MANAGEMENT/DEVELOPMENT CONCEPT PLANS for LAKE POWELL'S ACCESSIBLE SHORELINES

D-107A

November 1988

Glen Canyon National Recreation Area

National Park Service - Rocky Mountain Region

ON MICROFILM

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FOR LAKE POWELL'S ACCESSIBLE SHORELINES

Glen Canyon National Recreation Area
National Park Service-Rocky Mountain Region

November 1988

Recommended: John O. Lancaster 10/27/88
Superintendent, Date
Glen Canyon National Recreation Area

Approved: Jack Neckels 11/3/88
Regional Director, Date
Rocky Mountain Region Acting

FINDING OF NO SIGNIFICANT IMPACT - MANAGEMENT/DEVELOPMENT CONCEPT PLANS FOR LAKE POWELL'S ACCESSIBLE SHORELINES - GLEN CANYON NATIONAL RECREATION AREA - ARIZONA/UTAH

In May 1988 the National Park Service made available an Environmental Assessment (EA) for the Management/Development Concept Plans for Lake Powell's Accessible Shorelines. The public was afforded 30 days to comment on the EA.

It is the decision of the National Park Service to implement the proposal described in the EA with some minor modifications made in response to public comment. Specific actions associated with this decision are illustrated in the final plan included with this document.

In addition to the proposal, three alternatives were addressed in the EA, they are summarized as follows:

Proposal - Provides intensive management actions and site improvements at high use areas, while maintaining other selected areas for low-to-moderate levels of visitor use.

Alternative A - Maintains current conditions under no action.

Alternative B - Prescribes minimum actions required for safe and effective management of shoreline areas.

Alternative C - Concentrates visitor use in limited areas and closes other areas to road access.

Nine public responses were received, all from State and local governments. Responses focused on levels of development and services provided and the need for roads within the national recreation area. Some commentors felt levels of developments and services should be increased, particularly through concessioners and new marina sites. Included was the feeling that developments and higher levels of NPS presence could be used instead of various user restrictions. Through higher levels of management they felt recreation capacities could be increased. Some opposition to road closures was expressed. Commentors felt road access was at a premium and the park's general management plan (GMP) should be reopened to further analyze transportation systems.

The plan was primarily prepared to address alternatives to reduce resource degradation, visitor use conflicts and safety hazards at lakeshore sites accessible by existing road corridors. All plan recommendations are based on and consistent with the park's 1979 GMP which includes decisions regarding location of and levels of services provided at marina developments on Lake Powell. The study "The Carrying Capacity of Lake Powell--A Management Analysis of Capacity for Boater Recreation" was used to guide formulation of alternatives and analysis of impacts. Road closures were

identified because the road was not authorized in the GMP, resource conditions could not be efficiently managed to prevent resource damage, or because of safety hazards created by flash floods.

Implementation of the proposal will contribute to temporary and slight increases in the local construction workforce. Public health and safety are enhanced by closing some roads in flash flood areas and by providing flood warnings. Facilities for public sanitation will also be provided. Future archeological surveys will be conducted and measures will be taken to mitigate impacts. No known species of threatened or endangered plants or animals will be adversely affected. Existing Federal, State, and local laws or requirements will not be violated. Analysis indicates there are no significant, cumulative impacts to the environment.

Based on the above findings, the decision to implement the proposed plan is determined not to be a major Federal action that would significantly affect the quality of the human environment. Therefore, an environmental impact statement will not be prepared for this project.

Approved: Jack Neckels 11/3/08

Regional Director, Date
Rocky Mountain Region
National Park Service
United States Department of the Interior

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INTRODUCTION

The majority of Lake Powell's 1,960 miles of shoreline are sandstone cliffs or rockslide areas that are not accessible by road. The twenty shoreline sites that are accessible were identified in the park's General Management Plan (GMP). However, the GMP did not recommend developments or actions necessary to manage these shoreline sites. This plan supplements the GMP by prescribing management of Lake Powell's accessible shorelines. The plan is intended to provide a balanced response to resource protection, visitor use, and park management needs, while considering anticipated National Park Service funding and staffing capabilities necessary to implement proposed actions. Included are management strategies which are applicable to all shoreline areas as well as site-specific strategies designed to address specific problems. The plan also includes monitoring actions to determine success of proposed management strategies and evaluation of other management actions which may be necessary to administer Lake Powell's shorelines.

An Environmental Assessment (EA) for this plan was released for public review and comment in May 1988. The EA addressed this plan as well as three additional alternatives devised to provide various degrees of management intensity and visitor use. Also included in the EA was a description of environmental consequences that could result from implementation of the various alternatives and this plan. A Finding of No Significant Impact (FONSI) was approved in November 1988, and is included in this document. The FONSI describes the National Park Service decision and a finding that this plan's implementation will not constitute a significant impact.

THE PLAN

This plan provides intensive management actions and site improvements at high-use areas, while maintaining other selected areas with road access for low-to-moderate levels of visitor use. The plan is consistent with the park's GMP.

OVERALL MANAGEMENT ACTIONS

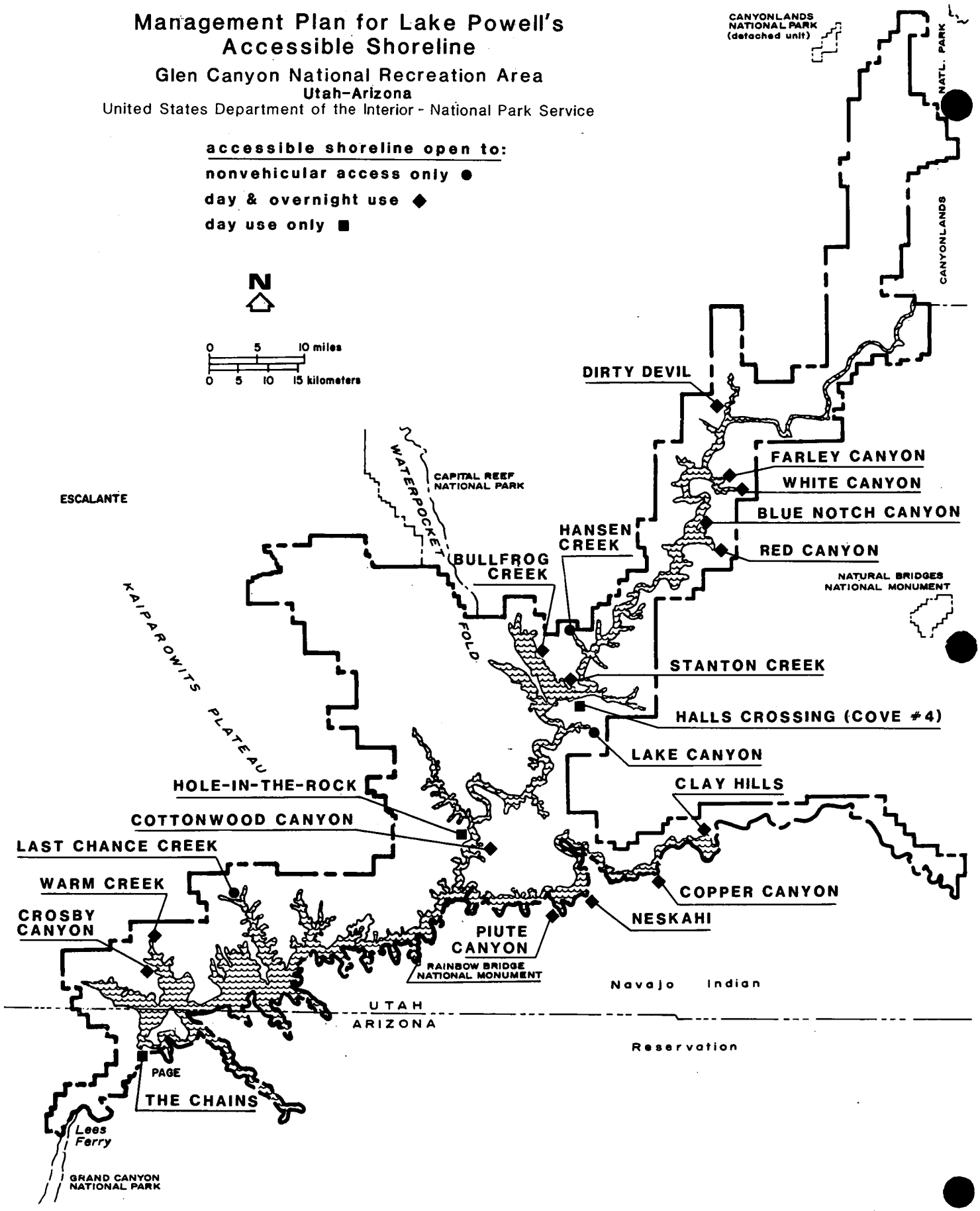
Shoreline sites where road access is permitted or can be considered, have been identified in the park's GMP and the 1974 road study completed by the National Park Service and Utah Department of Transportation. Under this plan, new roads will not be constructed to provide additional access to Lake Powell's shorelines.

Management Plan for Lake Powell's Accessible Shoreline

Glen Canyon National Recreation Area

Utah–Arizona

United States Department of the Interior - National Park Service



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Each of the twenty shoreline sites were examined to determine historic use patterns, visitor activities, segments of the public primarily served, developed areas in close proximity, existing resource damage, potential to experience additional resource damage, and proximity to other shoreline-use sites. Based on this examination and the goal of this plan, the sites were placed in one of three categories: (1) nonvehicular access only, (2) day use only, and (3) day and overnight use.

Sites open for day and overnight use generally receive higher amounts of visitation, are popular camping areas, and have conditions which lend themselves to prevention of resource damage through management actions or site improvements. Sites in this category include Blue Notch Canyon, Bullfrog Creek, Clay Hills, Cottonwood Canyon, Crosby Canyon, Dirty Devil, Farley Canyon, Red Canyon, Stanton Creek, Warm Creek, and White Canyon. Copper Canyon, Neskahi, and Piute Canyon would also be open to day and overnight use, however, management of these sites would require cooperation and coordination with the Navajo Nation.

Generally, day-use-only sites are located in close proximity to a marina or do not have shorelines with easy access to the lake to support camping. Under this plan The Chains, Halls Crossing Cove #4, and Hole-in-the-Rock would be managed for day-use activities.

Shoreline sites managed for nonvehicular access include Hansen Creek, Lake Canyon, and Last Chance Canyon. These sites will be closed to vehicular access because of flash flood hazards associated with their access roads, because of resource conditions which cannot be efficiently managed to prevent resource degradation, or because the access road is not authorized in the GMP. However, these sites will remain open to the boat-in public.

Areas managed for nonvehicular access only will be signed, gated, or otherwise marked at road access points to illustrate their closure to vehicles. The public will also be made aware of these vehicular closures through various information distribution techniques. Scheduled ranger patrols will be used to enforce closures.

To enhance visitor safety a firearm discharge prohibition will be implemented within one-half mile of all shorelines open to vehicular access.

The interpretive program will be used as an educational tool to convey resource impacts created by visitor use and how these impacts can be prevented. The goal of this program is to obtain visitor self-regulation of restrictions and controls developed by the National Park Service. Appendix A contains additional information regarding the interpretive program associated with management of accessible shoreline areas.

To help distribute visitor use to sites with lower visitation and to inform the visitor of various opportunities available at each shoreline area, a recreation opportunity guide program will be implemented. This program will consist of an inventory of activities and probable experience opportunities available at each shoreline. Information would be available for visitor review and distribution at each visitor center and ranger station. The information will also be mailed to visitors as requests are received.

A shoreline clean-up crew which will clean up litter and fire rings will be established to help prevent resource damage. All areas more than 200 yards from the nearest toilet will include a self-contained waste disposal restriction. In areas receiving low use, the NPS will explore the use of self-composting toilets in an effort to reduce maintenance costs.

Through use of the Volunteers In Parks (VIP) program, the park will explore the possibility of using a Campground Host at Dirty Devil, Farley Canyon, Bullfrog Creek, and Stanton Creek. Presence of a host in these areas should assist in the prevention of resource damage.

Many of the actions proposed by this plan are dependent on some visitor self-regulation. The visitor will be made aware of this condition and cautioned that failure to adhere to rules could lead to closure of the area.

It will be necessary to monitor shoreline sites to ensure that resource impacts are being controlled. A park "Monitoring Management Plan" will be developed to monitor impacts, determine effectiveness of management actions, identify research needs, and recommend additional management actions when it is necessary to control resource degradation. The plan will address resources and human impacts as well as signing needs and interpretive activities.

AREA-SPECIFIC ACTIONS

The following descriptions illustrate specific actions that will be employed at each shoreline area.

Sites Open for Day and Overnight Use

Blue Notch and Red Canyons. Vehicular access requires use of primitive 4x4 roads that are not maintained. Blue Notch is located nearly 10 miles from the State highway. Red Canyon is 20 miles from the State highway. This distance of travel on primitive 4x4 roads has resulted in very low levels of visitation. Because of these conditions and the lack of measurable resource degradation,

facilities will not be provided at these shorelines. To help regulate use and inform the visitor of conditions, signs will be placed near the recreation area boundary to inform visitors that roads beyond this point are not maintained and that all campers must have self-contained devices for human waste disposal. Also, the park will explore the possibility of the State placing dumpsters within the State highway rights-of-way to help encourage litter disposal. Roads open to vehicular use will continue to be designated and a "pack-it-in--pack-it-out" program will be implemented for litter disposal. A sign with a map of the canyons will be displayed illustrating access and areas with specific regulations.

Bullfrog Creek. This shoreline site is located adjacent to the Burr Trail and in close proximity to the Bullfrog Basin marina. As a result, Bullfrog Creek is one of the most popular dispersed shoreline-use sites on Lake Powell. If the Burr Trail is upgraded, use will increase.

Management will be oriented towards providing for large volumes of both day and overnight use. To help minimize litter problems and hazards created by uncontrolled human waste disposal, twelve toilets and necessary trash containers will be placed throughout the area and above the lake's high water level. Minor road improvements will be made to allow use by high clearance, 2-wheel drive vehicles. These roads will be designated and physical control devices will be installed to restrict travel to designated areas. All land below the 3,700-foot elevation will be open to vehicular travel and camping. Estimated lakeshore camping capacity is 200 parties, measured linearly along the shoreline. A stacking of camping parties, or a depth factor from the shoreline, may occur during popular holiday periods.

To minimize potential conflicts between swimmers and boaters, portions of the cove will be marked as a "no-wake zone" and a small portion marked as a "no motorized watercraft zone." Signing will be used to convey user restrictions and to distribute site-specific information.

The NPS will explore the possibility of charging a user fee to camp at this shoreline area. If implemented, a fee collection station will be constructed near the Burr Trail road junction.

Clay Hills. A majority of this area's visitor use is from river-running activities on the San Juan. Primary use is for boat take-out and some overnight stays.

Existing conditions will be retained until the San Juan Marina at Piute Farms is no longer usable for boat take-out activities because of silt build-up. At that time, the park will explore alternatives which can be implemented to accommodate overnight, day use and river-running activities. A pack-it-in--pack-it-out

program will be implemented immediately for litter disposal. All overnight stays will require use of self-contained devices for human waste disposal. Also, an interpretation/information/regulations bulletin board will be installed.

Crosby Canyon. Located in the southern third of Lake Powell, Crosby Canyon can be accessed by a primitive 4x4 road which is not maintained. The road is located in a drainage bottom subject to flash flooding.

There are no proposed site improvements unless monitoring indicates problems with human waste disposal, in which case toilet(s) will be installed. Because this area is isolated, maintenance costs would be reduced by use of a self-composting toilet. Until toilet(s) are installed, use of self-contained devices for human waste disposal will be required. Day and overnight use will be allowed. Roads open to vehicular travel and lands available for camping will be designated. Estimated camping capacity is 50 parties at any given time.

A pack-it-in--pack-it-out program will be implemented for litter disposal. Signing will be used to convey user restrictions and distribute site-specific information. Flood hazard warning and self-contained requirement signs will be installed along the Warm Creek Road.

Dirty Devil. This shoreline site is located adjacent to State Highway 95. Easy access and close proximity to the Hite marina has made this area a popular dispersed camping site.

Management will continue to provide for both day and overnight use. The purpose of proposed site improvements which include four toilets, trash containers, and designated dispersed camping areas, is to minimize resource impacts. Minor road improvements will be used to delineate roads and to correct soil erosion problems created by past use. Vehicular travel will be confined to designated roads and areas. Camping in the northernmost portion of this shoreline site will require the use of self-contained devices for human waste disposal. Estimated camping capacity is 60 parties at any given time.

Signing will be used to convey use restrictions and distribute other site-specific information to the public.

The NPS will explore the possibility of charging a user fee to camp at this shoreline site. Implementation would be accomplished through use of a self-registration fee collection station.

Farley Canyon. Access is provided by a well-maintained gravel road. A large gravel-surfaced parking lot and two toilets presently exist. This area is a popular dispersed camping site.

Management will be oriented towards providing opportunities for day and overnight use. To help minimize water quality impacts created by human waste, existing toilets will be maintained and an additional toilet will be constructed in close proximity to the lake's shoreline above elevation 3,711 feet. Trash containers will also be provided. Overnight use occurring outside the existing parking lot will require use of self-contained devices for human waste disposal. Minor road improvements along the northern shoreline will be used to delineate roads and to minimize soil erosion problems created by past use. A road presently provides access to this area's southern shoreline. Because of its relatively flat terrain, this area is experiencing considerable ORV damage. Under this proposal, this road and the southern shoreline will be closed to vehicular access.

Signing will be used to convey use restrictions such as prohibitions of sewage discharge from vehicles or watercraft and to distribute site-specific information to the visitor. The existing lake no-wake zone will be maintained to minimize conflicts between boaters and shoreline users. A fire ring or ground fire prohibition may be used in the future if monitoring reveals unacceptable resource impacts. Estimated capacity is 50 parties at one time. This may be increased during popular holiday periods as "stacking" from the shoreline occurs.

The NPS will explore the possibility of charging a user fee to camp at this shoreline area. If implemented, a fee collection station will be constructed along the area's access road.

Stanton Creek. Because of its close proximity to Bullfrog Basin marina and relatively easy access, Stanton Creek has been a popular dispersed shoreline-use site. An old gravel pit and two toilets exist in this area. Past visitor use has resulted in considerable ORV damage, a spreading of human waste and litter, and multiple fire rings.

Management will provide for both day and overnight use that preserves its current recreation opportunities of semi-isolation where shoreline campsites have been used as boat anchorages. Camping-use zones will be available in the western portions of this area. Existing toilets will be maintained and trash receptacles placed in close proximity for litter disposal. All overnight stays will require use of self-contained devices for human waste disposal. Travel will be restricted to designated routes and to designated camping areas.

Physical capacity of this shoreline area is estimated to be 50 camping parties at one time. A permit system will be initiated upon establishment of an entrance station at Bullfrog or construction of a fee collection station to maintain use within the designated capacity. Activities will be monitored to reduce

resource degradation. The park will also monitor resource damage in order to adjust camping capacities to minimize such damage.

The NPS will explore the possibility of charging a user fee to camp at this shoreline. If implemented, a fee collection station will be constructed near the Bullfrog Marina access road junction.

Warm Creek. Access is provided by a primitive 4x4 road located in a drainage with flash flood hazards. Visitor use has remained relatively low and only minor resource damage has been observed.

Flood hazard warnings and signs requiring the use of self-contained devices for human waste disposal will be placed at the access road junction. No site facilities are proposed. The area will be open for day and overnight use. Roads open to visitor use will be designated and vehicular travel restricted to these routes. A designated parking area will also be provided and a pack-it-in--pack-it-out trash program will be implemented for litter disposal. Estimated physical camping capacity is 10 parties at any one time.

The access road and shoreline site will be monitored for flooding safety hazards and may be closed in the future for visitor safety.

White Canyon. The site has experienced resource damage from past ORV activities and a majority of past use has been for camping. Overnight use will continue to be allowed. To help minimize damage from ORV's, roads open to vehicular travel will be designated and travel restricted to these routes. Because of relatively level terrain and the ease of ORV travel, roads in the eastern portions of this site will be closed. However, vehicular travel will continue to be provided on lands below the 3,700-foot elevation. This portion of the shoreline will only be accessible during periods of low water. Dispersed camping areas with a capacity of about 40 parties at any one time will be designated.

Onsite signing will be used to convey user restrictions and distribute site-specific information. A pack-it-in--pack-it-out trash program will be implemented for litter disposal and overnight stays will require the use of self-contained devices for human waste disposal.

Sites Open For Day Use Only

Halls Crossing Cove #4. This site is located adjacent to the Halls Crossing marina. It will be managed to supplement marina operations by providing opportunities for day-use activities.

A parking lot will be constructed near the ferry launch access road with some picnic facilities. A trail will provide pedestrian access from the parking lot to Cove #4. The cove will be closed to all motorized watercraft to provide safe swimming opportunities. However, a swim-beach area will not be designated. Signing will

be used to convey user restrictions, safety precautions, and other site-specific information.

Hole-in-the-Rock. Road access to this area is terminated by a cliff high above the lake's surface and lake access is by a difficult foot trail. Use of this area will be restricted to day activities. The area's existing access road and a small parking lot will be designated for vehicular use. Vehicular travel off these designated areas will be prohibited. Site improvements will be limited to signs which interpret the historic significance of this area. A pack-it-in--pack-it-out trash program will be implemented for litter disposal.

The Chains. Located adjacent to the Glen Canyon Dam with easy access from U.S. Highway 89, this area has been a popular site with local residents and many visitors to the Carl Hayden Visitor Center.

The Chains will be intensively managed for day-use activities with flexibility in design to accommodate special-use activities. It will be able to accommodate about 100 parties at any given time. Roads will be paved to provide access to and within The Chains. All roads open to visitor use will be designated and physical barriers with ranger patrols used to restrict vehicular travel to these roads. Proposed site improvements include paved roads, vault toilets, trash containers, parking areas, pedestal grills, picnic tables, shade shelters, interpretive trails, and an environmental education area. Signing will be used to convey use restrictions, safety precautions, and other site-specific information. Also, signing will be placed along the shoreline to warn visitors of unsafe and hazardous swimming conditions due to sudden drop-offs and extreme water depths. Landscape scars created by previous construction activities will be rehabilitated. As visitor use grows in this area, it may be necessary to provide utilities and full service comfort stations.

Sites Requiring Management Coordination With the Navajo Nation

Copper Canyon. This area has been identified by the Navajo Nation as the site for the future San Juan Marina development. The NPS is presently working with the Navajo Nation to prepare a DCP to guide future marina development. The recently completed Lake Powell Carrying Capacity study identifies capacity that will be apportioned to the San Juan marina to guide preparation of its DCP.

Until permanent marina development occurs, management will be coordinated with the Navajo Nation to retain existing conditions. Construction of a marina at this location will not affect management strategies identified for the other dispersed shoreline sites.

When the San Juan Marina is relocated from its present location at

Piute Farms to this area, Piute Farms will be managed as a road access shoreline site. Management will be based on actions prescribed for other shoreline sites in this proposal. Specific strategies will be developed as part of the San Juan Marina planning effort. This effort will also address management of the Nokai shoreline site due to improved access which may be provided by marina development of Copper Canyon.

Neskahi and Piute Canyon. Access to and management of these shoreline sites will be coordinated with the Navajo Nation. The NPS will strive to retain existing conditions and will monitor resources to determine if additional management actions may be necessary to minimize or prevent damage.

Sites With Nonvehicular Access Only

Cottonwood Canyon. Access to this site requires nearly 30 miles of travel over primitive 4x4 roads which has kept vehicular use levels low. Road access will be maintained to the edge of Wilson Mesa near the head of Cottonwood Canyon. Interpretive information, and regulatory signs will be placed at this point. The park will maintain its closure of the Hole-in-the-Rock road at this point to protect this road's historic cribbing. Interpretation will focus on the Hole-in-the-Rock road and the fragility of historic cribbing associated with the road fabric. Foot trail access will be provided to traces of the historic road located in the canyon.

Hanson Creek. This site is located near Stanton Creek and receives very little visitor use. There is no measurable resource damage created by past use. However, relatively flat terrain, the lack of natural barriers to vehicular travel, and desert conditions make this area extremely vulnerable to resource damage from ORV activities. The same factors make restriction of vehicular travel to designated roads very difficult to enforce. This shoreline area was closed to vehicular access by installation of a gate at the Stanton Creek road junction near the location of Bullfrog Basin's sewage lagoons.

Lake Canyon. A majority of past use was generated by concessioner and NPS employees at Halls Crossing. The area's access road is not authorized in the GMP. Cove #4 at Halls Crossing which is presently closed, will be opened to provide a needed day-use area created by closure of Lake Canyon. Lake Canyon will be closed to vehicular access with a gate at the Utah Highway 276 road junction.

Last Chance Creek. Areas at this shoreline site which are used for overnight stays are subject to flash flood hazards. Therefore, this area will be closed to vehicular access via installation of signs along the county access road.

STAFFING AND OPERATIONAL NEEDS

Full implementation of the proposed plan would require slight increases in staff and equipment. The following illustrates estimated personnel and equipment increases.

	Staffing Person Years
Uplake District	
Personnel	
Permanent	
1-GS-5 Park Ranger (Protection)	1.0
1-WG-7 Motor Vehicle Operator	1.0
Seasonal	
4-GS-5 Park Ranger (Protection)	2.1
2-GS-5 Park Ranger (Interpretation)	.8
3-WG-3 Laborer	1.2
2-WG-5 Motor Vehicle Operator	1.2
Equipment	
2 patrol boats (protection)	
2 4x4 vehicles	
9 portable radios	
1 garbage truck	
1 trailer-mounted sewage pumper	
1 pickup with water tank	
1 maintenance boat	
1 patrol boat (Interpretation	
emergency equipment	
Downlake District	
Personnel	
Seasonal	
2-GS-5 Park Ranger (protection)	1.2
3-WG-3 Laborer	1.3
2-WG-5 Motor Vehicle Operators	1.2
2-GS-5 Park Ranger (Interpretation)	1.3
Equipment	
1 patrol boat (Protection)	
1 4x4 vehicle	
4 portable radios	
emergency equipment	
1 maintenance boat	
1 pickup with water tank	
1 patrol boat (Interpretation)	
Parkwide	
Personnel	
Permanent	
1-GS-7 Resource Management Technician	1.0
1-GS-7 Park Ranger (Interpretation)	1.0
Total Person Years	14.3

PHASING SCHEDULE/CONSTRUCTION COST ESTIMATES

It is not possible for all improvements previously described to occur at once. For this reason the following phasing schedule has been developed. Costs illustrated are based on the class "C" estimating guide, Denver Service Center.

Priority	Shoreline Area/Activity	Estimated Project Cost
1.	Bullfrog Creek -13 Vault Toilets -14 Trash Receptacles -2.3 Miles Road Improvements -0.9 Miles Road Construction -4.6 Miles Guardrail -2 Information Bulletin Boards -Fee Collection Station -Road Signing	$ 1,414,000
2.	Farley Canyon -Information Bulletin Board -Vault Toilet -2 Trash Receptacles -0.4 Miles Road Improvements -Road Closure Gate -Road Signing -Fee Collection Station	$ 104,000
3.	Halls Crossing - Cove #4 -2 Vault Toilets -3 Trash Receptacles -0.3 Miles Road Construction -Information Bulletin Board -Road Closure Gate -Road Signing -15-Car Parking Lot -10 Picnic Tables -10 Pedestal Grills -Picnic Shelter (25'x25')	$ 231,000
	Lake Canyon -Road Closure Gate -Road Signing	$ 1,500
	Last Chance -Road Signing	$ 4,700

Priority	Shoreline Area/Activity	Estimated Project Cost
4.	Dirty Devil -4 Vault Toilets -4 Trash Receptacles -0.25 Miles Road Improvements -0.4 Miles Guardrails -Information Bulletin Board -Road Closure Gate -Road Signing -Fee Collection Station, self-registration	$ 208,000
5.	The Chains -4 Vault Toilets -4 Trash Receptacles -1.2 Miles Road Paving -1.1 Miles Guardrail -2 Informational Bulletin Boards -Road Closure Gate -Road Signing -Interpretive Shelter -440-Car Paved Parking Lot -1.9 Miles Trail Construction -8.7 Acres Landscape Rehab. -100 Picnic Tables -100 Pedestal Grills -20 Shade Shelters (25'x25')	$ 2,460,000
6.	Warm Creek -Informational Bulletin Board -Road Signing	$ 1,500
	Crosby Canyon -Vault Toilet -Informational Bulletin Board -Road Signing	$ 28,500
7.	White Canyon -Informational Bulletin Board -2 Road Closure Gates -Road Signing	$ 5,300
	Red Canyon -Informational Bulletin Board -Road Signing	$ 1,500
	Blue Notch Canyon -Informational Bulletin Board -Road Signing	$ 1,500

Priority	Shoreline Area/Activity	Estimated Project Cost
	Cottonwood Canyon -Informational Bulletin Board -Road Signing	$ 1,500
	Hole-in-the-Rock -Informational Bulletin Board -Road Signing	$ 1,500
8.	Stanton Creek -Informational Bulletin Board -Road Signing -2 Trash Receptacles -Fee Collection Station	$ 42,100
	Clay Hills -Informational Bulletin Board -Road Signing	$ 1,500
	Grand Total	**$ 4,508,100**

NOTE: No improvements currently proposed for Copper Canyon, Neskahi, and Piute Canyon--if improvements are required at a later date, the park will explore joint funding with the Navajo Nation.

MONITORING/ADDITIONAL PLANS AND STUDIES NEEDED

The "Monitoring Management Plan" will be used to establish monitoring procedures and to identify research needs. The following activities will be addressed:

1. Water quality monitoring of heavily used shoreline sites.
2. Monitoring of vegetative disturbance to check success of management actions and improvements designed to curb increased ORV use. (Also includes monitoring the invasion and spread of exotic species.)
3. Site-specific cultural resource surveys, in compliance with 36 CFR Part 800, prior to surface-disturbing management actions.
4. Monitoring of indirect impacts associated with cultural resources.
5. Visitor-use surveys or other means to determine levels and types of recreation use.
6. Monitoring to measure amount of human waste contaminating soils to determine need for future toilets or other management actions.
7. Monitoring to determine effects of ground fires to establish whether a ground fire prohibition will be necessary.
8. Ethnographic overview and assessment as related to use of

shoreline sites by members of the Navajo Nation.

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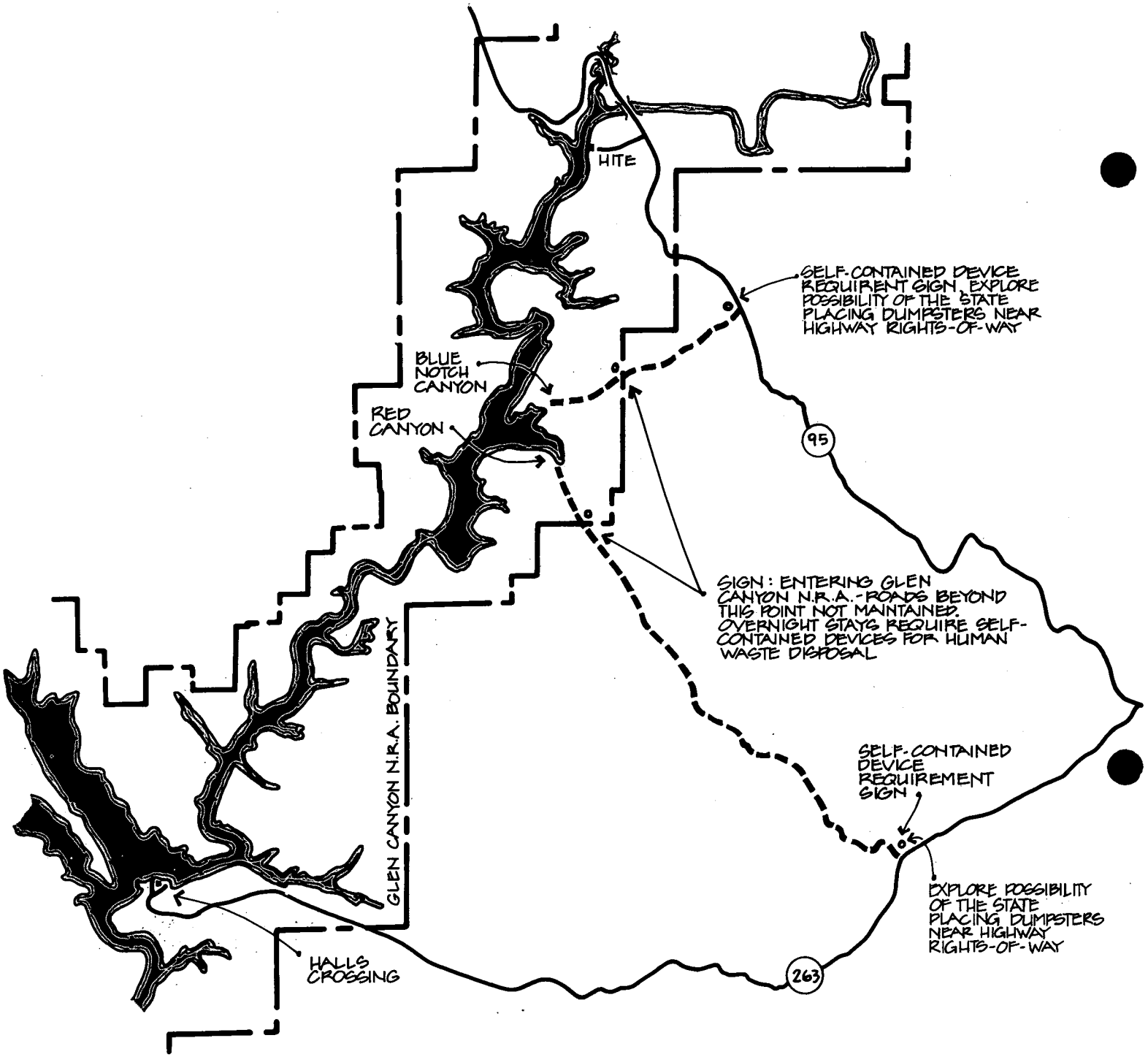

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Blue Notch & Red Canyons

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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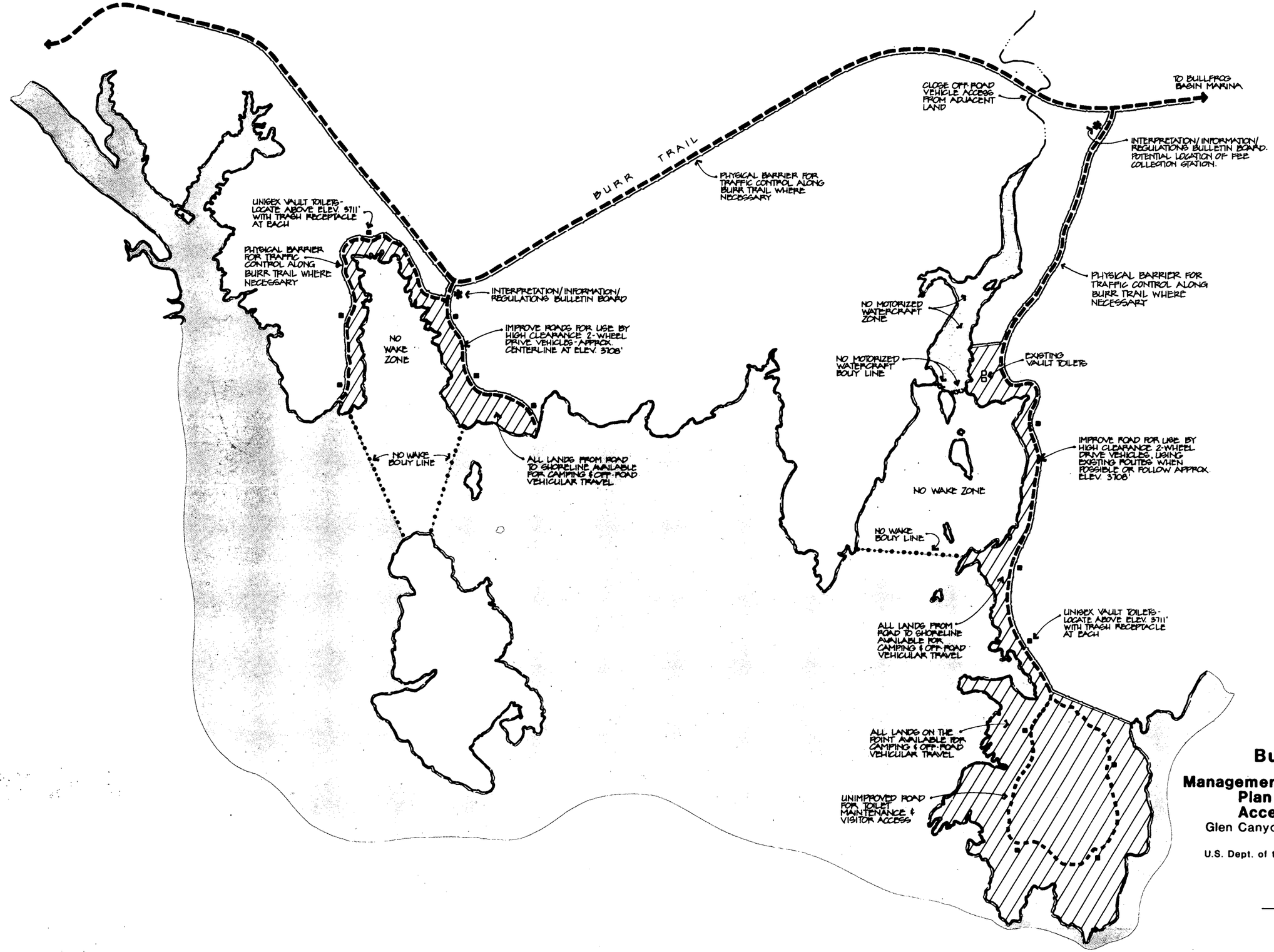
9-87 | RMRO



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Bullfrog Creek

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area
Utah/Arizona

U.S. Dept. of the Interior - National Park Service

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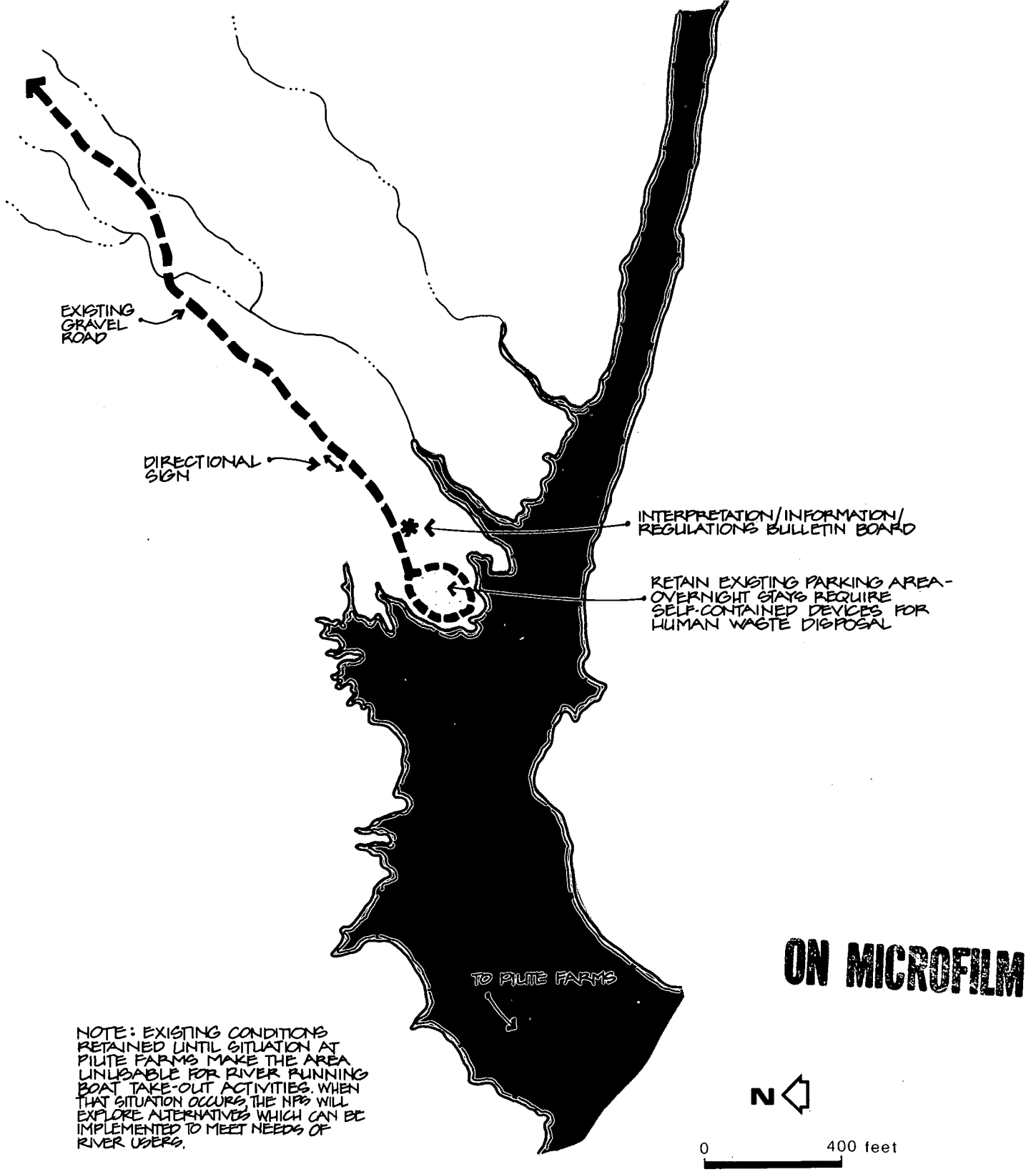

ON MICROFILM

Clay Hills

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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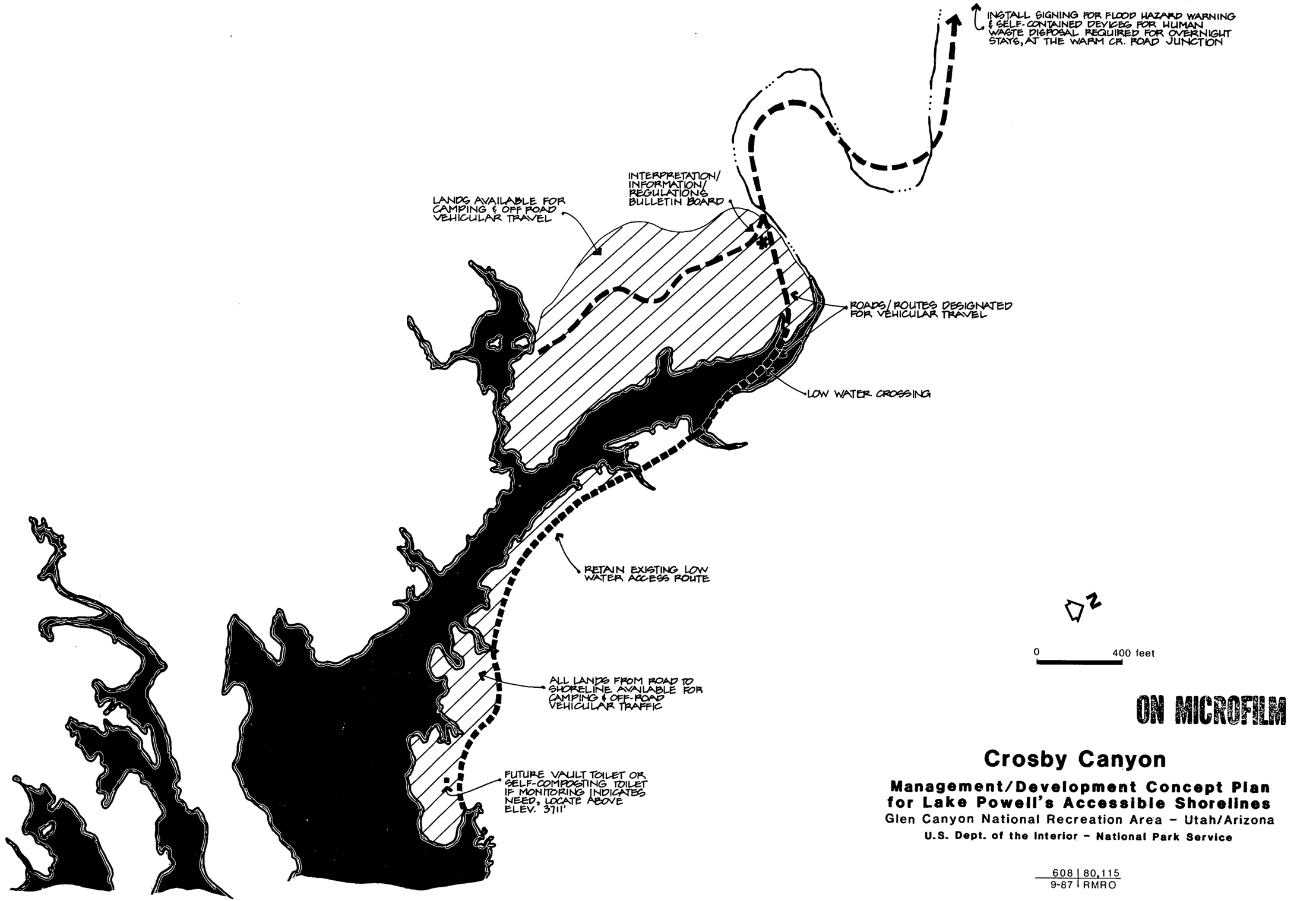

ON MICROFILM

Crosby Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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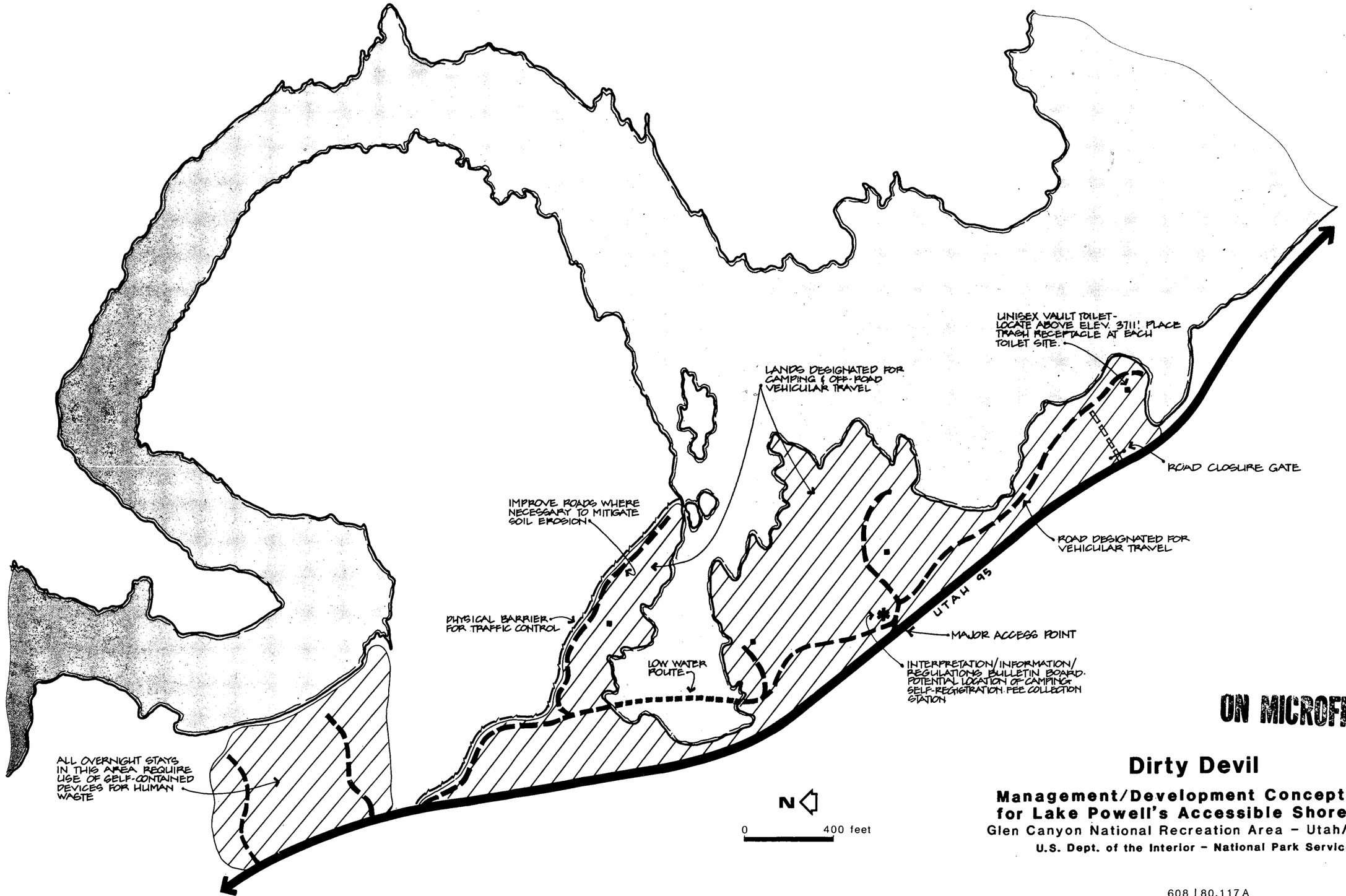

ON MICROFILM

Dirty Devil

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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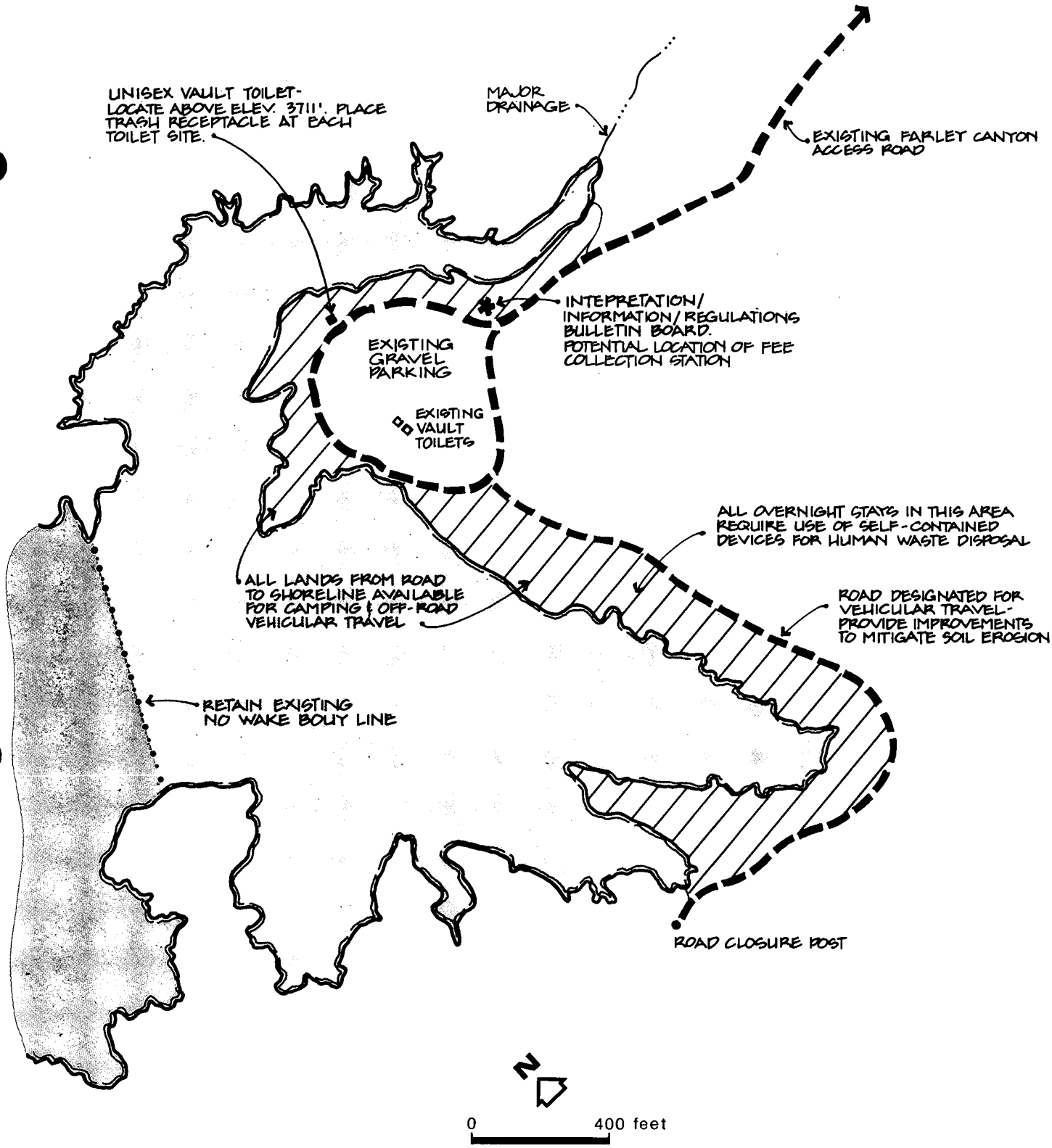

ON MICROFILM

Farley Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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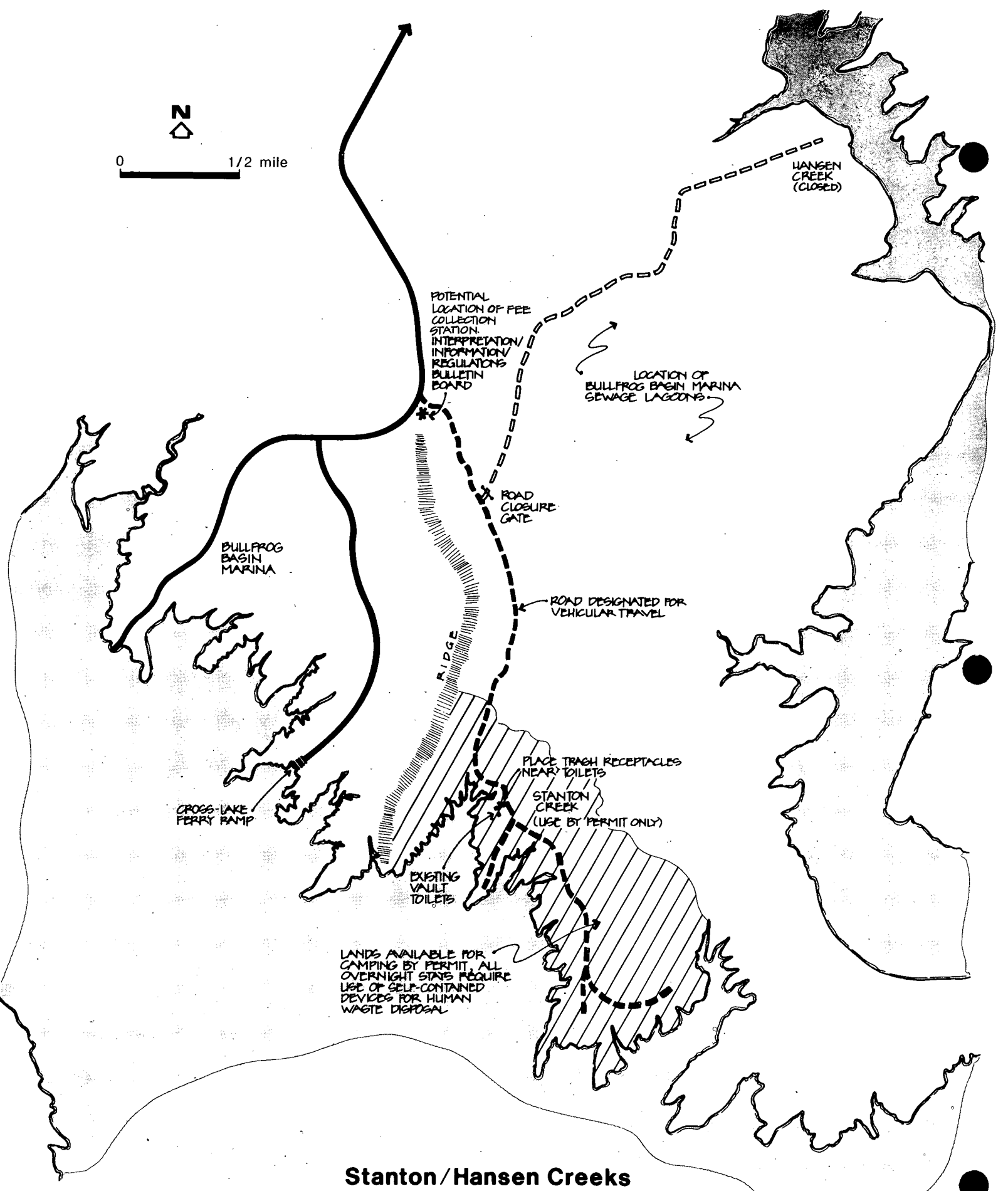

Stanton/Hansen Creeks

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area - Utah/Arizona

U.S. Dept. of the Interior - National Park Service

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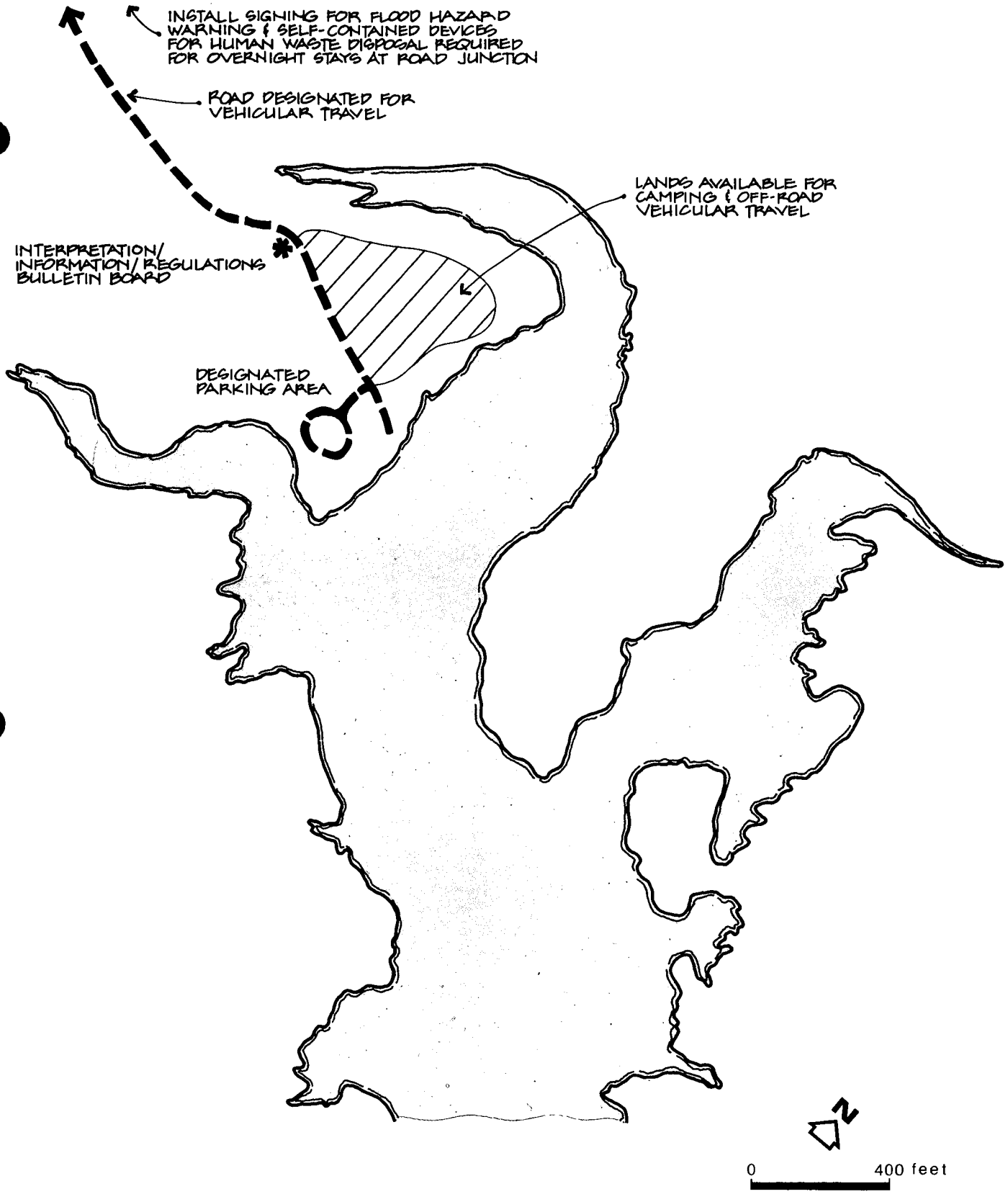

Warm Creek

ON MICROFILM

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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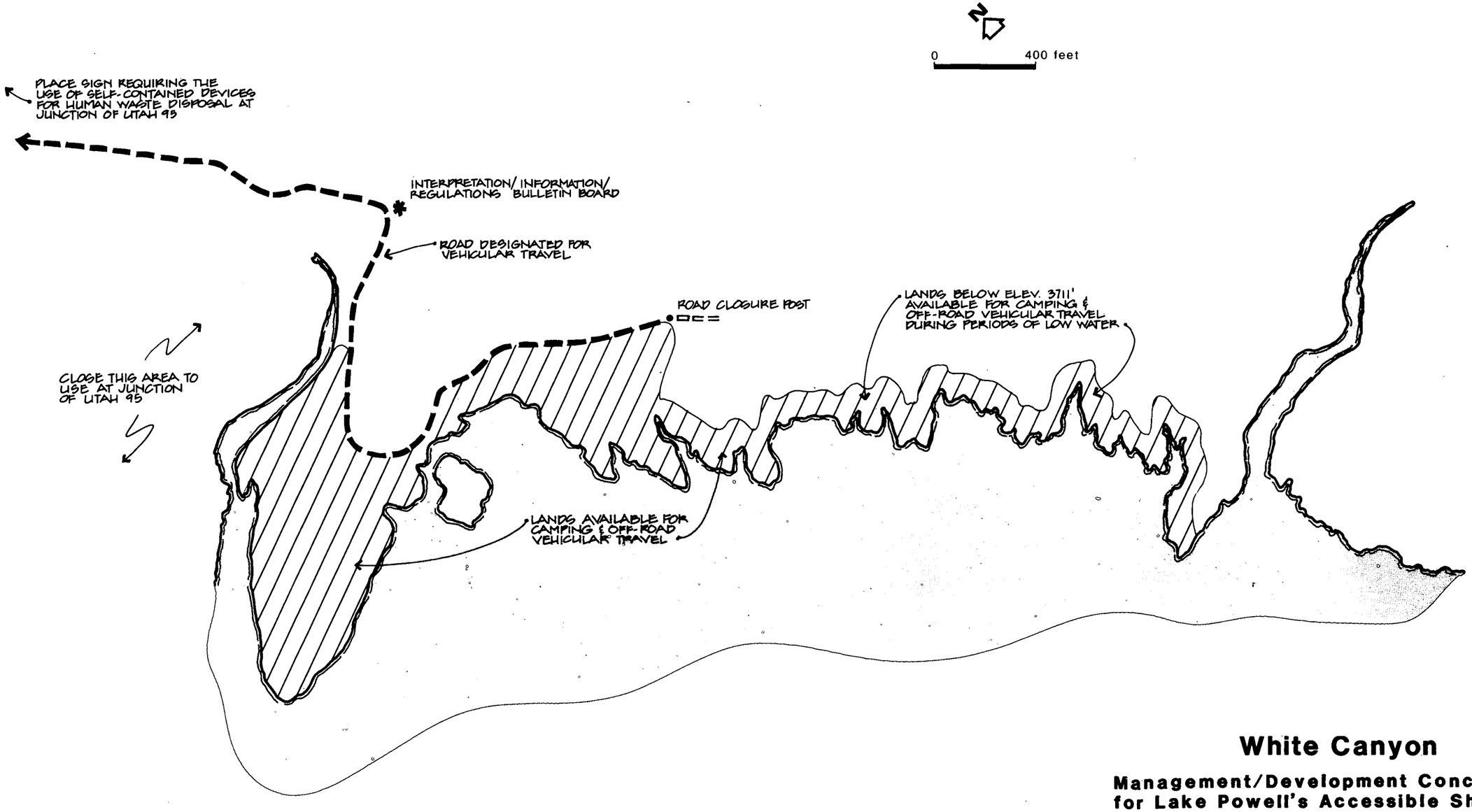

White Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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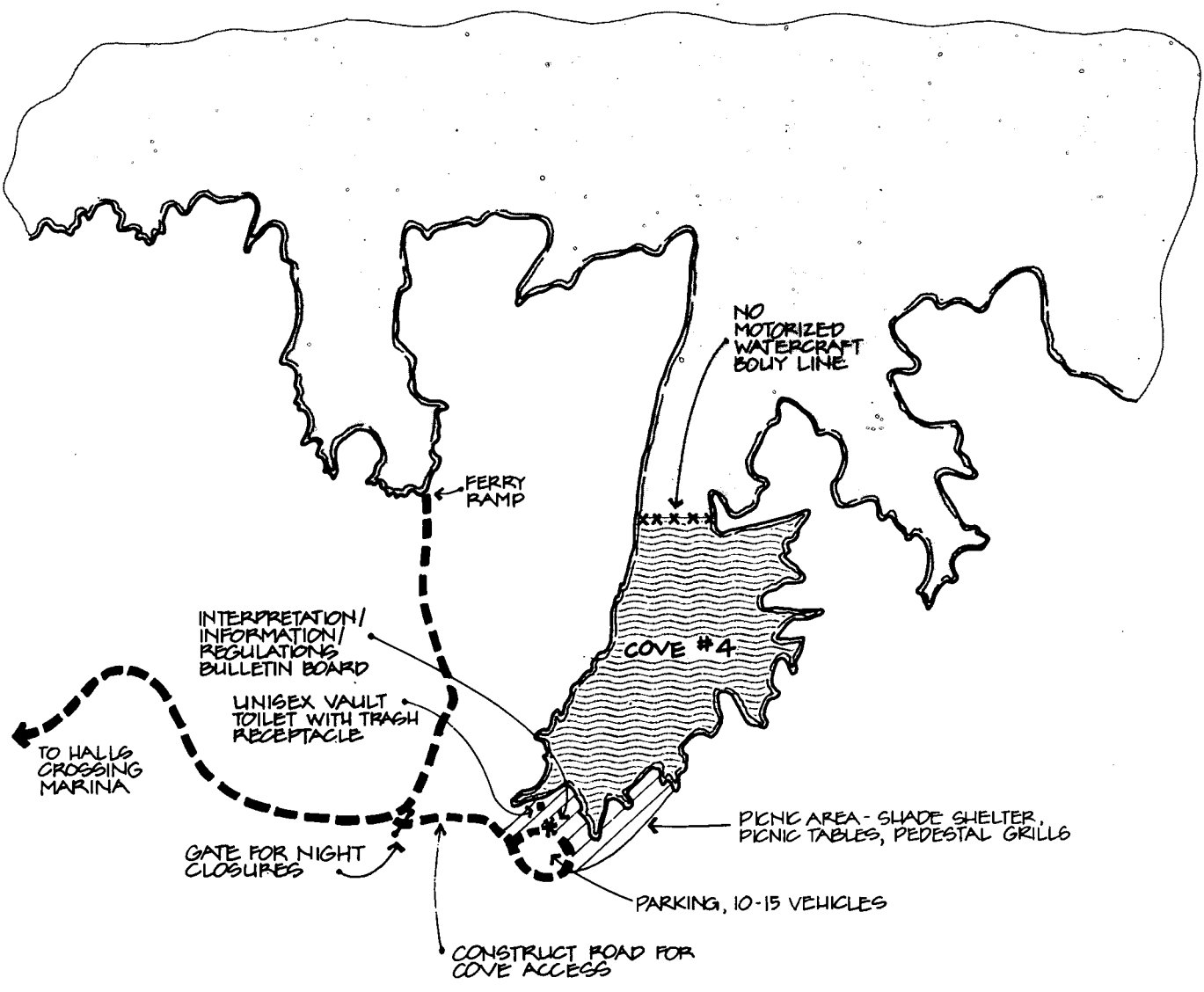

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Halls Crossing Cove #4

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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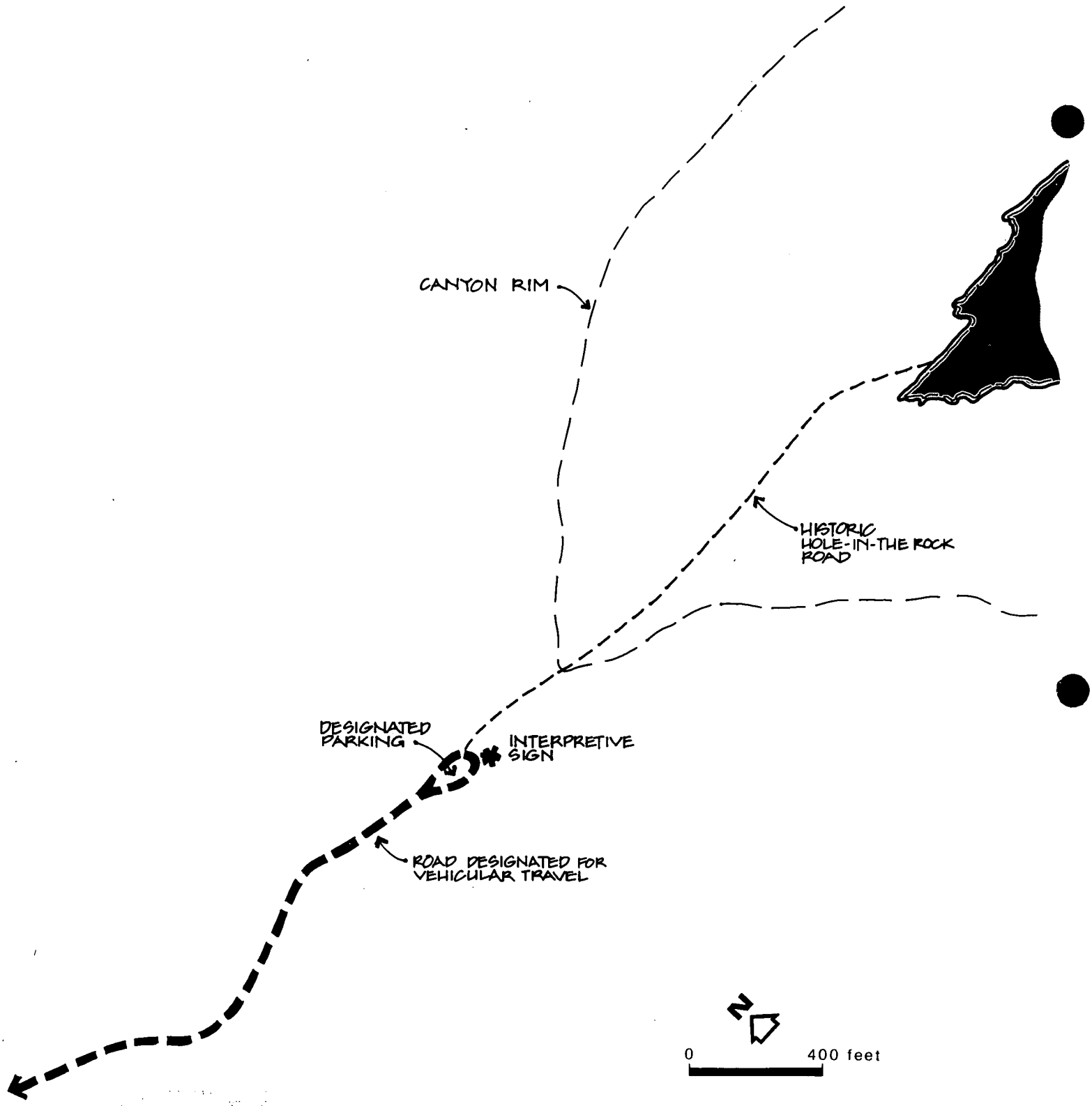

ON MICROFILM

Hole-In-The-Rock

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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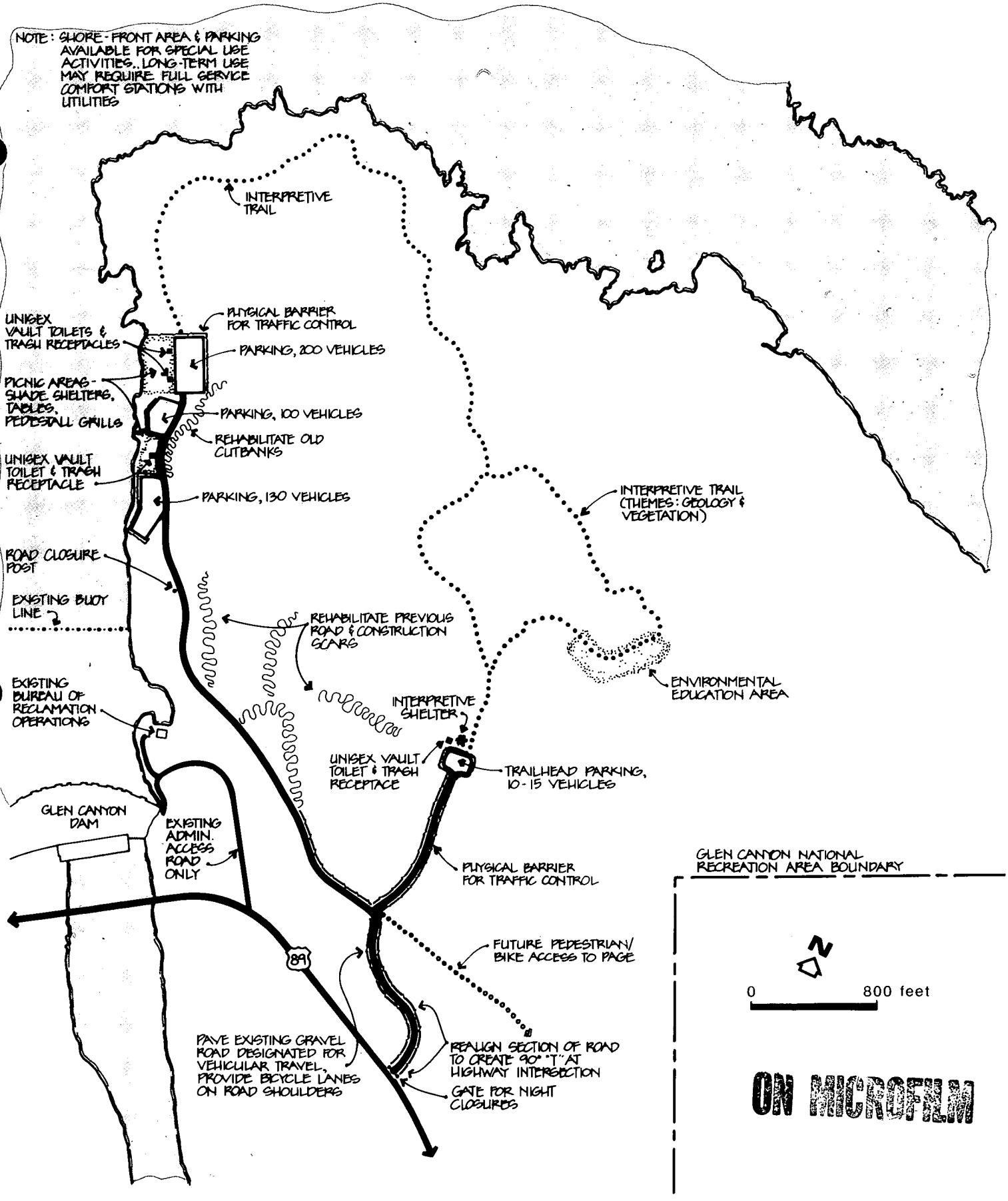

ON MICROFILM

The Chains

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area - Utah/Arizona

U.S. Dept. of the Interior - National Park Service

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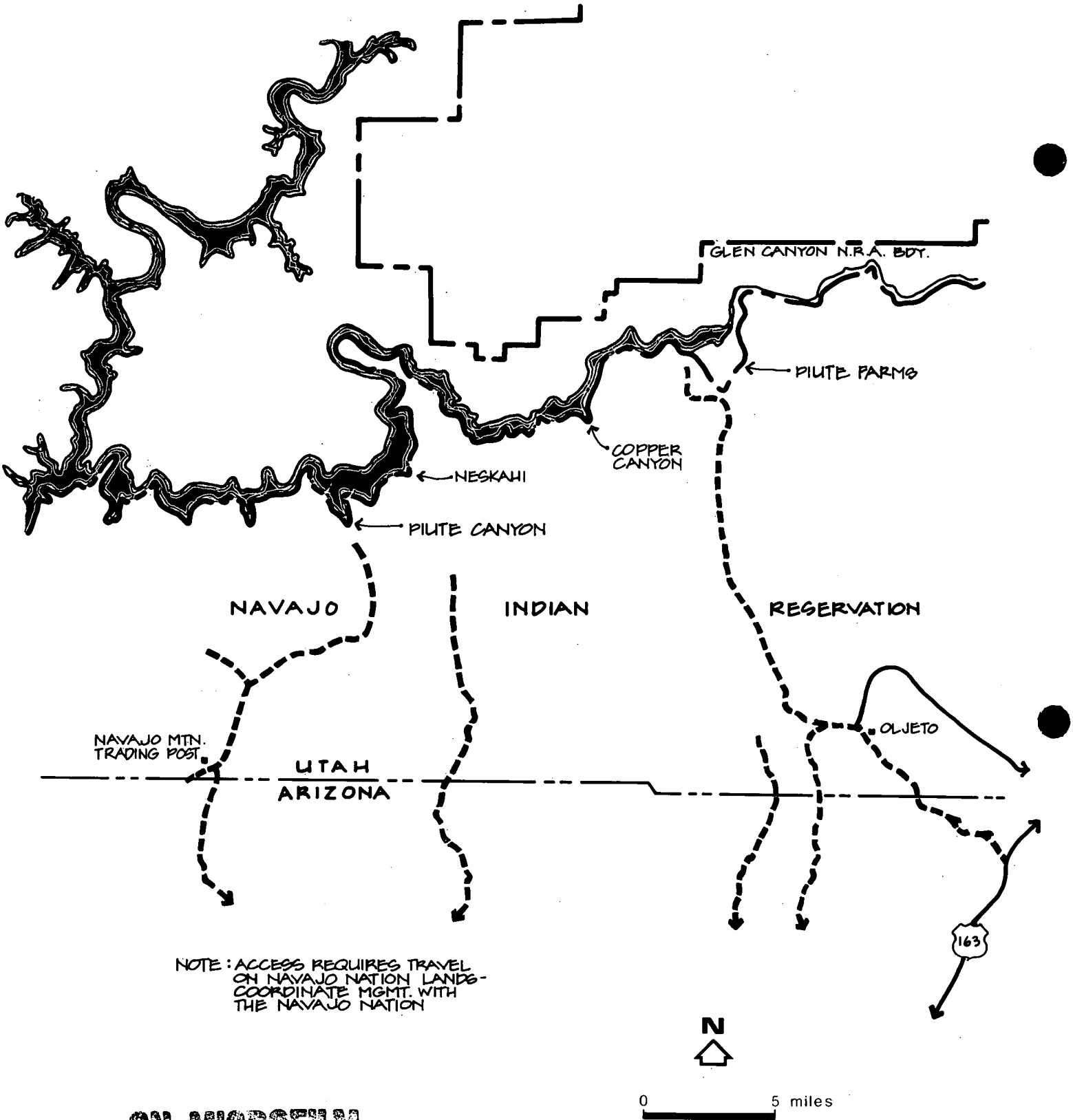

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Copper Canyon, Neskahi, & Piute Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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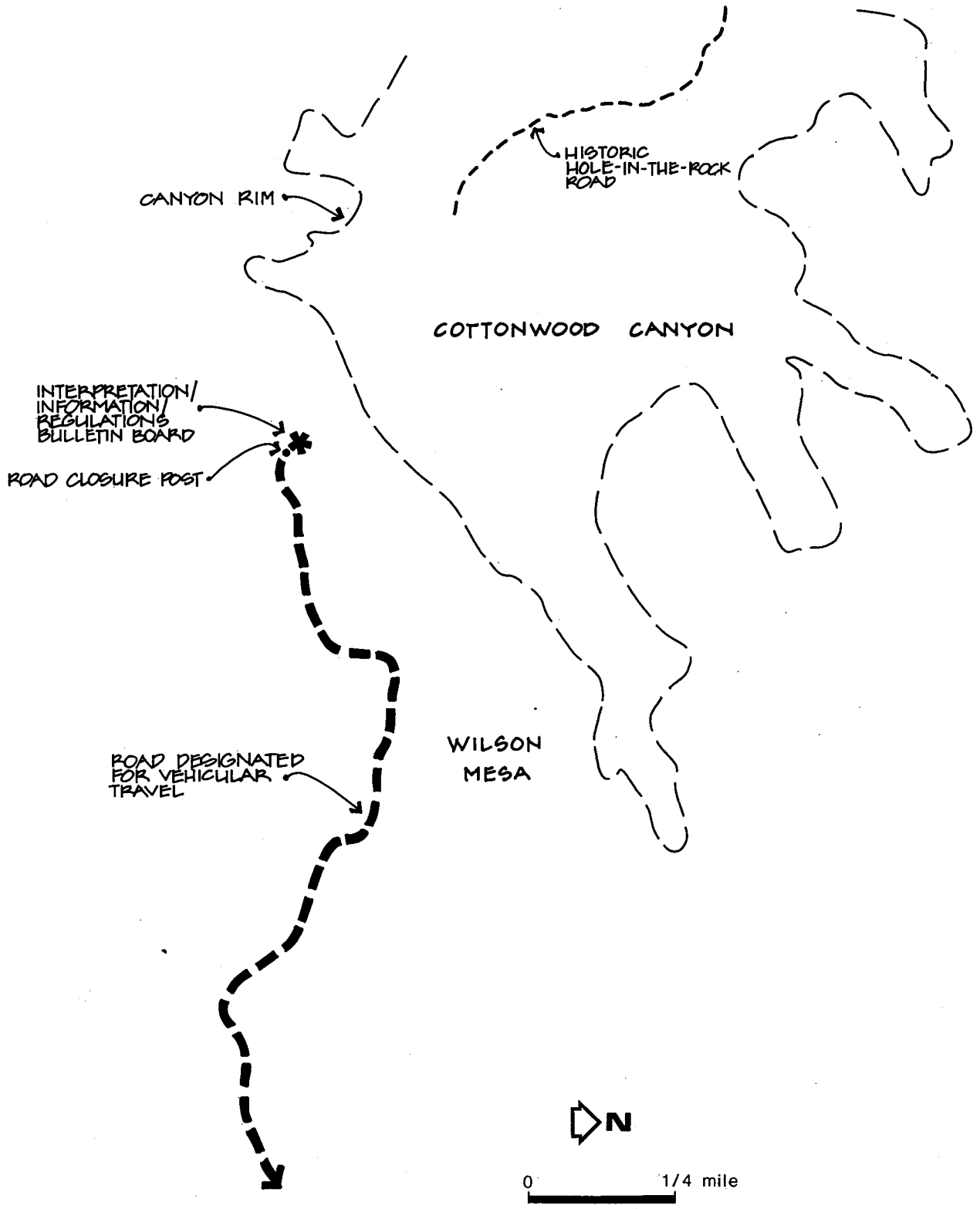

ON MICROFILM

Cottonwood Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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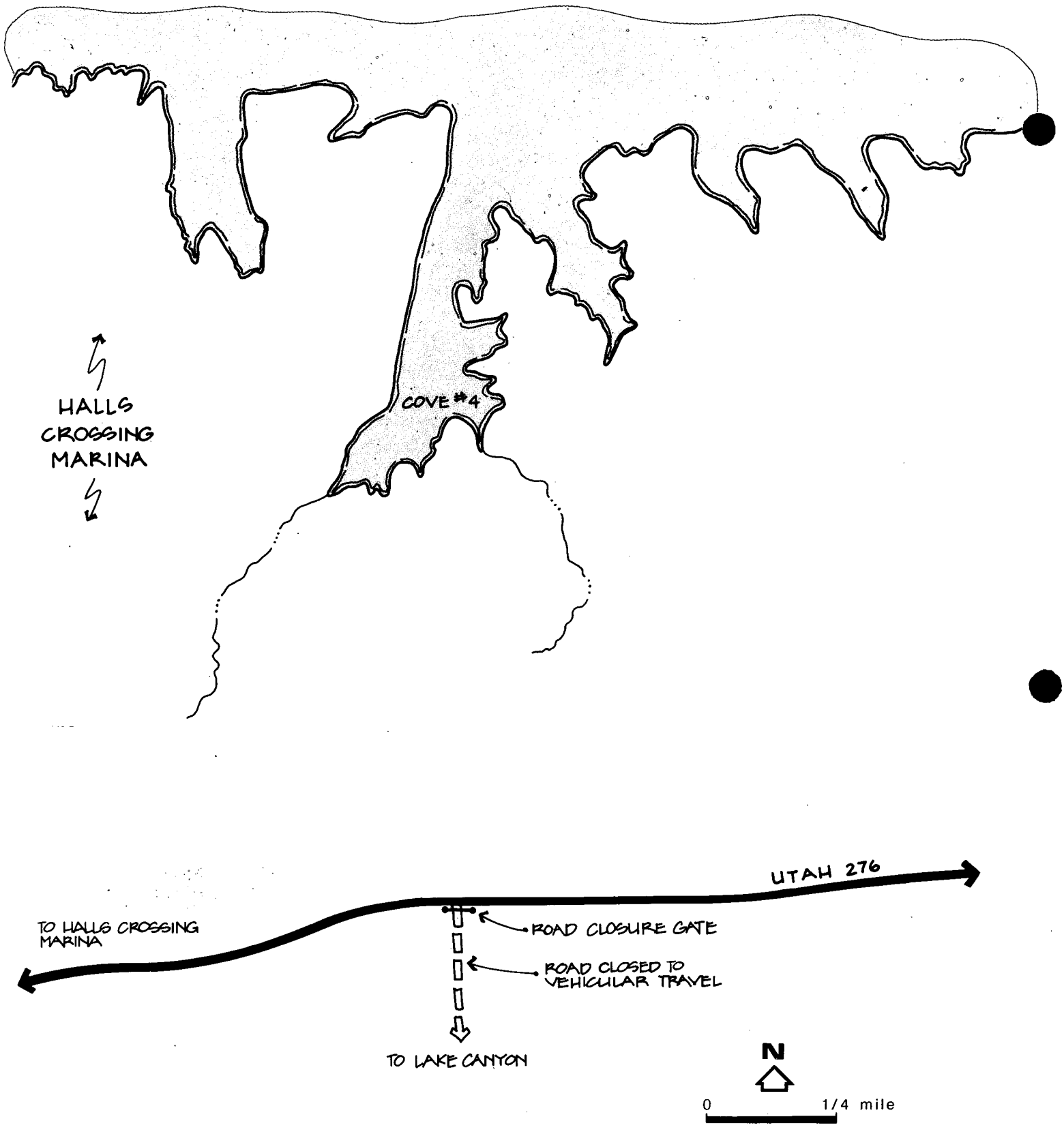

ON MICROFILM

Lake Canyon

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area - Utah/Arizona

U.S. Dept. of the Interior - National Park Service

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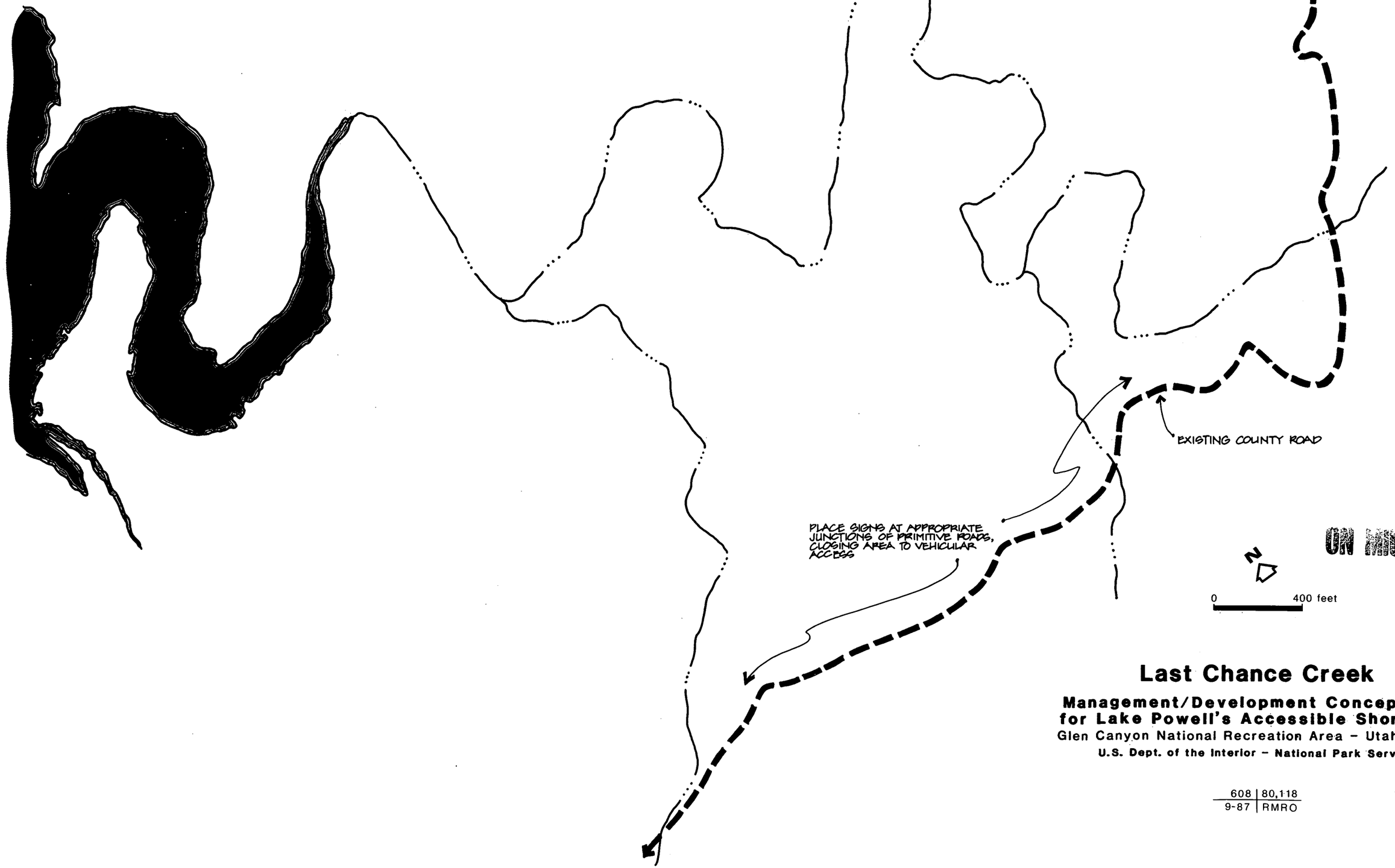

ON MICROFILM

Last Chance Creek

Management/Development Concept Plan for Lake Powell's Accessible Shorelines

Glen Canyon National Recreation Area – Utah/Arizona

U.S. Dept. of the Interior – National Park Service

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9-87 | RMRO

APPENDIX A

INTERPRETIVE PROGRAM FOR THE PLAN

This appendix illustrates options for interpretive operations that could be employed at each shoreline area open to vehicular access as described in the plan.

In developing interpretive operations, several factors have been taken into consideration, which will determine the scope of interpretive operations at a particular access site. These factors include: the distance of the access site from a developed area where interpreters are stationed, the need to provide exhibits and facilities which will be resistant to vandalism, and consideration of the primary goals of interpretation being the safety of the visitor, protection of the resource, and the provision of information and interpretive services.

An effort has been made within Glen Canyon National Recreation Area to standardize interpretive facilities including bulletin boards. This standardization of interpretive facilities will be applicable to shoreline areas.

Because of the remote locations of some shoreline access areas, four-wheel-drive vehicles or watercraft would be needed to transport interpretive personnel.

At some shoreline areas, several options for interpretive services are described. The option implemented at each shoreline area will be dependent on the level of available funding. For each area, OPTION I is the easiest to develop and least expensive, and the higher-numbered options represent an upgrading towards a more optimum interpretive program. The highest-numbered option is always the most expensive.

Blue Notch Canyon

Because visitation is low and this area has no measurable resource impacts, no interpretive services are planned. If, in the future, additional use with resulting impacts does occur, interpretive services will be required.

Bullfrog Creek

OPTION I. Develop a site bulletin addressing shoreline access camping and other recreational uses for the Bullfrog Creek shoreline access area. Standardized information could include NPS regulations on shoreline camping, sanitation, safety, etc. Specific information would include: where and how to contact the nearest park ranger; location of nearby facilities; fishing

regulations and techniques; boating; nearby attractions; safety concerns specific to Bullfrog Creek; specific user-conflict concerns; location of nearest visitor center; interpretive programs and schedule, etc. This site bulletin would be placed in brochure boxes located on the shoreline access roads.

OPTION II. Use standardized bulletin board complex at road access points. The bulletin board would contain information on shoreline camping regulations, sanitation, water quality concerns, the Adopt-A-Canyon clean-up program, fires and fire rings, vehicle use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. A site bulletin on specific safety concerns, attractions, fishing techniques, facilities nearby, etc., would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION III. Because of the close proximity of Bullfrog to the Bullfrog Creek shoreline access areas, a Traveler Information System utilizing a short-range AM radio transmitter might be used to inform visitors of shoreline access camping availability and regulations, and to provide interpretive information. Signs would be located along Highway 276 informing visitors of the radio information availability and which frequency to tune their radios to for the information.

OPTION IV. In addition to those items included in OPTIONS II and III, develop a series of wayside exhibits to be located near the high water level of the shoreline where heaviest use occurs. These wayside exhibits would cover the human and natural history of Bullfrog Creek, and orientation information concerning nearby attractions and marina facilities. Wayside exhibits could also address the nearby Waterpocket Fold, Henry Mountains, and Burr Trail. A wayside exhibit with a map showing the extent of the Bullfrog Creek access area would be helpful, along with orientation information concerning nearby facilities and marinas.

OPTION V. An interpreter stationed at Bullfrog would do roving interpretive contact work in the Bullfrog Creek shoreline-access areas. An on-site interpreter would hand out boating packets with specific information on Bullfrog Creek and Bullfrog area, and distribute the Boat-It-In--Bag-It-Out trash bags. Because of the close proximity of the Bullfrog creek shoreline access areas to Bullfrog, visitors could be invited to interpretive programs presented at Bullfrog or a centralized interpretive facility might be developed near the shoreline-access points for the presentation of interpretive programs. These on-site roving interpretive services would be in addition to having all other options in place on shoreline-access roads.

Clay Hills

OPTION I. Because of the remote location of this site and the

limited visitation to this area, no interpretive services are planned unless a permanent San Juan marina development occurs.

OPTION II. Develop a series of wayside exhibits at the river-running take-out point. These exhibits would welcome visitors to the Glen Canyon NRA and provide visitors with information on the human and natural history of the area. An exhibit would also be developed with an area map and orientation information.

Copper Canyon and Neskahi

No interpretive services are planned for these locations. Visitation is very low and little resource damage has occurred. If a marina site is developed in this area, a site bulletin and wayside exhibit program will be developed for these locations. It might be noted that Copper and Neskahi Canyons are located adjacent to the Navajo Reservation. Consideration should be given to providing Navajo interpretations of visitor materials.

Cottonwood Canyon

A wayside sign will be placed at the road closure point which would focus on the Hole-in-the-Rock road and the fragility of historic road cribbing beyond that point.

Crosby Canyon

OPTION I. Develop a site bulletin addressing shoreline access camping and other recreational uses. Standardized information could include NPS regulations on shoreline camping, sanitation, safety, etc. Specific information might include: where and how to contact the nearest park ranger; location of nearby facilities, ORV restrictions; fishing regulations and techniques, nearby attractions; safety concerns specific to the shoreline access site; specific user-conflict concerns; location of nearest visitor center; interpretive programs and schedule; etc. This site bulletin would be placed in a brochure box located on the shoreline access road.

OPTION II. Use standardized bulletin board complex at road access point. The bulletin board would contain information on shoreline camping regulations, sanitation, water quality concerns, litter disposal, fires and fire rings, vehicle use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. A site bulletin on specific safety concerns, attractions, fishing techniques, facilities nearby, etc., would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION III. In addition to those items included in OPTION II, develop a series of wayside exhibits to be located near the high water level of the shoreline where heaviest use occurs. These wayside exhibits would cover the human and natural history of

Crosby Canyon, and orientation information concerning nearby attractions and marina facilities. The human history aspect of Crosby Canyon is significant, as coal from this canyon powered the Spencer gold mining operations at Lees Ferry.

Dirty Devil

OPTION I. Develop a site bulletin addressing shoreline access camping and other recreational uses. Generalized information could include NPS regulations on shoreline camping, sanitation, safety, etc. Specific information might include: where and how to contact the nearest park ranger; location of nearby facilities; fishing regulations and techniques; nearby attractions; safety concerns specific to the Dirty Devil shoreline access site; dealing with driftwood during the spring run-off; specific user-conflict concerns; location of nearest visitor center; interpretive programs and schedule; etc. This site bulletin would be placed in a brochure box located on the shoreline access roads.

OPTION II. Use standardized bulletin board complex at road access points. The bulletin board would contain information on shoreline camping regulations, sanitation, hazards, water quality concerns, the Adopt-A-Canyon clean-up program, fires and fire rings, vehicle use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. The site bulletin listed in OPTION I would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION III. Because of the close proximity of Hite to the Dirty Devil shoreline access areas, a Traveler Information System (TIS) utilizing a short-range AM radio transmitter might be used to inform visitors of shoreline access camping availability and regulations, and to provide interpretive information. Signs would be located along Highway 95 informing visitors of the radio information availability and which frequency to tune their radios to for the information.

OPTION IV. As the interpretive program develops in the Uplake District, an interpreter stationed at Hite would do roving interpretive contact work in the Dirty Devil shoreline access areas. An on-site interpreter would hand out boating packets with specific information on the Dirty Devil and Hite areas, and distribute the Boat-It-In--Bag-It-Out trash bags. Because of the close proximity of the Dirty Devil shoreline access areas to Hite, visitors could be invited to interpretive programs presented at Hite, or an interpretive facility might be developed near the shoreline access points for the presentation of interpretive programs. These on-site roving interpretive services and programs would be in addition to other options being in place.

Farley Canyon

OPTION I. Develop a site bulletin addressing shoreline access camping and other recreational activities for Farley Canyon. Standardized information could include NPS regulations on shoreline camping, sanitation, safety, etc. Specific information would include: where and how to contact the nearest park ranger; a map showing the extent of the shoreline access area at Farley Canyon; location of nearby facilities; fishing regulations and techniques; boating information; nearby attractions; safety concerns specific to Farley Canyon; specific user-conflict concerns; location of nearest visitor center; interpretive programs and schedule; etc. this site bulletin would be placed in a brochure box located on the shoreline access road.

OPTION II. Use standardized bulletin board complex at the road access point. The bulletin board would contain information on shoreline camping regulations sanitation, water quality concerns, litter disposal, fires and fire rings, vehicle use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. A site bulletin on specific safety concerns, attractions, fishing techniques, facilities nearby, etc., would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION III. In addition to those items included in OPTION II, develop a series of wayside exhibits to be located near the high water level of the shoreline, where heaviest use occurs. These wayside exhibits would cover the human and natural history of Farley Canyon, and orientation information concerning nearby attractions and marina facilities.

OPTION IV. As the interpretive program develops in the Uplake District, an interpreter stationed at Hite could do roving interpretive contact work in the Farley Canyon shoreline-access area. An on-site interpreter would hand out boating packets with specific information on Farley Canyon and the Hite area, and distribute the Boat-It-In--Bag-It-Out trash bags. Because of the close proximity of Farley Canyon shoreline access area to Hite, visitors could be invited to interpretive programs presented at Hite, or an interpretive facility might be developed near the Farley Canyon shoreline for the presentation of interpretive programs. These on-site interpretive services would be in addition to all items in OPTIONS II and III being in place.

Halls Crossing Cove #4

Because this area is within the Halls Crossing development zone, interpretation will be coupled with efforts ongoing at the developed area.

Hole-in-the-Rock

Wayside exhibits are already in place at the access road termination point, and in the form of a floating exhibit on Lake Powell below the historic site. No other interpretive services are planned at this location, which is extremely remote by road access. If, in the future, additional use with resulting impacts does occur, additional interpretive services will be required.

Piute Wash

No interpretive services are planned for this location. Visitation is low and no measurable resource impacts can be noted. If marina developments take place on the San Juan arm of Lake Powell and visitation to this area increases, a site bulletin or bulletin board complex would be developed. It might be noted that Piute Wash is located adjacent to the Navajo Reservation. Consideration should be given to Navajo interpretations of visitor materials.

Red Canyon

Because visitation is low and this area has no measurable resource impacts, no interpretive services are planned. If, in the future, additional use with resulting impacts does occur, interpretive services will be required.

The Chains

OPTION I. Use standardized bulletin board complex at road access point. The bulletin board would contain information on shoreline day-use regulations, sanitation, water quality concerns, litter disposal, fires and fire rings, vehicle use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. A site bulletin on specific safety concerns, attractions, fishing techniques, facilities nearby, etc., would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION II. Because of the close proximity of the Carl Hayden Visitor Center to The Chains shoreline access area, a Traveler Information System utilizing a short-range AM radio transmitter would be used to inform visitors of shoreline access day-use availability and regulations, and to provide safety information. Signs would be located along Highway 89 informing visitors of the radio information availability and which frequency to tune their radios to for the information.

OPTION III. In addition to those items included in OPTIONS I and II, develop a series of wayside exhibits to be located near the high water level of the shoreline where heaviest use occurs. These wayside exhibits would cover safety issues related to water recreation. Several accidents including drownings have occurred at The Chains location and topics should include cliff diving,

swimming with clothing on, alcohol-related accidents, swimming near boats and fishermen, use of glass containers, dangers associated with walking on the slickrock shoreline, and drop-offs.

OPTION IV. An interpreter stationed in the Wahweap Sub-District or from the Carl Hayden Visitor Center would do roving interpretive contact work in The Chains shoreline-access area. An on-site interpreter would hand out boating packets with specific information on The Chains and Wahweap area, and distribute the Boat-It-In--Bag-It-Out trash bags. Because of the close proximity of The Chains to Wahweap and the Carl Hayden Visitor Center, visitors would be invited to interpretive programs presented at Carl Hayden and/or Wahweap. These on-site roving interpretive services would be in addition to having a bulletin board complex and wayside exhibits in place. Because a high percentage of the use at The Chains area is Native American, consideration should be given to providing Navajo interpretations of visitor materials.

Warm Creek

Because visitation is low and this area has only minor resource damage, no interpretive services are planned. If, in the future, additional use with resulting impacts does occur, interpretive services might be required.

White Canyon

OPTION I. Develop a site bulletin addressing shoreline access camping and other recreational uses. Standardized information could include NPS regulations on shoreline camping, sanitation, safety, etc. Specific information might include: where and how to contact the nearest park ranger; location of nearby facilities; fishing regulations and techniques; nearby attractions; safety concerns specific to the White Canyon shoreline access site; and specific user-conflict concerns. These site bulletins would be placed in a brochure box located on the shoreline access road.

OPTION II. Use standardized bulletin board complex at road access point. The bulletin board would contain information on shoreline camping regulations, sanitation, water quality concerns, litter disposal, fires and fire rings, ORV use, user conflicts, fishing regulations, and other topics of interest to the shoreline user. A site bulletin on specific safety concerns, attractions, fishing techniques, facilities nearby, etc., would be developed and placed in a brochure box attached to the bulletin board complex.

OPTION III. In addition to those items included in OPTION II, develop a series of wayside exhibits to be located near the high water level of the shoreline where heaviest use occurs. These wayside exhibits would cover the human and natural history of White Canyon, and orientation information concerning nearby attractions and marina facilities.

OPTION IV. As the interpretive program develops in the Uplake District, an interpreter stationed at Hite would do roving interpretive contact work in the White Canyon shoreline access area. The on-site interpreter would hand out boating packets with specific information on White Canyon and the Hite area. The interpreter would also distribute the Boat-It-In--Bag-It-Out trash bags. Because of the close proximity of the White Canyon shoreline-access area to Hite, visitors would be invited to interpretive programs presented at Hite, or an interpretive facility might be developed near the shoreline-access point for the presentation of interpretive programs as justified by visitation. These on-site roving interpretive services and programs would be in addition to having a bulletin board complex and wayside exhibit program in place.