United States Department of the Interior
National Park Service

Lake Mead National Recreation Area

SNPLMA Round 16
Capital Improvement Program

REHABILITATE BOULDER BEACH CAMPGROUND NORTH LOOPS

Project location
N 36° 02’ 17”
W 114° 48’ 08”

Amount Requested $1,451,701

Project Manager: Chad Vellinga
Park Engineer
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Nomination reviewed and approved by: /s/ April 29, 2016

Lizette Richardson
Superintendent

Date

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Project Executive Summary:

The south half of the Boulder Beach campground was upgraded with funding from a prior SNPLMA project. This is the second project for the restoration of the north half of the Boulder Beach Campground, and will complete the reconstruction of the campground.

The Boulder Beach campground was originally constructed in the 1940's and has not been significantly upgraded to accommodate modern, large recreation vehicles. The curves on the roadways will be widened slightly to allow safer passage by the large RVs that are frequently towing boats. Reconstruction and repaving of the interior roads will be funded with Park Service recreation fee funds. Based upon the final design, campsite pads will be enlarged to allow the RVs to fit. RV/vehicle pads will be changed from asphalt to concrete to provide a more stable and sustainable surface. The concrete will reduce annual and deferred maintenance costs. The final design will address accessibility issues and will meet ABA requirements. The existing restrooms were upgraded with funding from a prior round, but need some accessibility improvements on walkways leading to them. Landscaping within the campground, dependent upon the final design and SHPO concurrence, will focus on replacing exotic and undesirable plants with native plants to reduce water usage. The irrigation system will also be upgraded to reduce water consumption and reduced operations and maintenance costs. New shade structures will be fabricated and installed over the picnic tables.

Purpose Statement:

The Lake Mead National Recreation Area will rehabilitate and upgrade the Boulder Beach campground north loops to replace the worn pavement, rehabilitate camp sites, improve accessibility and replace exotic/undesirable vegetation with native species. The project area is in the Lake Mead National Recreation Area, off the Lakeshore Road and approximately 4½ miles northeast of Boulder City and 21 miles southeast of Las Vegas, Nevada. When complete, the project will rehabilitate the remaining campsites in the Boulder Beach Campground, bring all the sites up to Park Service standards, comply with accessibility standards, improve the quality of the recreation experience, reduce deferred maintenance costs, and extend the usability of the facilities.

Project Background:

This part of the Boulder Beach campground was the original section constructed in 1940's.

The existing sites do not accommodate modern recreational vehicles and do not meet the ABAAS requirements. Additionally, the site pads are asphalt and when RVs put their levelers down during the hottest part of the year, they can damage the pads.

The Boulder Beach campground is recognized as one of the best campgrounds in the West. In 2015, there were 19,000 visitor use campsite nights.

The sustainability aspects of the project include replacing exotic plant species with native species and upgrading the irrigation systems to one with much higher efficiency that will result in reduced water usage.. Other materials planned for use in the project include concrete for the campsite pads. Concrete will include fly ash in the mix and will be a long lasting material with minimal maintenance required.

Improvements to the campground respond to visitor usage. More campers arrive with large Recreation Vehicles such as fifth wheel travel trailers. The interior roads within the campground are difficult to maneuver their rigs and the campsites are in poor condition with deteriorating pads that create problems in leveling trailers and RVs. Accessibility improvements will meet the expectations of visitors with mobility challenges.

The Boulder Beach campground is frequently used by organizations involved in community outreach to provide a camping experience to underserved youth who may not have had an opportunity to do so before.

Project Deliverables:

1. **<u>Primary Deliverables</u>:**
    - Reconstruct the north campground

2. **<u>Anticipated Deliverables</u>:**
    - Improved visitor experience
    - Reduced operations and maintenance costs
    - Reduced water consumption

3. **<u>Standard Deliverables</u>:**
    - Planning – conduct scoping, preliminary design, NEPA and NHPA coordination
    - Design – prepare Construction Documents including drawings and specifications, as well as land survey and other development (planned as a design-build contract),
    - Project closeout.

SNPLMA Program Strategic Goals:

Goal 2: Conserve and restore the quality of the outdoor environment by preserving natural and cultural resources and enhancing recreational opportunities

2.2 Preserve Cultural Resources (Document, preserve, and interpret cultural resources)

Output: 1 each Documented historical significance of the campground with interpretive panels installed in the campground.

2.3 Enhance Recreational Opportunities (Responsibly improve access to recreational opportunities on Federal lands and increase the availability of local parks and trails)

Output: Upgrade 1 campground to meet accessibility standards and improve the recreation experience.

2.6 Promote Project Connectivity and Sustainability (Integrate projects across agencies and prior rounds that are connected and sustainable within their environment)

Output: Provide visitors opportunities to recreate in Lake Mead and the adjacent public lands. The project will encourage and engage visitors and the local communities in understanding the Mojave Desert ecosystems.

Goal 3: Continue the SNPLMA legacy of collaborative success as a model of program management through increased transparency, accountability, and effective governance

3.4 Promote Partnerships (Create a foundation of lasting value by developing sustainable partnerships which enhance communication, coordination, and accountability among Federal, State, and local governments and other program partners)

Output: Partner with other organizations to utilize the facilities for educational programs, including other Federal agencies, as well as local

schools, Boy Scouts, Girl Scouts, YMCA, and special events like triathlons.

Project Timeframe:

1. Project Implementation Schedule

   The NPS will prepare documentation needed to complete the NEPA compliance, consultation with the Nevada SHPO and the Request for Proposal to use for solicitation of a design-build contract. The milestones include the following:

   - Complete planning, design and NEPA – 2 years
   - Complete construction, including re-vegetation – 2 years
   - Closeout project – 4 months

2. Project phasing

   - Planning, design and NEPA will be complete when the decision documents are signed and the final design is approved for construction.
   - Construction will be complete when the NPS has accepted the project as complete from the contractor with final invoices paid and release of claims received.
   - Closeout of project will be complete when all agreements and/or contracts have been closed, funding expended or de-obligated and returned to SNPLMA and closeout package reviewed and accepted.
   -

Operations and Maintenance Costs/Changes from Existing Costs

Concrete pads will reduce maintenance costs. The NPS maintenance staff is presently, frequently using cold patch to repair the asphalt pads. With the small size of the existing pads, the campers with larger RVs typically park in the dirt area next to the pads which causes additional work to keep up the sites after the RV leaves. Concrete will be much easier to sweep and/or wash compared to asphalt or dirt. Replacing exotic with native plants will reduce the pruning requirements.

The other aspect of O&M is from the users. With level concrete pads, the campers will have stable surface on which to park. This reduces the need for using leveling outriggers.

Relationship to Previous Approved Projects or Phases and anticipated future phases

This project follows the rehabilitation of the campsites in the 1961 campground extension area. That project, SNPLMA NP50, replaced the roadways and constructed concrete pads, as well as converting some back-in sites into pull-through sites in 2012. The

campground restrooms in the extension area were replaced under SNPLMA NP68 in 2012. The restrooms within the original area were replaced under previous NPS project in 1997 and 1998.

In the previous round (15), the NPS SNPLMA project to rehabilitate the campground amphitheater should begin preliminary design and consultation with NV SHPO this year.

A long term future project (or projects) is desired to add utilities, including water, wastewater and electricity to each site to serve the RV campers.

Level of Readiness for implementation

The NPS is ready to begin the project within the first year from the notice of funding availability. The NPS has a professional engineering staff and capacity to manage this project in a timely manner.

Contributed Funds

Funds for the rehabilitation of the paved roads within the campground will be provided by the NPS Rec Fee program. The estimated contributed funds are $1,087,598.

Total Project Cost Estimate:

The SNPLMA funds requested are for restoration and rehabilitation of the campsites only, including pads, amenities, landscaping, and replacement of the irrigation system. Park Service funds will be used for replacement of the loop roads only. The total value of the project is $2,539,299.

$1,451,701	SNPLMA Funding request for campsites
$1,087,598	NPS contributed funds from Recreation Fee Funds for roads
$2,539,299	Estimated total estimated project value

The estimated necessary expenses and detailed costs are below:

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Capital Improvement Project Proposal
Estimated Necessary Expenses

Project	Rehabilitate the Boulder Beach Campground North Loops	Date:	4/29/2016
Agency:	National Park Service		
Project #:		Priority #	
Prepared by:	Bruce Nyhuis		
Phone #	702-293-8669		%

1	**Planning, Environmental Compliance & Preconstruction Engineering and Design** ***(Not to exceed 27% of total project costs)****	$226,760	15.6%
	(pre-design sketches and conceptual drawings; environmental assessment and permitting, specialist surveys/reports for archaeology, wildlife, biology, etc.; architectural and engineering analysis, design survey & field investigations; construction drawing, specifications, cost estimates, and engineering technical reports.)		
2	**Construction Contract Costs**	$1,116,841	76.9%
	(including labor, supplies & materials, construction management, etc.; sampling/testing; site restoration; and government furnished supplies and materials.		
3	**Project Equipment**	$0	
	(pg. 89 of the Implementation Agreement) SNPLMA funds can only be used for "project related necessary expenses" and SNPLMA can reimburse only for those equipment costs directly associated with completion of the approved project. Does not include office furnishings or equipment necessary for operations or maintenance of the project).		
4	**Travel**	$0	
	(including per diem where official travel status is required to carry out the project, such as to serve as COR, experts to review reports, etc.)		
5	**Official Vehicle Use**	$5,400	0.4%
	(pro rata cost for use of Official Vehicles when required to carry out the project)		
6	**Other Direct and Contracted Labor**	$89,500	6.2%
	Agency payroll for the Contracting Officer to do project procurements, COR Project Inspector, Section 106 Consultation, NEPA Lead, Project Manager, Project Supervisor, and subject experts to review contracted surveys, design/drawings, plans, reports, etc.; Also covered is the cost to contract for a Project Manager and/or Project Supervisor if contracted separately from other project costs.		
7	**FWS Consultation - Endangered Species Act**	$0	
8	**Federal Direct Labor** *(direct angency labor for construction, PI, CO, and COR work)*	$13,200	0.9%
9	**Other Necessary Expenses** (See IA Appendix B-3)	$0	
	Total Requested/Estimated Budget	**$1,451,701**	**100.00%**
10	**Total Estimated contributed funds**	$1,087,598	
	Total Estimated Project Value *(Requested funding plus contributed funds)*	**$2,539,299**	

1	Estimated project start date:	10/1/2017
2	Planning, NEPA, and design phase complete	10/1/2018
3	Construction and build-out complete	10/1/2019
4	Project close-out (allow 120 days to process)	4/1/2020

General Comments:

Construction estimates were done using a combination of the Timberline cost estimater in Maximo, based on RS Means, with NPS factors, further refined with Schedule of Values from the previous contract that improved Loops A, B and C (SNPLMA Project NP50).

1	Estimated costs for Planning, Conceptual Design, Environmental Compliance and Field Work/Surveys, NEPA & Pre-construction Architectural and Engineering Design Services				
	Description	**Units**	**Unit of measure**	**Unit Cost**	**Est. Cost**
A&E Services	Conceptual design development (Pre-design)	1	Job	$55,400	**$55,400**
	Estimated probable cost report	1	Job		**$0**
	Geotechnical investigation and site survey	1	Job	$22,160	**$22,160**
	Construction Documents	1	Job	$110,800	**$110,800**
		1	Job		**$0**
NEPA compliance	Archaeological surveys and reports	160	hrs.	$60	**$9,600**
	SHPO consultation and coordination	200	hrs.	$60	**$12,000**
	Biological/wildlife surveys and reports		hrs.		**$0**
	Preparation of environmeantal assessment/FONSI	280	hrs.	$60	**$16,800**
				Estimated total	**$226,760**

2	Estimated Costs for Construction Contracts (Agency costs)				
	Description	**Units**	**Unit of measure**	**Unit Cost**	**Est. Cost**
Construction Management Contract Services	Contract for project management services				**$0**
	Contract for construction pads and shade		job		**$0**
	Contract for construction roads	1	job	$1,107,991	**$1,107,991**
	Fabricate and Install Intrepretive Panels	1	job	$8,850	**$8,850**
					$0
					$0
				Estimated total	**$1,116,841.00**

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6	Labor costs for developing, managing and implementing contracts to complete the project.

This is an estimate of the total hours. Identify by Specialist title and role. Recommend use of Reimbursable Project Log to monitor and track agency labor charged to the project

	Description	Units	Units of measure	Unit Cost	Est. Cost
Federal and contract personnel involved with developing and executing contracts	Contracting Officer (CO)	90	Hrs	$55	**$4,950**
	Contracting Officer Representative (COR)	450	Hrs	$40	**$18,000**
	Agency Project Manager	90	Hrs	$55	**$4,950**
	Agency Project Inspector (PI)	450	Hrs	$40	**$18,000**
	Agency Project Supervisor	360	Hrs	$60	**$21,600**
	Agency Project Engineer (s)	100	Hrs	$55	**$5,500**
	Agency Project Landscape Architect (s)	300	Hrs	$55	**$16,500**
					$0
					$0
				Estimated total	**$89,500**

8	Federal Direct Labor for project construction

Note: Identify by title/position and role. Recommend use of Reimbursible Project Log to track actual labor hours charged to the project.

	Description	Units	Units of measure	Unit Cost	Est. Cost
Federal personnel performing construction of the project	Heavy Equipment Operator		Hrs		**$0**
	Force Account Laborer (title/position - role)		Hrs		**$0**
	Laborer 1		Hrs		**$0**
	Electrician		Hrs		**$0**
	Civil Engineer		Hrs		**$0**
	Interpretive Panel Design	240	Hrs	$55	**$13,200**
			Hrs		**$0**
				Estimated total	**$13,200**

10	Contributed funding to complete construction

Does not include any agency or partner costs incurred prior to authorization to expend SNPLMA project funds or funding from other SNPLMA funded projects. Contributed funds, in-kind services and/or materials for the construction of the project.

	Description	Units	Unit of measure	Unit Cost	Est. Cost
Description of in-kind services, labor, or materials to complete construction	Partner in-kind labor for planning and design		hrs.	$21.36	**$0**
	Agency contributed funds for construction	1	ea	$1,087,598	**$1,087,598**
					$0
					$0
					$0
					$0
				Estimated total	**$1,087,598**

CAPITAL IMPROVEMENT RANKING CRITERIA:

1. **SUSTAINABILITY: The project promotes sustainability by conserving resources to ensure availability to future generations, or restores or maintains natural processes. The project will remain relevant and continue to provide a benefit in the face of changing demographics and/or environmental conditions. The project minimizes the human impact on the environment.**

   A. Conserves the quality of the outdoor environment and mitigates future potential negative impacts by conserving, preserving or protecting the natural and/or cultural resources of the project area:

      The water conservation measures taken in this project to replace the campground vegetation and irrigation system will reduce water consumption while maintaining the original campground layout and configuration.

   B. Enhances or Restores the quality of the outdoor environment by reducing or eliminating existing impacts to the natural and/or cultural resources of the project area:

      Replacing exotic with native plants, eliminating invasive species, e.g., salt cedar, palm trees, and others will provide an equivalent environment for screening and shade and provides the opportunity to actually camp in the Mojave Desert.

   C. Project will enhance stewardship and shared support for the O&M over the life of the project:

      The NPS has an active and vibrant volunteer program with camp hosts to assist with the O&M responsibilities for the campground. Additionally, the NPS will continue to hire seasonal employees paid from camping fees. The project improvements to the campground will make it much easier to keep the area clean and vegetation trimmed. For example, the oleanders in the campground now, though vigorous growers, require a lot of maintenance to keep from getting overgrown.

   D. Project employs sustainable or "green construction" practices using recycled or renewable materials, improves energy efficiency or utilizes low-maintenance products in construction. Conserves resources during the manufacture and life-cycle of the project:

      Concrete as a surface material is very sustainable. The NPS specifies use of fly ash as a recyclable to be used in the concrete mix. Concrete typically will require less maintenance than asphalt. If gouges appear in the concrete, this is easily repaired with various concrete patching compounds. Concrete generally does not get as hot as asphalt, so it has less of a heat island effect. All existing asphalt removed from the campsites will either be pulverized and used within the base course of the pad or hauled off and recycled by the contractor for use in pavement mix; factory painted campsite equipment with long service life coatings; concrete picnic tables

2. **CONNECTIVITY: The project provides recreational opportunities that link population centers, recreation facilities and natural landscapes. It encourages people to meaningfully connect with their natural environment, thus helping them appreciate and care for the environment.**

   A. Project provides access and/or amenities to previously undeveloped recreation areas and/or new recreation opportunities to enjoy public lands.

      Responds to visitor demand and/or changes in visitation patterns. This campground has been a popular area since it was built in the 1940's. The popularity of this campground was one of the driving factors for the extension of the campground in 1961. In 2015, the number of campsite nights sold was 19,000. These campers typically arrive in much larger recreational vehicles or trailers than were available when this campground was constructed. With these large vehicles, the public cannot fit their vehicles or trailers on the existing pads.

      Shade structures over the picnic tables offer improvements to allow season to continue further into the summer. Accessibility improvements will open up camping experience to visitors who either struggle with current conditions or avoid the area because it lacks accessible campsites.

   B. Project improves access to previously developed recreation areas and sites on the public lands and/or upgrades site amenities.

      See A.

   C. Project contains an outreach and education component to improve public awareness and engage the public in the conservation and protection of the surrounding natural environment through the use of resource interpretation (information signage, kiosks, educational programs, etc.)

      This project connects with the improvements to the amphitheater directly across the roadway. New interpretive panels will describe the history of the campground, as well as information about the Mojave Desert and Lake Mead. In historical context, this project rehabilitates the very first campground constructed for the public within Lake Mead NRA. The improvements will make the campground much more inviting to get people to enjoy and appreciate the outdoors and the Mojave Desert. When people appreciate the outdoors, they are much more inclined to care for it. Also, by constructing correct sized concrete pads, control over where or how campers park their vehicles on the site greatly improves the character of the area. Often campers park their RVs within the campsites wherever they can to find the most level spot. This frequently damages plant materials and irrigation.

3. **COMMUNITY: This project provides outdoor recreation opportunities to improve the quality of life, especially for underserved communities. It conserves or restores the**

functionality, resiliency and integrity of biological communities. The project encourages partnerships, which in turn also builds community.

A. Project provides new or enhances existing recreation opportunities for under-served or under-represented communities that cannot be addressed or met with current funding.

The improvements to the campground will enhance the camping experience for the campers brought into the area by local schools, Boy Scouts, Girl Scouts, YMCA, and other outreach programs. The NPS is working with other organizations committed to getting youth groups out to experience the outdoors such as Outside Las Vegas Foundation. The part of the project that makes it especially valuable from an educational standpoint will be the replacement of exotic vegetation with native plants to make the area reflect the greater Mojave Desert. All of the improvements will make the area much more inviting to those people who have not experienced camping before.

B. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the development of the project.

The NPS has committed funding a companion project to rehabilitate the asphalt roadways within this project area. Funds will be provided through the NPS Rec Fee program for that part of the design.

C. Project has identified committed non-SNPLMA sources of funding or in-kind contribution for the implementation of the project.

The NPS has committed funding a companion project to rehabilitate the asphalt roadways within this project area. The roadway rehabilitation work will extend to the group campground.

4. Address maintenance and operational costs.

A. O&M costs will be reduced.

Replacing deteriorated asphalt with new concrete pads will greatly reduce the maintenance of each campsite. Presently, with campers parking virtually anywhere they can fit their RV into the campsite, sweeping, filling in holes where the campers dug into the ground or used other means to try to level their RV. Not all of the campsites even have asphalt remaining for the pads, but those that do, frequently require cold patching to fill in the holes left by RV outriggers. With 48 campsites in this area and people coming and going regularly, this creates a significant workload taking limited personnel resources away from caring for restrooms, vegetation and other components of the campground. Additionally, the existing vegetation requires a lot of maintenance. Oleanders tend to get overgrown quickly and unattractive. The salt cedars in the campgrounds require significant pruning and large limbs fall in wind storms, endangering visitors and creating additional maintenance. Palm trees are

so tall that they offer no shade and fronds blow out in wind storms creating additional maintenance.

By constructing concrete pads in each campsite for parking recreational vehicles, safety will be greatly improved. The concrete pads will provide a stable, level surface on which RVs can park, reducing the need for leveling outriggers. Presently, the RVs using this area are forced to extend leveling outriggers, sometime to the maximum length because of the uneven surface, parking frequently in the dirt. Many of the campers use cut boards of varying thickness under tires to level older RVs or when outriggers are too short. The concrete pads will also provide a stable surface for people to walk around their campers, or when a camper is using a wheelchair or walker, the concrete pad will provide a much safer way to get around the campsite.

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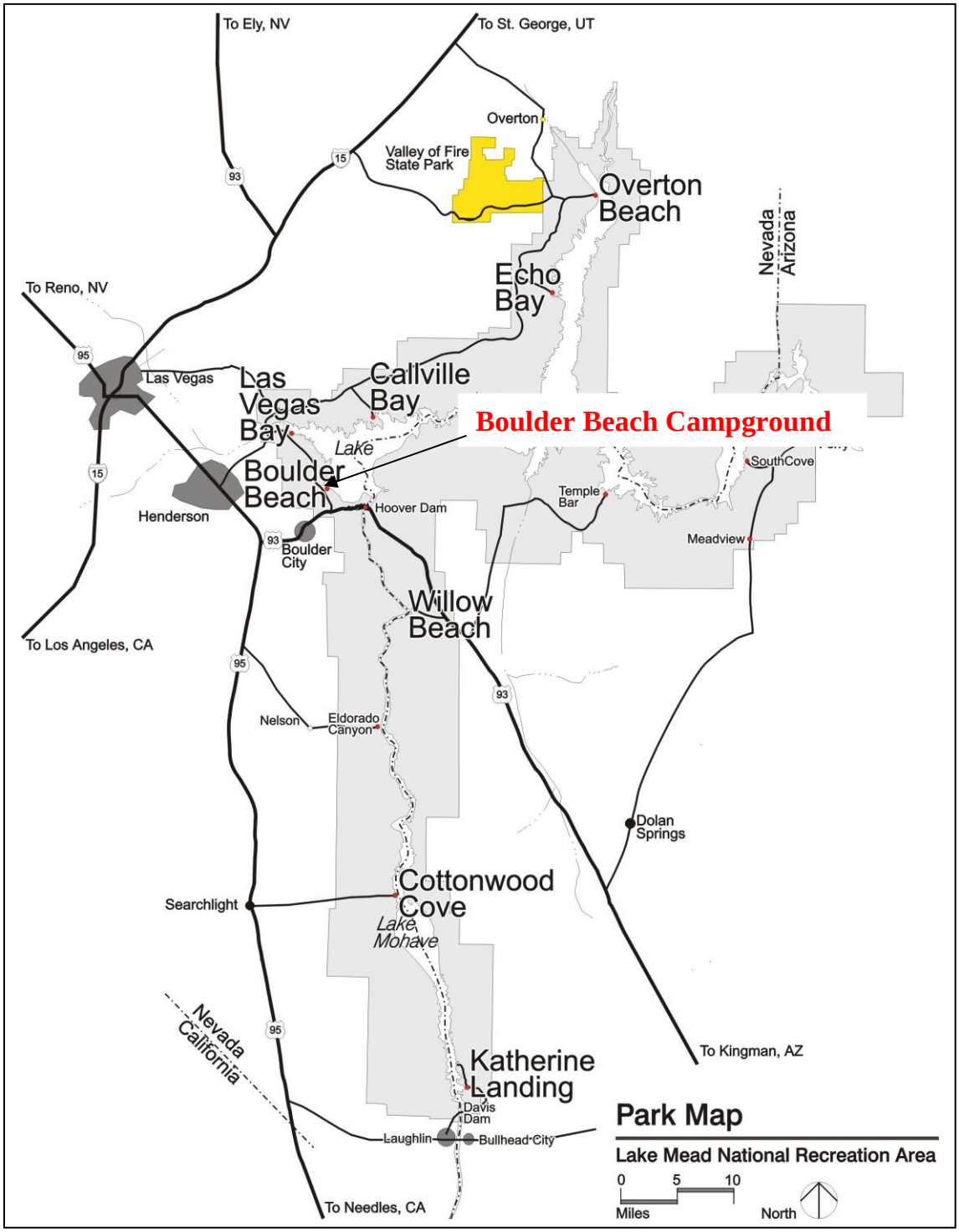
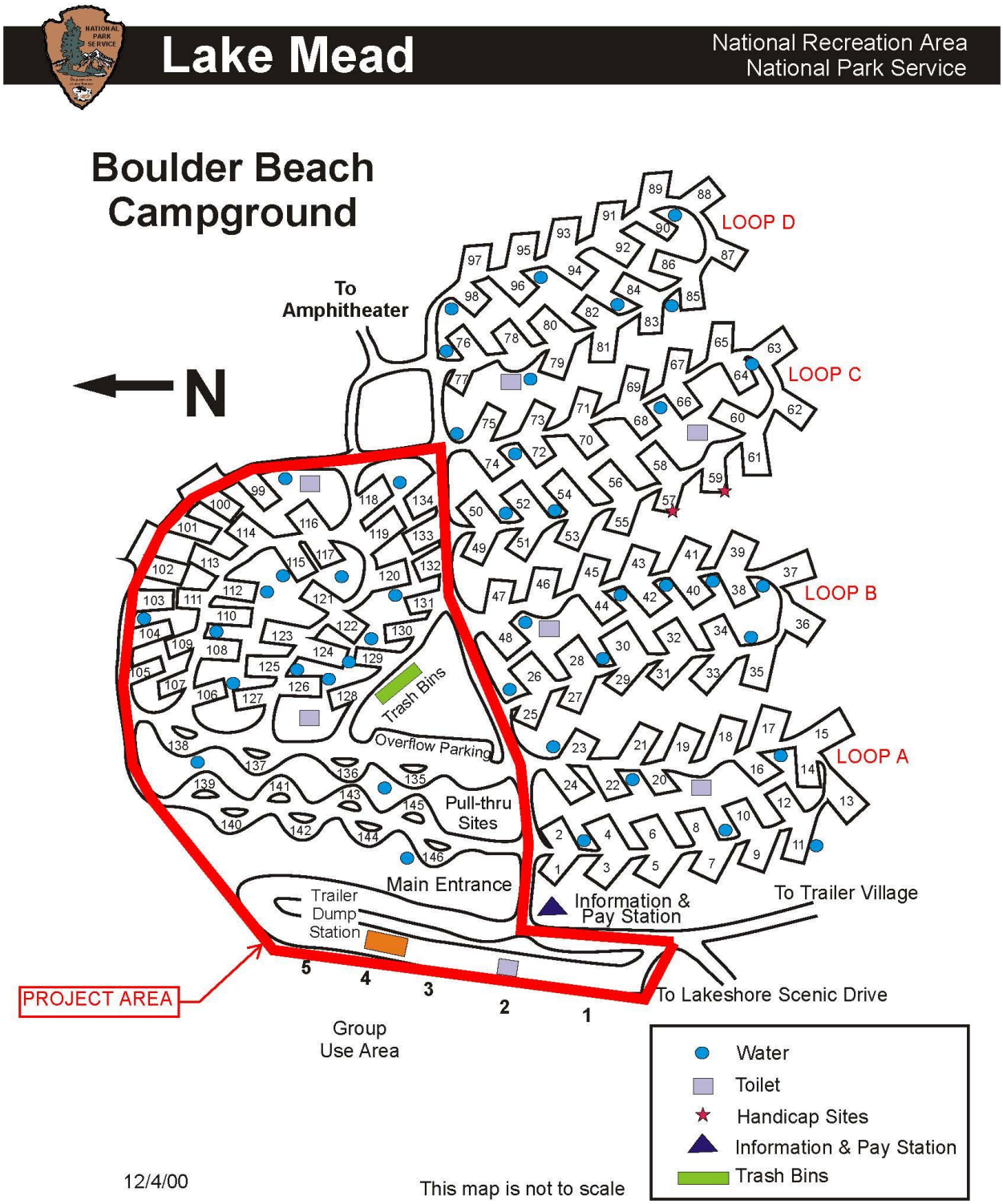
Project Area Map – Lake Mead National Recreation Area



Project is in the Boulder Beach Campground on Lakeshore Rd
(N 36° 02’ 19” & W 114° 48’ 03”)



Loops A, B and C were previously rehabilitated under SNPLMA NPS Project, NP50, completed in 2013. A new project in Round 15 was approved to rehabilitate the Amphitheater.

Photographs:

Figure 1: Existing Back-in Site Poor Condition Roadway

Figure 2: Existing Back-in Sites and Poor Condition Roadway

Figure 3: Pull-Through Site with Poor Condition Asphalt and Dirt RV Pad

Figure 4: Previous Campground Improvements - Accessible Pull Through Campsite