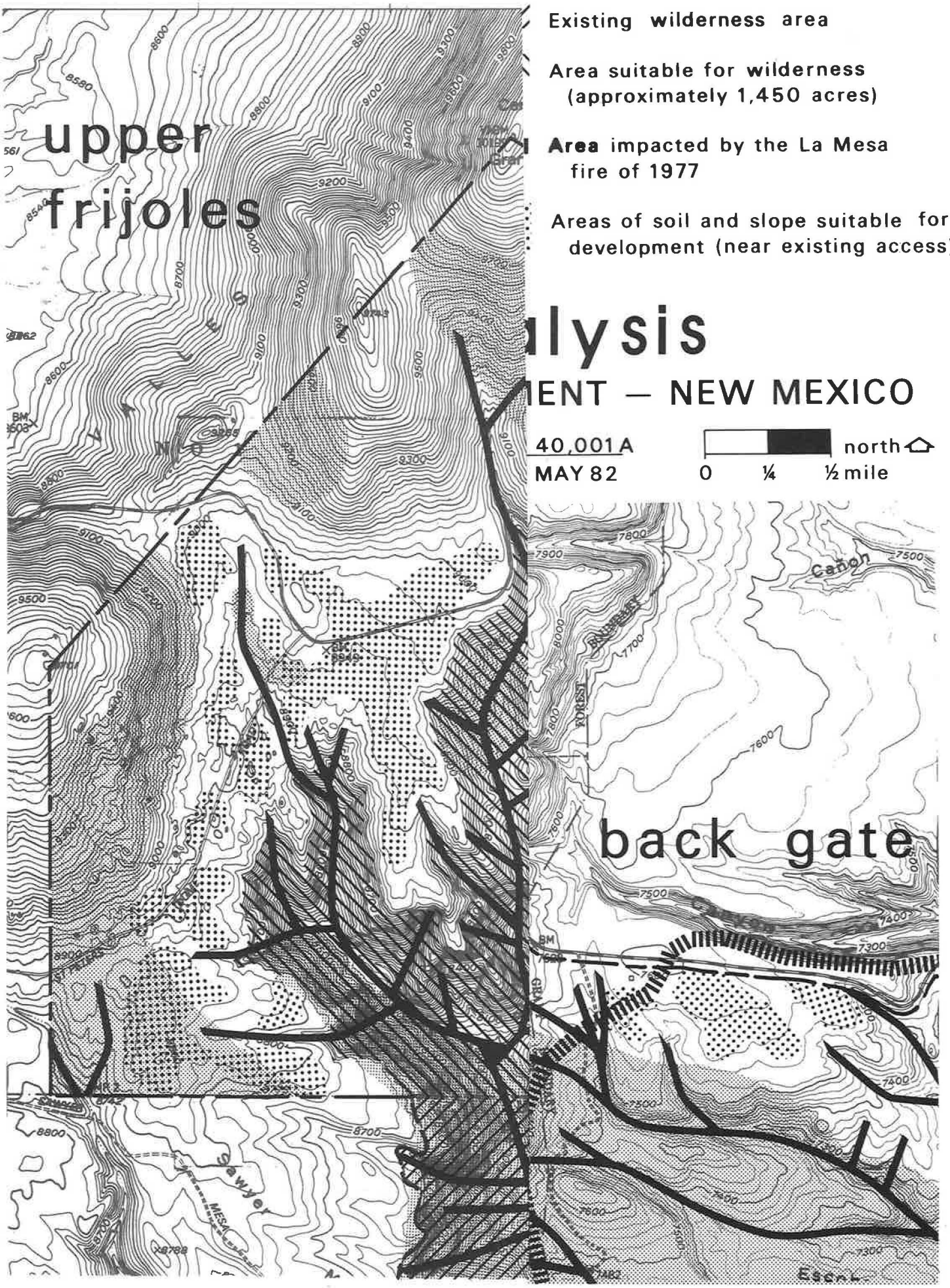


CULTURAL RESOURCES

The northern Pajarito Plateau was apparently little used by humans until about 800 years ago, but in the 1300s the population rapidly increased on the plateau north of Frijoles Canyon. Although none of these early pueblo sites have been recorded in the Upper Frijoles or Back Gate areas, it is possible that special-purpose sites, such as hunting camps or fieldhouses, may exist.

In the late 1300s the population coalesced into larger pueblos, generally at lower elevations. By the 1400s the well-known pueblos of Frijoles Canyon were thriving. The people living in the canyon undoubtedly used natural resources from the northern rim (e.g., elk from the Upper Frijoles), and they may have done some farming in Back Gate. Again, special-purpose sites may occur in these areas.

By the mid-1500s the area was abandoned, although it was still used seasonally by Indians from neighboring pueblos such as Santa Clara and San Ildefonso. Upper Frijoles may include areas traditionally sacred or otherwise important to contemporary Native Americans.

The historic and prehistoric cultural resources in the areas will continue to be managed in accordance with NPS policy, reflecting numerous legislative enactments, regulations, and other mandates. Although a preliminary survey of the areas identified no archeological sites, the affected area will be fully examined by professional archeologists to identify and evaluate archeological sites prior to any ground disturbance. The National Register form for the Bandelier National Register district will be amended to reflect any newly acquired data.

All cultural resources will be preserved, if possible, and all construction will be designed and executed to avoid or minimize adverse impacts on them. The park archeologist will be available to monitor construction activities in sensitive areas. Unavoidable impacts will be mitigated by professional data retrieval or other acceptable means.

Compliance with section 106 of the National Historic Preservation Act of 1966 and the regulations of the Advisory Council on Historic Preservation (36 CFR 800) will be accomplished for all actions detailed in this DCP, in accordance with the programmatic memorandum of agreement (executed in 1979 and amended in 1981) between the Park Service, the Advisory Council, and the National Conference of State Historic Preservation Officers.

In accordance with the American Indian Religious Freedom Act and NPS Special Directive 78-1, Native American groups who may have traditionally sacred sites in the areas will be consulted. The Park Service is working with local Native Americans and is considering their wishes.

PROPOSALS AND ALTERNATIVES

Following consideration of items in the "Site Analysis" section and current and projected staff and budget levels, several alternatives were developed. For the Upper Frijoles area, the alternatives ranged from providing the extent of development as described in the FES, to leaving the area closed to public use. For the Back Gate area, the alternatives ranged from separating camping and picnic facilities, by using the mesa top west of Back Gate, to totally removing the group camping facilities.

After meetings with park and regional staff, interested individuals in Los Alamos, surrounding Indian pueblos, and Santa Fe National Forest staff, the following proposals and alternatives were selected.

General placement of facilities in the Upper Frijoles and Back Gate areas is shown on the proposal/alternative maps, and specific items and sizes are contained in the "Conceptual Cost Estimates" section.

Interpretive services will be limited to directional signing and trail orientation in both areas. Users of Upper Frijoles and the trails originating from Back Gate are seeking opportunities to interact with the park's resources with a minimum of intrusive facilities. It was determined that interpretive media would be inappropriate in these areas except for signs informing visitors of the location and lengths of trails and conveying relevant safety messages or park regulations.

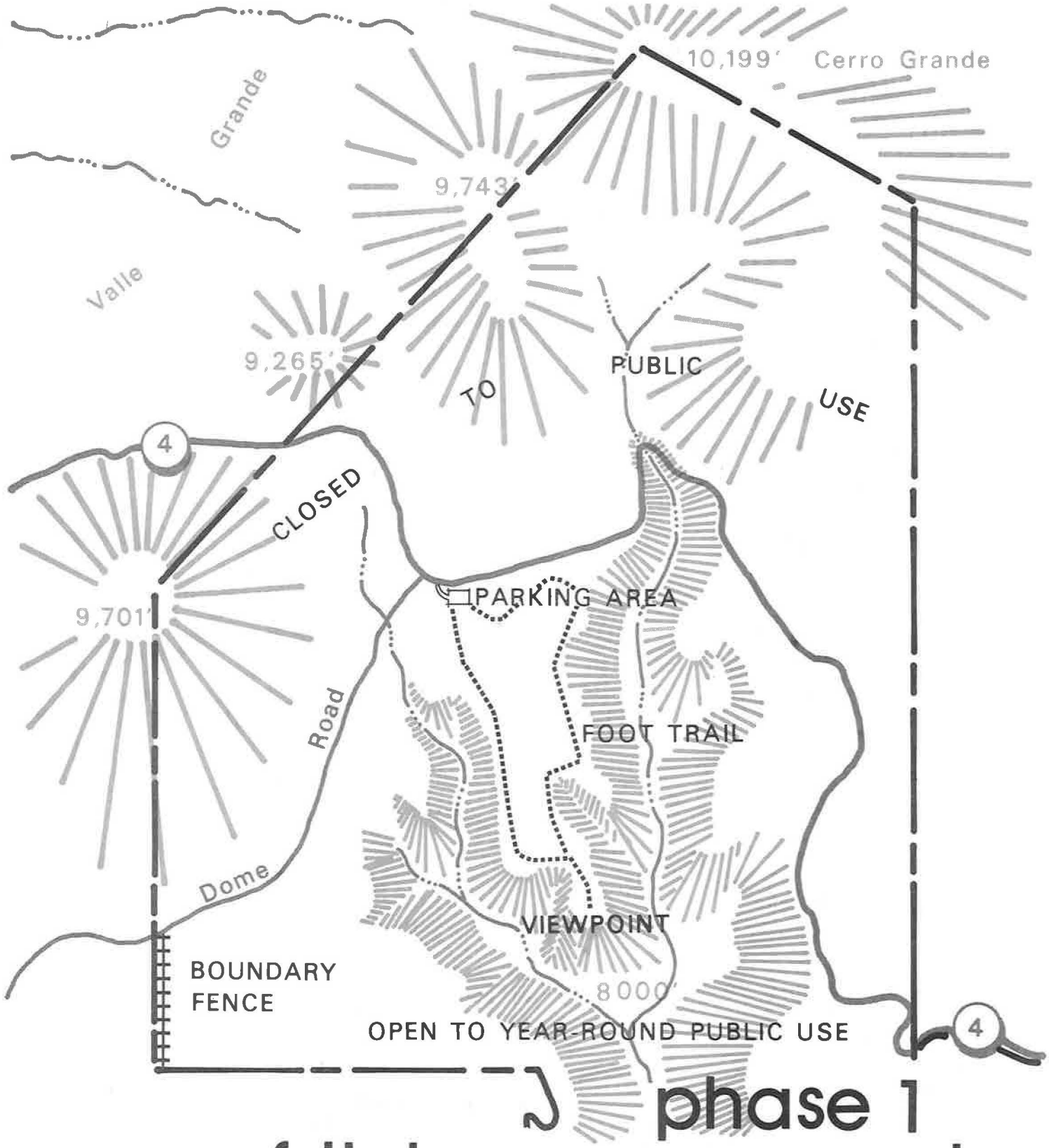
UPPER FRIJOLES

Proposal

The actions proposed for this area will be implemented in three phases over several years. The objectives are to open the area for limited, low-density day use in a manner consistent with park staffing levels, to protect the watershed of Frijoles Canyon, and to retain the southernmost section as potential wilderness.

The first phase calls for erecting a boundary fence from Dome Road south to the Forest Service boundary fence; constructing a 15-20 car paved parking area (with portable toilet facilities) just east of the intersection of Dome Road and SR 4; and providing a loop foot trail or cross-country ski trail from the parking area to a viewpoint of Frijoles Canyon. Once these actions are completed, the "no trespassing" signs on the south side of SR 4 and the east side of Dome Road will be removed and the area opened to public day use for hiking and cross-country skiing.

The second phase, which will be implemented when park staff and budget levels permit, includes fencing the remaining boundary of the Upper Frijoles tract and providing a 20-car paved parking area (with portable toilet facilities) on the northeastern side of SR 4. If feasible, all of the toilet facilities at Upper Frijoles will be accessible to the handicapped. Once these actions are completed, the area north of SR 4 will be open for



phase 1 upper frijoles proposal

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north

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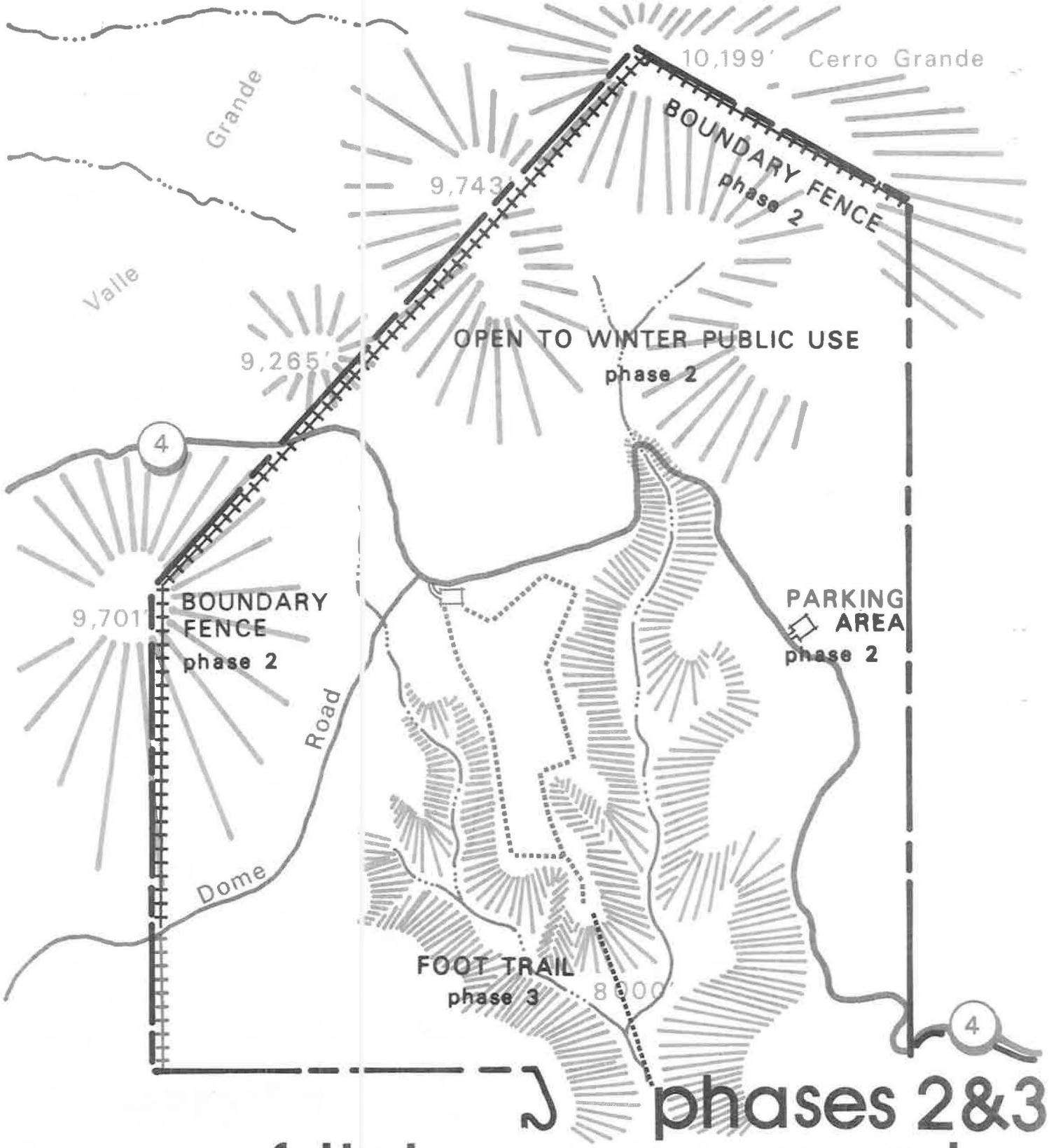

upper frijoles phases 2&3 proposal

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north

0 ¼ ½ mile

low-level day use only when there is adequate snow cover. Day use activities may include cross-country skiing, snowshoeing, and sledding. No trails will be designated, although downed timber will be removed from old logging tracks leading to the Cerro Grande.

The third phase, which will also be implemented when park staff and budget levels permit, consists of providing a trail connection through the Upper Frijoles Canyon to the existing trail system in the wilderness area of Frijoles Canyon. Before an actual trail corridor can be identified, research will be conducted in order to minimize the impact on wildlife species, particularly turkey, elk, and salamander. Routings away from the stream will be examined to protect the productive fisheries habitat in the upper portion of the stream.

That area of Upper Frijoles Canyon generally lying below the 8,700-foot or 8,900-foot contour is suitable for preservation as wilderness. Approximately 1,450 acres could be added to the existing Bandelier wilderness upon petition, action of the Congress, and federal ownership of geothermal leases. This area meets the definition of wilderness contained in the Wilderness Act. It is an area where man himself is a visitor who does not remain; it retains its primeval character; and it is without permanent improvements or human habitation. The area also offers outstanding opportunities for solitude and a primitive or unconfined type of recreation. In conjunction with the existing wilderness area, it is of sufficient size as to make practicable its preservation and use in an unimpaired condition.

Alternative I

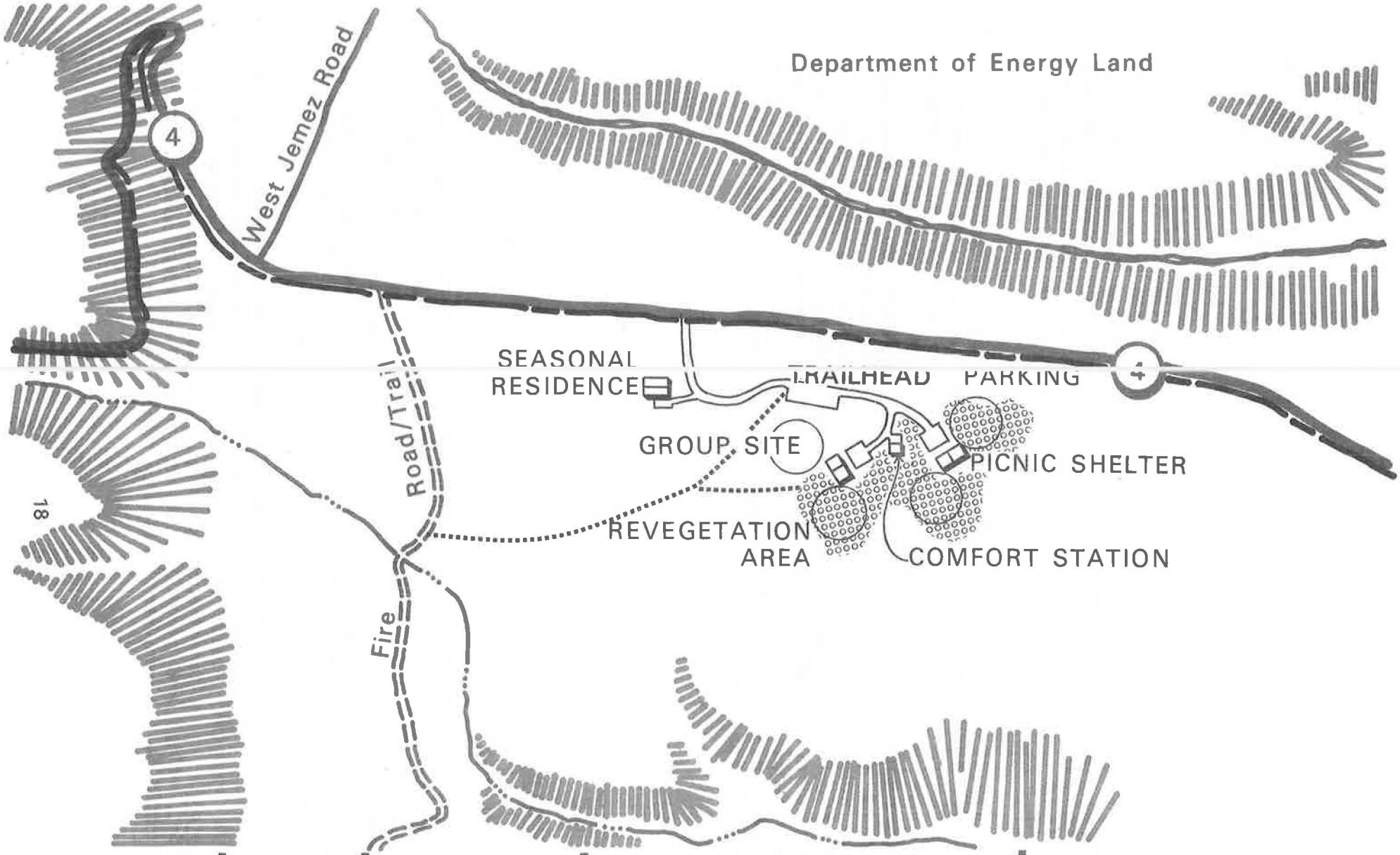
This constitutes the no action alternative and would continue the existing management of the area and prohibit public use.

BACK GATE

Proposal

The actions proposed for this area will be implemented in two phases. Revegetation in the burn area can be accomplished while design and construction funds are being obtained. The objectives are to upgrade the monument's group camping and group picnicking facilities, to improve flexibility for these activities, to include some handicapped-accessible facilities, and to improve health and safety aspects at the Ponderosa campground.

The first phase consists of initiating a revegetation program for those burn areas that will be used for camping. Generally, the program will involve removing dead timber and planting ponderosa pine (*Pinus ponderosa*) in different-aged clumps. The seed source, propagation method, timing, and possibility of including other plant species will be determined by the monument's resource management staff.



back gate - proposal

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north

0 700' ¼ mile

The second phase includes relocating the four group sites (capacity of 25 persons each site), providing picnic shelters and a comfort station, realigning and extending the roadway, relocating the trailhead parking area, and replacing the trailer with a permanent residence. The picnic shelters, the comfort station, and, if feasible, the residence will be accessible to the handicapped.

Utilities will include water, electricity, natural gas, and telephone. Septic tanks will be used for the residence and comfort station, and, if feasible, one leachfield will serve both tanks. A sanitary dump station (for park maintenance use only) will be provided in conjunction with the comfort station for cleaning the Upper Frijoles portable toilets. When not in use, the toilets can be stored in a garage adjacent to the residence. The realigned road and parking areas will be surfaced. The structures at Ponderosa will be architecturally compatible with those in Frijoles Canyon and the regional vernacular style.

The residence will generally be occupied April through December. It is needed to provide protection for visitors onsite and for those using SR 4, to discourage poaching, and to serve as a patrol base for Upper Frijoles as it is much closer than the headquarters area. Depending on staff levels and amount of use at Upper Frijoles, the residence could be occupied year-round.

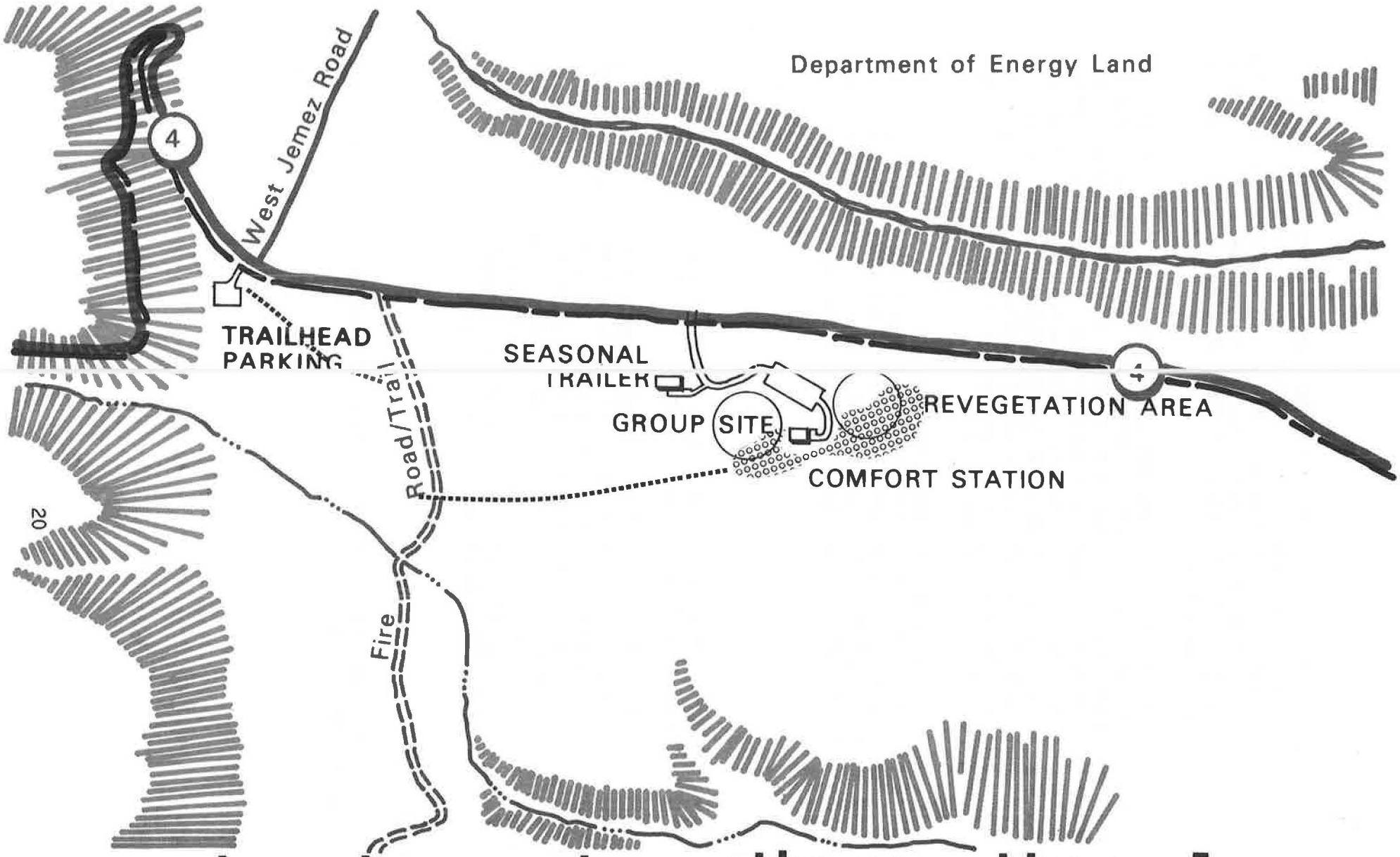
Alternative 1

This first phase of this alternative would be the same as the proposal, except the area of revegetation would be smaller.

The second phase would consist of consolidating the camping into two sites, each accommodating up to 50 persons; realigning and upgrading the parking area and roadway; constructing a handicapped-accessible comfort station; and relocating the trailhead parking area at the intersection of SR 4 and West Jemez Road. Utilities at the Ponderosa campground would be the same as in the proposal, although no sanitary dump station or storage for the Upper Frijoles toilets would be provided. The comfort station would reflect the vernacular architectural style.

Alternative 2

This constitutes the no action alternative and would continue existing conditions and management.



back gate - alternative 1

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north

0 700' ¼ mile

CONCEPTUAL COST ESTIMATES
(Figures accurate through October 1985)

NOTE: The items marked by an asterisk may be accomplished by park staff (and volunteers) or contracted in sections ($10,000 limit) by the park to significantly reduce costs.

UPPER FRIJOLES - PHASE 1 (IMMEDIATE PROPOSAL)

*2,640-foot standard boundary fence (fairly flat terrain)	$ 13,500
15-20 car paved parking area	27,000
*50-foot paved entrance road (to parking area)	4,100
*2.5-mile foot trail (flagged and slash removed only)	38,000
*¼-mile foot trail (defined in steep terrain)	8,000
2 vault toilets (portable on trailer)	20,000
*Selective clearing for viewpoint (approx. 4,000-5,000 sq. ft.)	2,000
*Informational signing	500
	$113,100
Contingency @ 15%	17,000
Total	$130,100

UPPER FRIJOLES - PHASE 2 (FUTURE PROPOSAL)

27,404-foot standard boundary fence (mostly steep terrain)	$165,000
20-car paved parking area	32,000
*20-foot paved entrance road (to parking area)	2,000
*Gate (lockable) for entrance road	2,000
2 vault toilets (portable on trailer)	20,000
*2-mile footpath (slash removed only)	15,000
*Informational signing	500
	$236,500
Contingency @ 15%	35,500
Total	$272,000

UPPER FRIJOLES - PHASE 3 (FUTURE PROPOSAL)

*4.5-mile footpath (to trails in Frijoles Canyon)	$ 90,000
Contingency @ 15%	13,500
Total	$103,500

BACK GATE - PROPOSAL

NOTE: All structures will be pueblo style to blend with existing Frijoles Canyon architecture.

*Revegetate approx. 11.5 acres of burn area (remove dead trees; plant clumps of different-aged ponderosa pine)	$ 58,000
1 residence (2 bedroom), 900 sq. ft., with double garage (one side for toilet storage)	74,000
1 comfort station (400 sq. ft.)	75,000
2 picnic shelters (each shelter to be divided into two halves--each half to accommodate 25 to 30 people and each half with a fireplace on the common wall)	36,000
*Picnic tables for shelter	2,000
*2,100-foot gravel road (portion is realignment of existing dirt road)	34,000
*20-car gravel parking area	16,000
*2 10-car gravel parking areas	16,000
*4 group campsites (25 persons each) with 1 ground-level fire ring with grate and 4 picnic tables each	12,000
*Sanitary dump station (nonpublic) incorporated into septic tank of comfort station for Upper Frijoles vault toilets	12,000
*Septic tank and leachfield for comfort station and dump station (residence has existing tank and field)	20,000
Waterline (from municipal) for residence and comfort station (approx. 1,600 feet); enlarge connection to 4 inches, tunnel under SR 4, and install meter and pressure regulator	62,000
Electric line for residence and comfort station (underground approx. 1,600 feet); connection exists	16,000
Natural gas line (from municipal) for residence and comfort station (approx. 1,600 feet); install new connection and tunnel under SR 4	25,000
*Campground hydrant and fire hose hookup (to fill fire pumpers) at comfort station	2,000
	$460,000
Contingency @ 15%	69,000
Total	$529,000

(NOTE: If road and parking are stabilized asphalt or asphalt mat with chipped top coat, the total cost would be $544,600 or $628,550, respectively.)

BACK GATE - ALTERNATIVE 1

NOTE: The comfort station would be pueblo style to blend with existing architecture.

*Revegetate approx. 4.5 acres of burn area (remove dead trees; plant clumps of different-aged ponderosa pine)	$ 23,000
1 comfort station (400 sq. ft.)	75,000
*1,225-foot gravel road	20,000
*2 20-car gravel parking areas	32,000
*2 group campsites (50 persons each) with 2 ground-level fire rings with grates and 6 picnic tables each	12,000
*Septic tank, lines, and drainfield for comfort station	20,000
Waterline (from municipal) for existing trailer and and new comfort station (approx. 1,050 feet); enlarge connection to 4 inches, tunnel under SR 4, and install meter and pressure regulator	54,000
Electric line for existing trailer and new comfort station (approx. 1,050 feet); connection exists	11,000
Natural gas line (from municipal) for trailer and comfort station (approx. 1,050 feet); install new connection and tunnel under SR 4	20,000
*Campground hydrant and fire hose hookup at comfort station	2,000
	$269,000
Contingency @ 15%	40,350
Total	$309,350

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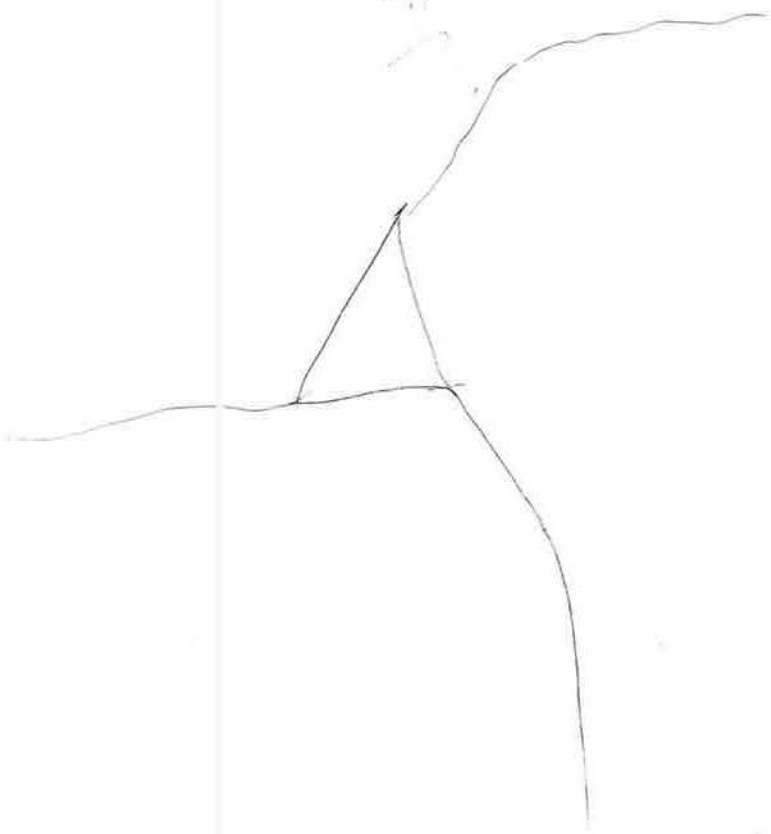
As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility to American Indian reservation communities and for people who live in island territories under U.S. administration.

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