



US Forest Service  
Pacific Southwest Region  
Lake Tahoe Basin Management Unit



Proposed Action for the  
Fallen Leaf Campground Best Management Practices  
Retrofit Project  
El Dorado County, CA

**BACKGROUND:**

Fallen Leaf Campground consists of 110 acres of National Forest System (NFS) lands located in El Dorado County, California. The project is located near the South Shore of Lake Tahoe; it is west of Fallen Leaf Lake Road, which connects to Highway 89 near Camp Richardson. The site is bounded by Fallen Leaf Lake's northern terminal moraine and Taylor Creek to the west (Figure 1). All facilities within Fallen Leaf Campground are owned by the Forest Service and managed by California Land Management (CLM), a privately held company, under the terms of a special use permit.

Fallen Leaf Campground was constructed by the Forest Service in the 1960's and remains one of the most popular campgrounds in the Lake Tahoe Basin. Some campground amenities, such as restroom buildings, have had investment to address maintenance and accessibility concerns; however some of the remaining amenities continue to require investment. Sensitive Stream Environment Zones (SEZ) soils are located within the campground in the form of meadows and riparian corridors.

**PURPOSE AND NEED:**

The purpose of the Fallen Leaf Campground Best Management Practices Retrofit Project is to repair or change specific campground conditions to be consistent with current water quality Best Management Practices (BMPs).

A seasonal stream and meadow occur within Fallen Leaf Campground. Existing metal culverts that convey stream water under the roads are rusting and reaching the end of their useful design life and are in need of replacement.

The parking lot for the Moraine Trail within the campground is currently unpaved and vehicular traffic is causing erosion and soil compaction.

Some of the existing campsites occur on stream environment zone (SEZ) soil types that are not well-suited for the vehicular and foot traffic and other activities associated with camping. Redesign of some campsites is needed to improve soil and water quality resource protection.

Some of the existing campsites and other features of the campground, do not meet Forest Service Outdoor Recreation Accessibility Guideline (FSORAG) standards for providing universal access for people with disabilities. These campsites, walkways, toilets, and other features need to be repaired or replaced to bring conditions into compliance with FSORAG Guidelines.

**PROPOSED ACTION:**

This project proposes implementation of environmental and facility maintenance improvements within the Fallen Leaf Campground to bring it into compliance with water quality protection BMP requirements, as well as Forest Service accessibility standards. The project will include relocation of seven campsites from lower capability soils to areas of higher capability soils within the campground. As part of this effort, one of the campground roads located within SEZ soils will be removed (approximately 390 linear feet) and restored with native riparian vegetation. To facilitate this and maintain effective campground traffic circulation, approximately 160 linear feet of new road will be constructed in adjacent high capability soils.

The project also proposes to pave the parking area for the Moraine Trail and implement permanent water quality protection BMPs (including paving, installing a catch basin with sand/oil separator, and installing an infiltration basin). BMPs at the trailhead leading to the Fallen Leaf Lake trail at the southern edge of the campground are also proposed. Improvements at this trailhead would include non-paved BMPs for the trail surface, as well as infrastructure and signage designed to minimize the potential transport of invasive aquatic species.

Campsite spurs are proposed to increase in size from current conditions and would comply with Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG). The majority of proposed campsite spurs will be 16' wide by 40' long. Sites will primarily be oriented for back-in access. Some sites will be designed for head-in use based on site conditions related to campsite living areas. Six accessible platforms are proposed at existing campsites for seasonal yurts or tent-cabins. These temporary structures would be removed during winter months and would be designed to visually blend with the surrounding landscape.

Types of implementation activities include excavation for placement of drainage utilities such as pipes or replacement of culverts, paving, and limited tree removal (approximately 15 trees, all under 30" Diameter at Breast Height (DBH). Culverts will be sized to pass 100-year storm flows. Road fill material will be removed from SEZ areas and will be disposed of in a legal manner. Sediment produced during implementation activities will be managed with approved temporary BMP measures.

Campground utilities are proposed for replacement. Campground host sites will receive RV site utility hook-ups that comply with local regulations to facilitate season-long occupancy for these employees. Replacement of restroom utilities with those that meet current standards are proposed to support future restroom replacement with accessible

structures. The replacement of these structures or utilities is not planned to be funded with current approved SNPLMA (Southern Nevada Public Land Management Act) funding.

Implementation is anticipated to occur in summer / fall 2009. Work within SEZ soils will likely not occur until September 2009 when surface and ground water resources are least sensitive. Any work analyzed in this project but not implemented in 2009 will occur in subsequent years.

Refer to Figures 2 through 7 for graphic representation of the proposed BMP improvements.

### **PROJECT DESIGN FEATURES**

Project design features are elements of the project that are applied in treatment areas. These features are developed based on Forest Plan direction and site specific evaluations in order to reduce or avoid negative environmental impacts of the proposed action. Project design features associated with this project include the following:

#### Soil Design Features

1. Erosion control and prevention of sediment transport for this project will be implemented in accordance with; *UDSA, Water Quality Management for Forest System Lands in California - Best Management Practices* (USDA 2000). This project will also be included in the Region 5, Best Management Practices Evaluation Program (BMPEP) monitoring sample pool and will be subject to temporary BMP (TBMP) monitoring evaluations while construction is ongoing.
2. Project activities will occur within the Tahoe Regional Planning Agency (TRPA) grading ordinance season (May 01 – Oct 15). If grading or movement outside of this window becomes necessary (i.e. to finish BMPs, etc.) a standard grading exception permit request will be submitted to the TRPA and Lahontan Water Quality Control Board (LWQCB) for approval. During periods of inclement weather, operations would be shut down until conditions are sufficiently dry and stable to allow construction to continue without the threat of substantial erosion, sedimentation, or offsite sediment transport.

#### Biological Design Features

1. Any sightings of threatened, endangered, candidate, sensitive, management indicator, or special interest species would be reported to the project biologist. These species would be protected as directed by standards and guidelines in the Lake Tahoe Basin Management Unit Forest Plan (LTBMU FP), Sierra Nevada Forest Plan Amendment (SNFPA), and Tahoe Regional Planning Agency (TRPA) code of ordinances.

2. Minimize the removal of larger trees as required for an efficient road system. Species preference would be given to large cedars, then pines, and finally to firs. Structural preference would be given to live trees with teakettle branches, large diameter broken tops, or cavities in the bole for wildlife habitat. Retain existing logs, or create down logs in timbered areas for a desired density of about 5 logs per acre. Preference would first be given to snags that are felled for public safety, then to the largest logs available in a variety of decay stages for wildlife habitat
3. If any LTBMU sensitive plant species or special interest plant species are identified before or during project implementation a buffer of up to 100 feet in diameter or distance determined by LTBMU Botany Department will be flagged around the sensitive resource.
4. All construction and earth-moving equipment are required to be weed-free. All off-road equipment used on this project shall be free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of noxious weeds. "Off-road equipment" includes all construction equipment; it does not include, service vehicles, pickup trucks, and similar vehicles not intended for off-road use. Equipment will be considered clean when visual inspection by contract COR does not reveal soil, seeds, plant material, or other such debris.
5. All gravel, fill, or other materials are required to be weed-free. Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain certified weed-free materials from gravel pits and fill sources that have been certified weed free or approved by the LTBMU Botany Department.
6. Minimize the amount of ground and vegetation disturbance in the construction areas. Reestablish vegetation where feasible on disturbed bare ground to minimize weed establishment and infestation.
7. Use weed-free mulches, and seed sources. Seed mixes and mulch would be used to enhance the establishment of native plants. Where feasible salvage topsoil from project area for use in onsite revegetation, unless contaminated with noxious weeds. All activities that require seeding or planting must utilize locally collected native seed sources when possible or seeds and plants approved by the LTBMU Botany department. Plant and seed material should be collected from or near the project area, from within the same watershed, and at a similar elevation when possible. Persistent non-natives such as *Phleum pratense* (cultivated timothy), *Dactylis glomerata* (orchard grass), or *Lolium* spp. (ryegrass) will not be used.
8. Noxious weed infestations identified before project implementation that are within the project area or along travel routes near the project area will be hand treated or "flagged and avoided" according to the species present and project constraints.
9. After the project is completed all disturbed project areas would be monitored. This

is to ensure additional weed species do not become established in the areas affected by the project activity and to ensure that known weeds do not spread.

#### Heritage Design Features

1. If any previously unrecorded cultural resources are discovered during this project, all project related activities must cease immediately and the consultation process as outlined in Section 800.13 of the Advisory Council on Historic Preservation's regulations 36 CFR 800 must be initiated.

#### Recreation Design Features

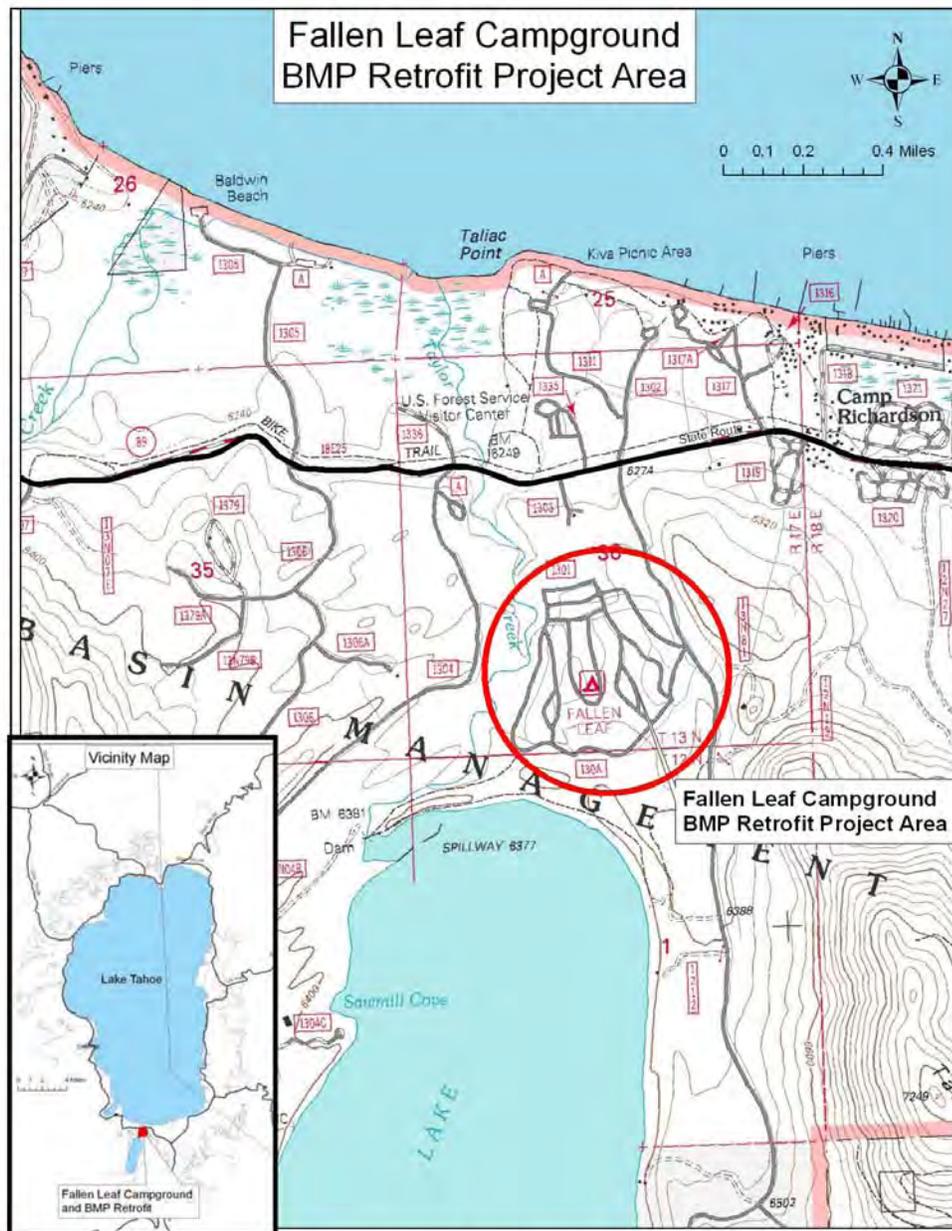
1. Provide advanced notice to public to ensure that the public is aware of proposed project activity. Post signs in project areas near public access points to highlight the proposed action and impacts to public access.
2. Initiate temporary campground / forest closure only during project activity period to ensure public safety. Closure should be as limited as possible to reduce restrictions to public access.

#### **IMPLEMENTATION DATE:**

The planned implementation date for the Fallen Leaf Campground BMP Retrofit project is July 2009.

#### **CONTACT PERSON:**

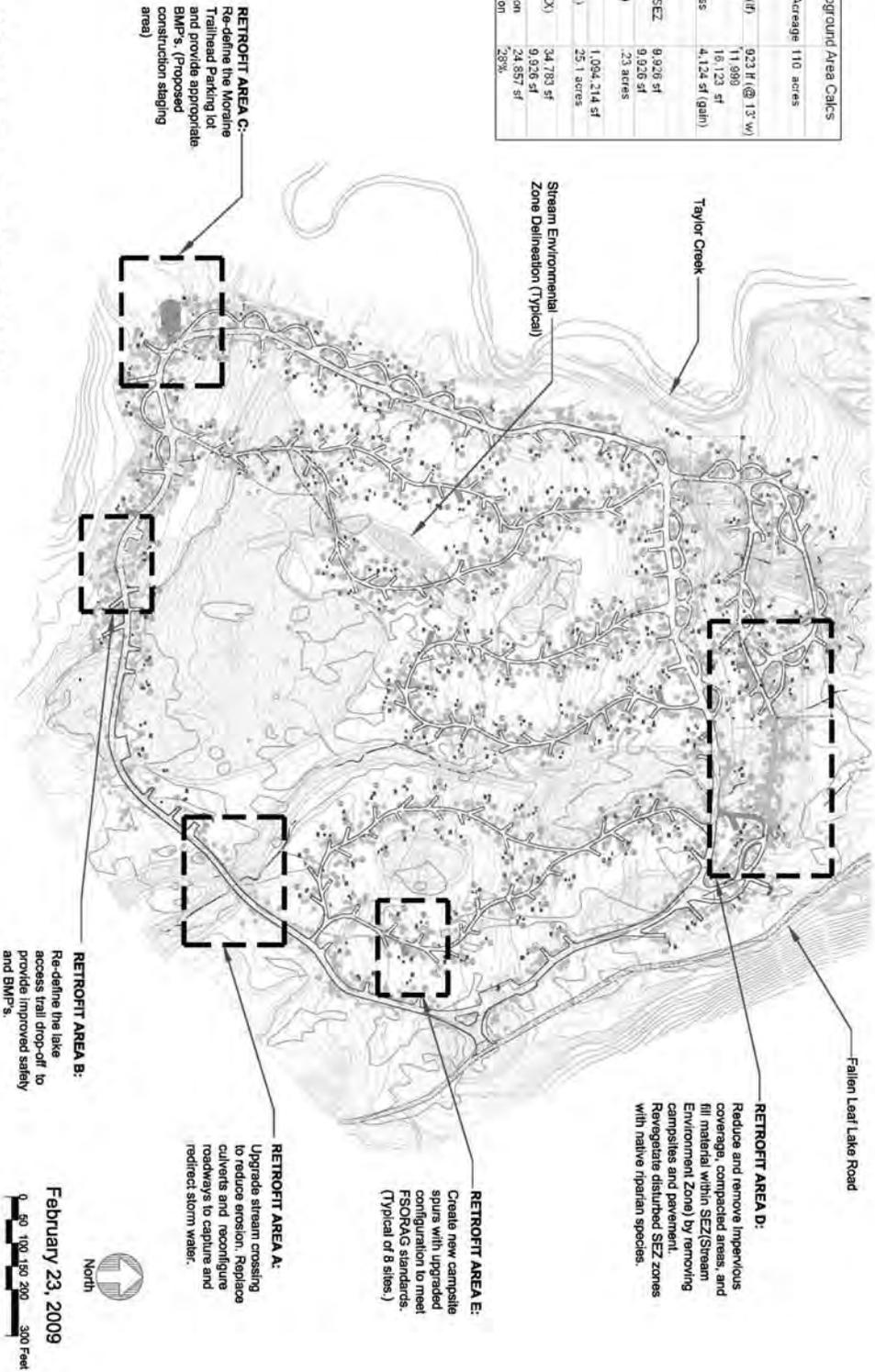
The project contact person is Daniel Cressy, Interdisciplinary Team Leader, Lake Tahoe Basin Management Unit, 35 College Dr., South Lake Tahoe, CA 96150, (530) 543-2857. Electronic comments must be submitted in a format such as an email address, plain text (.txt), rich text format (.rtf), or Word (.doc) to [comments-pacificsouthwest-ltbmu@fs.fed.us](mailto:comments-pacificsouthwest-ltbmu@fs.fed.us) using the subject title "Fallen Leaf Campground BMP project".



**Fallen Leaf Campground BMP  
Retrofit Project Area Map**

**Figure 1. Project Area Map**

Fallen Leaf Campground Area Calcs	
Project Area Total Acreage	110 acres
Paving	923 ft <sup>2</sup> (@ 13' w)
Total A/C Removal (ft <sup>2</sup> )	11,989
Total A/C Removal	16,123 sf
Total New A/C	4,124 sf (gain)
Paving Net Gain/Loss	
SEZ	
A/C removal within SEZ	9,926 sf
New SEZ	9,926 sf
New SEZ (acreage)	.23 acres
Total SEZ (sf)	1,094,214 sf
Total SEZ (acreage)	25.1 acres
SEZ Compaction (EX)	34,789 sf
New SEZ	9,926 sf
New SEZ Compaction	24,857 sf
Percentage Reduction	25%



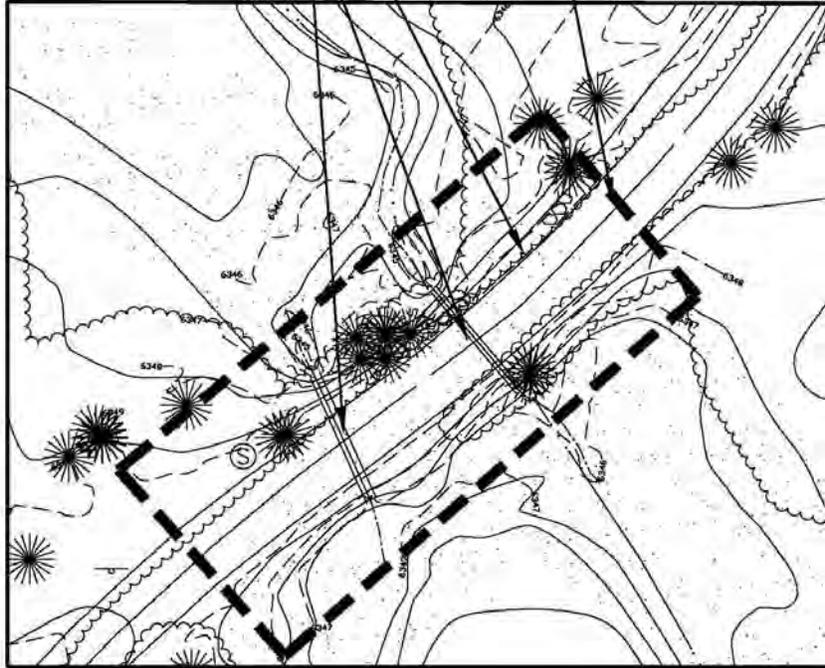
**Fallen Leaf Campground BMP Retrofit**  
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**Figure 2**

Reconfigure roadways to capture and redirect storm water.

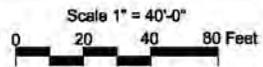
Replace culverts with concrete pipe to reduced environmental impacts and increase utility.

Limit of Work: Install temporary BMP's as appropriate



**Retrofit Area A**

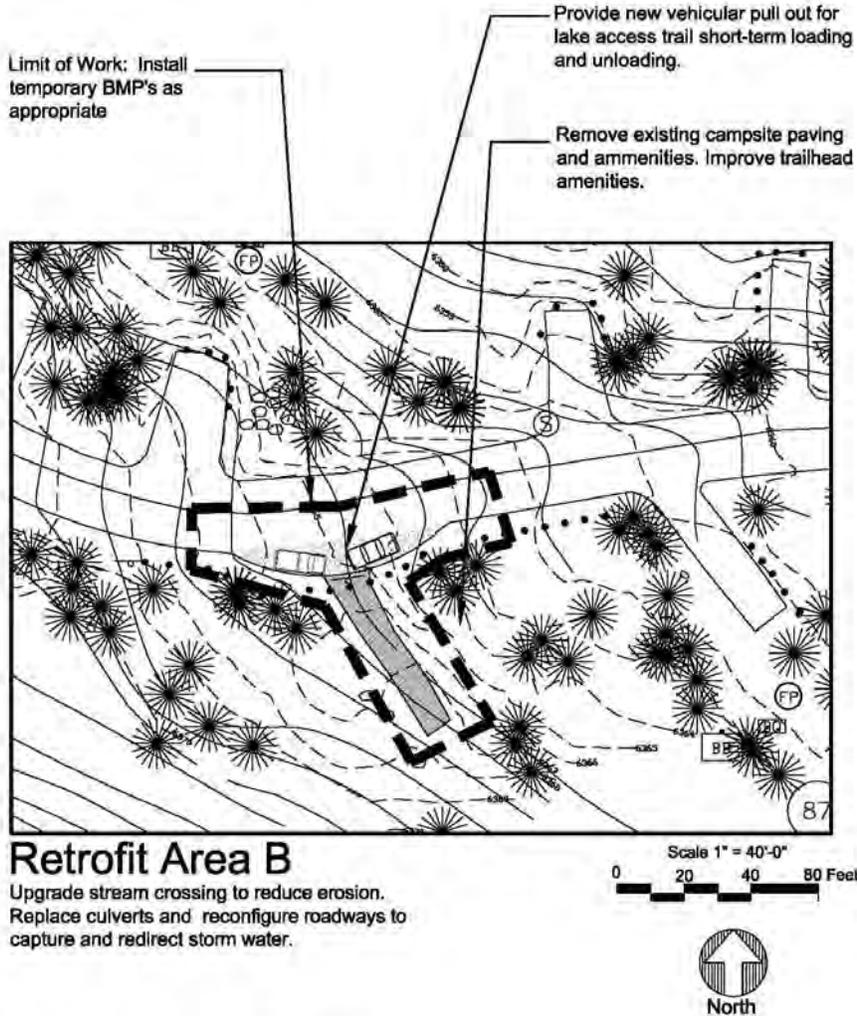
Upgrade stream crossing to reduce erosion.  
Reconfigure roadways to capture and redirect storm water.



**Fallen Leaf Campground  
BMP Retrofit - Area A  
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February 23, 2009

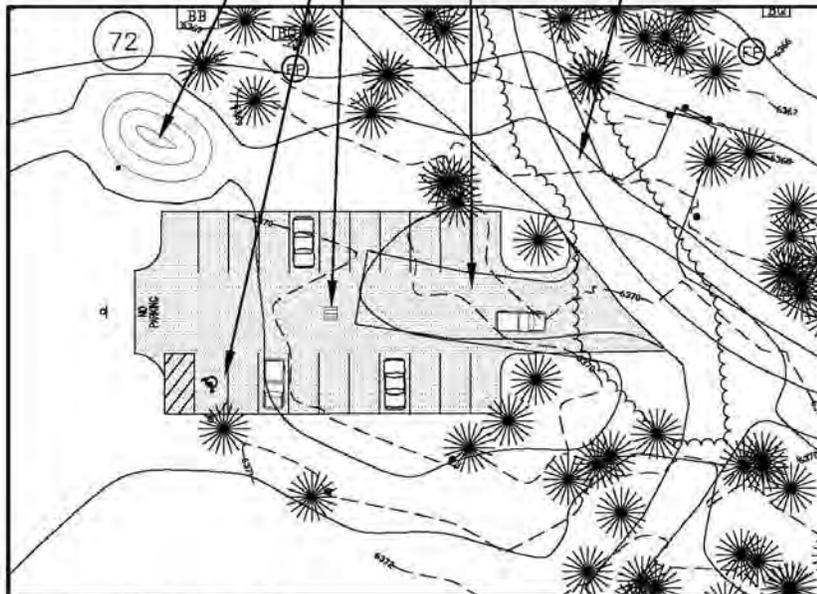
**Figure 3**



Fallen Leaf Campground  
 BMP Retrofit - Area B  
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February 23, 2009  
 Figure 4

- Re-define and pave the Moraine Trail head parking lot. Utilize appropriate temporary and permanent water quality BMP's.
- Catch basin w/sand/oil separator
- Provide accessible parking and path access.
- New infiltration basin
- Limit of Work: Install temporary BMP's as appropriate



### Retrofit Area C

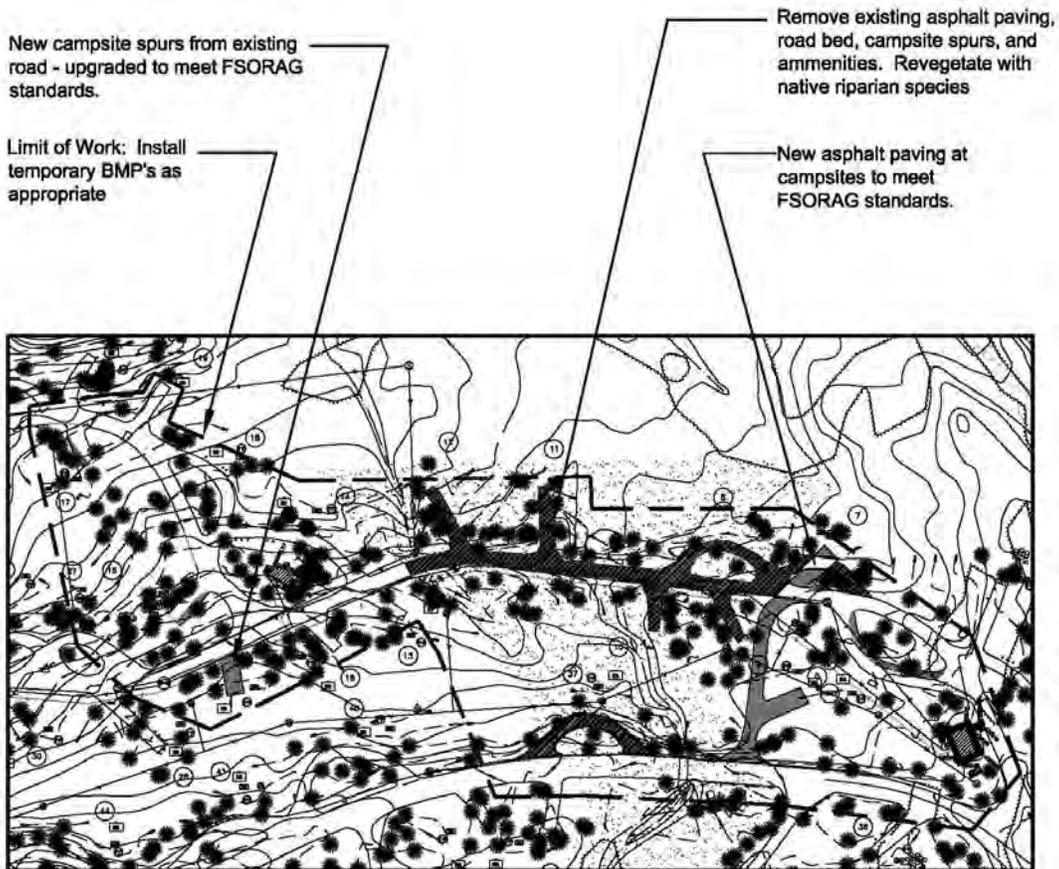
Re-define the Moraine Trailhead Parking lot and provide appropriate BMP's, including catch basin with sand/oil separator. Proposed construction staging area.

Scale 1" = 40'-0"  
0 20 40 80 Feet



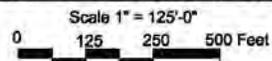
Fallen Leaf Campground  
 BMP Retrofit - Area C  
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 Figure 5



**Retrofit Area D**

Reduce and remove impervious coverage, compacted areas, and fill material within SEZ (Stream Environment Zone) by removing campsites and pavement. Revegetate disturbed SEZ zones with native riparian species. Replace culverts in existing road to remain.



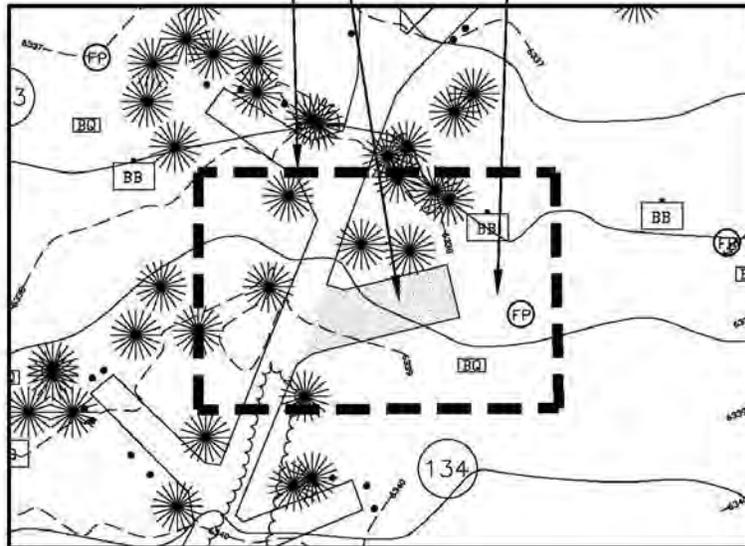
**Fallen Leaf Campground  
 BMP Retrofit - Area D  
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**Figure 6**

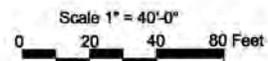
New asphalt paving at campsites to meet FSORAG standards.

Limit of Work: Install temporary BMP's as appropriate

New campsite configuration and amenities upgraded to meet FSORAG standards.



**Retrofit Area E**  
 Create new campsite spurs with upgraded configuration to meet FSORAG standards. Typical of 8 sites.



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 BMP Retrofit - Area E  
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 Figure 7