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Environmental Assessment

William Kent Campground BMP Retrofit and Administrative Site Redevelopment

Region 5, Lake Tahoe Basin Management Unit
Placer County, CA



The William Kent Campground in 1922.

For More Information Contact:

Ashley Sommer
Landscape Architect
Lake Tahoe Basin Management Unit
35 College Drive
South Lake Tahoe, CA 96150
530-543-2615

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Acronyms

Acronym/ Abbreviation	Definition
ABA	Architectural Barriers Act
BA/BE	Biological Assessment/Biological Evaluation
BEIG	Built Environment Image Guide
BMPs	Best Management Practices
BMPEP	Best Management Practice Evaluation Program
Caltrans	California Department of Transportation
CAR	Critical Aquatic Refuge
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CLM	California Land Management
CO	Carbon Monoxide
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship System
DBH	Diameter at Breast Height
DOE	Determination of Eligibility
DVT	Daily Vehicle Trips
EA	Environmental Assessment
EIP	Environmental Improvement Program
EIS	Environmental Impact Statement
ERA	Equivalent Roaded Acres
ESA	Endangered Species Act of 1973 as amended
FONSI	Finding of No Significant Impact
Forest Plan	Lake Tahoe Basin Management Unit Land and Resource Management Plan
Forest Service	USDA Forest Service
FSORAG	Forest Service Outdoor Recreation Accessibility Guideline
GFA	Gross Floor Area
GHGs	Greenhouse Gases
GIS	Geographic Information System
HUC	Hydrologic Unit Code
LEED	Leadership in Energy and Environmental Design
LOP	Limited Operating Period
LRMP	Land and Resource Management Plan

Acronym/ Abbreviation	Definition
LTBMU	Lake Tahoe Basin Management Unit
MIS	Management Indicator Species
MIS Report	Management Indicator Species for the Lake Tahoe Basin Management Unit
ND	Neighborhood Development
NEPA	National Environmental Policy Act
NFMA	National Forest Management Act
NFS	National Forest System
NHPA	National Historic Preservation Act
NO _x	Nitrous Oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
OHV	Off-Highway Vehicle
PAC	Protected Activity Center
PAOT	Persons At One Time
PM10	Particulate Matter less than 10 microns in diameter
RCA	Riparian Conservation Area
RCOs	Riparian Conservation Objectives
ROS	Recreation Opportunity Spectrum
SEZ	Stream Environment Zone
SHPO	State Historic Preservation Officer
SNF MIS	2007 Sierra Nevada Forests Management Indicator Species
SNFPA	Sierra Nevada Forest Plan Amendment
SO ₂	Sulfur Dioxide
South Shore Project	South Shore Fuel Reduction and Healthy Forest Restoration Project
TEPS	Threatened, Endangered, Proposed, or Sensitive
TES	Threatened and Endangered Species
TMPO	Tahoe Metropolitan Planning Agency
TRPA	Tahoe Regional Planning Agency
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
VQO	Visual Quality Objective

1.0 Introduction

The US Forest Service has prepared this environmental assessment in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This environmental assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives.

1.1 Document Organization

The document is organized as follows:

Chapter 1, “Introduction,” includes information on the structure of the Environmental Assessment (EA), background of the project, overview of the existing condition, the desired conditions, the purpose of and need for action, summary of the proposed action, applicable management direction, and the decision framework. This chapter also details how the Forest Service informed the public of the proposal through public involvement, describes the issues identified by the public, and summarizes laws, regulations, and policies that are applicable to the proposed project.

Chapter 2, “Alternatives, Including the Proposed Action,” provides descriptions of alternatives considered but dismissed from detailed analysis, the no-action alternative, the Forest Service’s proposed action, and the alternative action. It also summarizes the direct, indirect, and cumulative effects of the no-action alternative, the proposed action, and the alternative action.

Chapter 3, “Affected Environment and Environmental Consequences,” presents an overview of the analysis, the indicators used to document the effects, the existing conditions, and the environmental effects of implementing the proposed action, alternative action, and no-action alternative. The effects of the no-action alternative are described first to provide a baseline for evaluation and comparison of the action alternatives.

Chapter 4, “Consultation and Coordination,” provides a list of preparers, as well as individuals and agencies consulted during the development of this document.

Additional documentation may be found in the project record located at the Lake Tahoe Basin Management Unit (LTBMU) Forest Supervisor’s Office in South Lake Tahoe, CA.

1.2 Background

The US Forest Service facilities at the William Kent site are located approximately two miles south of Sunnyside-Tahoe City on Hwy 89 West Lake Blvd, Section 24, Township 15N, Range 16E. The property covers 22 acres and consists of the William Kent campground, the William Kent administrative site, and the William Kent day use beach area.

The administrative site is just west of the campground visitor check-in kiosk on the north side of the campground road. The previous buildings on the administrative site

were decommissioned and removed. Previous uses of the site included a small fire station, maintenance area, and residential home that was used as a barracks.

The day use beach area is located directly east of the campground on the east side of Hwy 89.

All facilities within the project area are federally owned and managed by the US Forest Service.

Refer to Figure 1-1 for the project area location and Figure 1-2 for an area context map.

The William Kent Campground is a US Forest Service recreation facility, managed by the LTBMU, and operated under special use permit. The campground originally dates back to 1924, but the current infrastructure dates to the 1960's. The campground is bounded by private residences to the North, South, and West. Hwy 89 splits the campground and the beach facility.

Wildland fire protection on the west shore is currently serviced by the Meeks Bay Fire Station. This facility is a converted gas station, constructed circa 1940's and does not meet current building or accessibility standards. In 2003 a decision was made to replace the Meeks Bay Fire Station building in its current location at the entrance to the Meeks Bay Resort on Highway 89 (Meeks Bay Resort Fire Station Reconstruction Decision Memo, 2003 – Project Record H).

Figure 1-1. Site vicinity map.



Figure 1-2. William Kent Area context map.

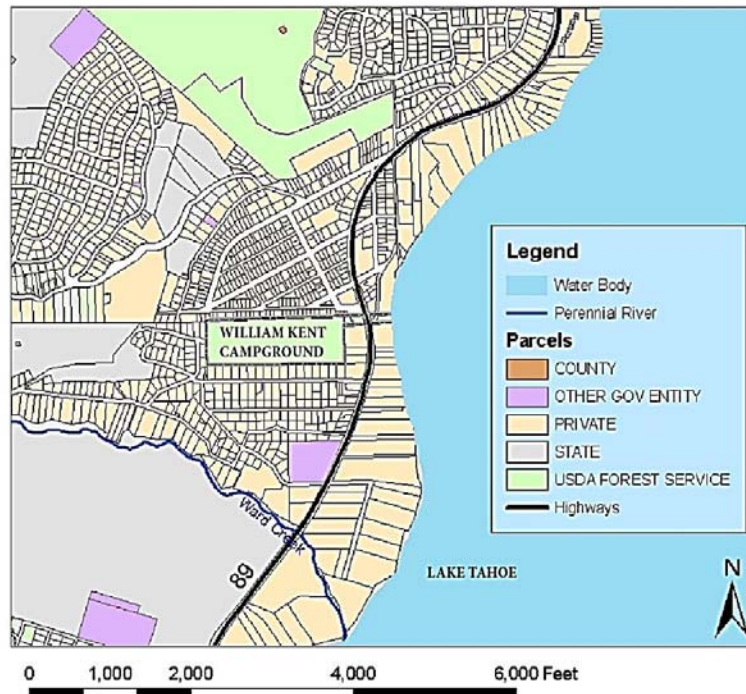
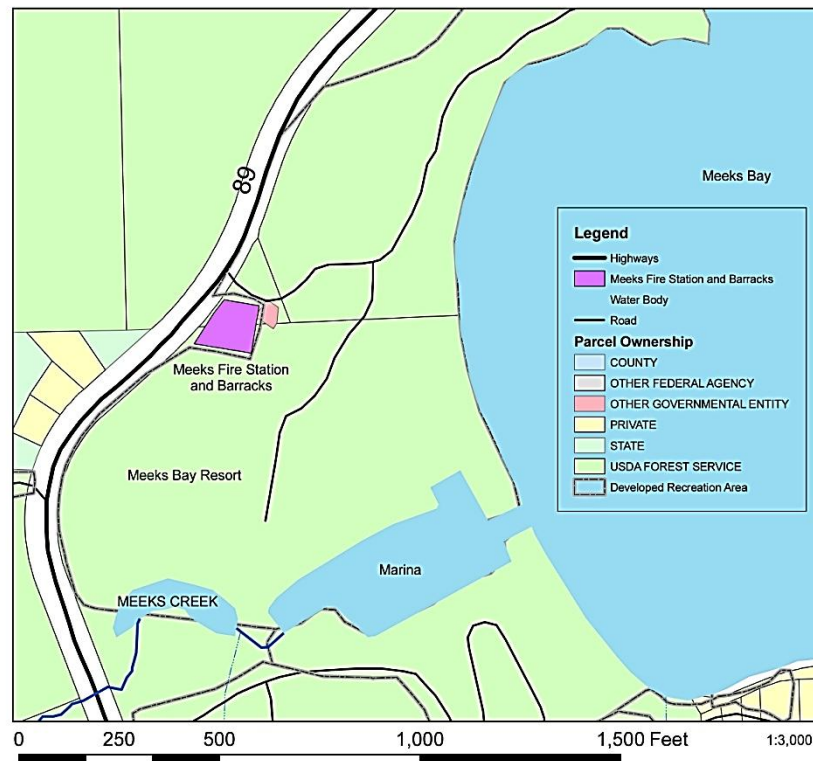


Figure 1-3. Meeks Bay Fire Station Area Context Map

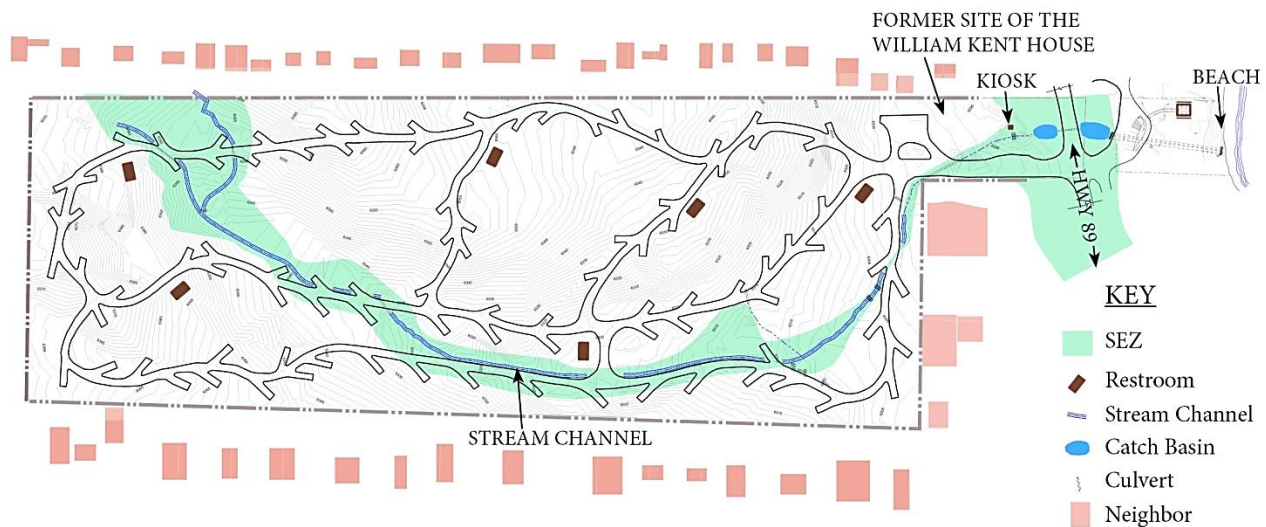


1.3 Overview of Existing Condition

The William Kent campground was originally constructed in 1924. The current road and camping spur design was implemented in 1963 with 95 spurs (see Figure 1-3). Six flush toilet restroom facilities were constructed in 1969. No major upgrades to the facilities have occurred since that time.

The restroom facilities do not meet current building codes or universal accessibility standards for guidelines such as threshold height, door clearance, surface type, etc (Figure 1-6). The camping spurs do not meet Forest Service accessibility guidelines for standards such as surface type, maximum slope, and spur width (Figure 1-8). The small paved footprint of the camping spurs has led to off-pavement vehicular traffic and parking in areas where physical barriers are not present, resulting in destruction of vegetation, soil compaction and erosion. Visitor use patterns at campgrounds have changed over the last 50 years and now include the use of larger vehicles and camping trailers, which contribute to site impacts. The small turning radii and confusing circulation patterns on the site sometimes results in vehicles driving the wrong way on the one way roads, traffic congestion, and damage to trees along the roads. See Figure 1-4 for a map of site challenges.

Figure 1-3. Existing condition of William Kent campground, administrative site, and beach day use site.



A small visitor information/campground check-in kiosk sits at the entrance to the campground. The only parking for the structure is a pull-off for short term parking on the main campground access road. Once the pull-off becomes full, parking along the road edges occurs on occasion, which causes erosion, vegetation destruction, and sometimes results in vehicles stacking up onto the highway. The pedestrian path to

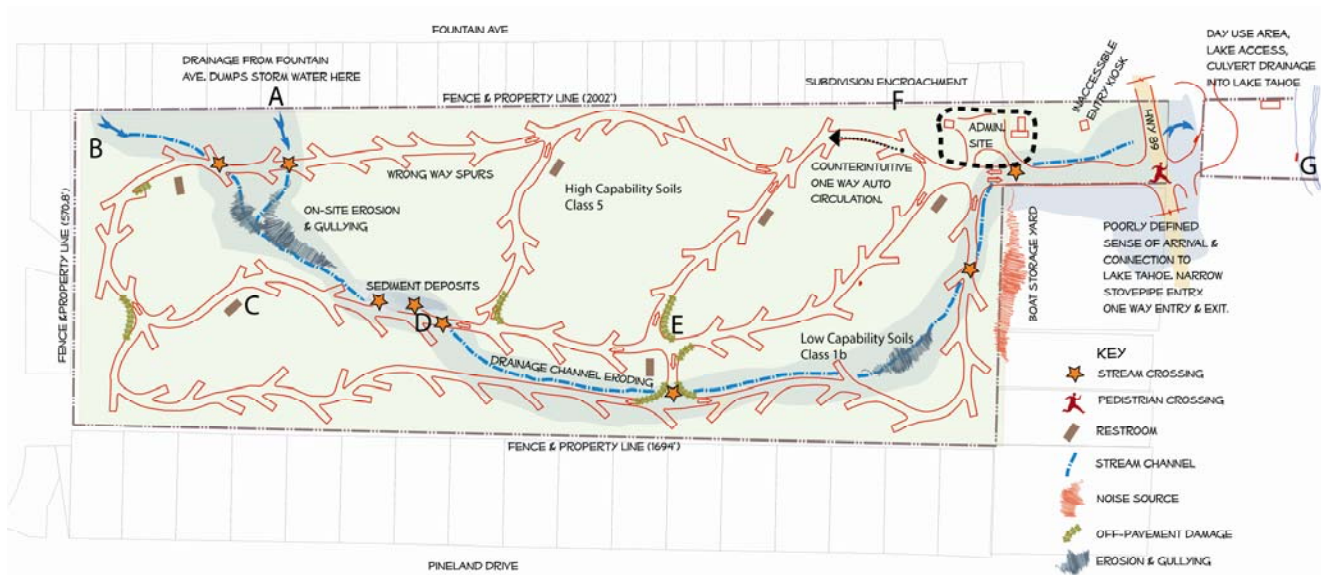
the kiosk does not meet Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) for slope, surface type, and width.

The administrative site currently contains only a parking area that serves as overflow for the campground and parking for the campground host vehicles. The William Kent house and garage that previously existed on the administrative site were decommissioned and removed in 2011. The administrative site has been previously used as a small fire station and maintenance area, administrative offices, and as an employee barracks.

William Kent beach day use area has approximately 150 linear feet of pebble shoreline. It is one of the few public beaches on the western shore of Lake Tahoe. The parking lot has 9 parking spaces that are almost always full during the summer and fall months. The elevation change from the picnic area to the beach occurs rapidly, resulting in a steep slope that is not accessible and readily erodes directly into the lake.

A stormwater pipe discharges onto the steep beach slope and the water then flows into Lake Tahoe. The outflow path below the pipes and the wall supporting the pipes has been almost completely undermined by erosion (Figure 1-9 and 1-10). The stormwater pipe collects the water from an ephemeral stream channel that runs through the campground and from the roadways. The stream is fed from a stormwater channel that serves the residential area to the north and west, as well as by sheet-flow (water running in a thin sheet evenly over a surface) from the residences to the west of the campground (Figure 1-5.) The area surrounding the channel is classified as a stream environment zone (SEZ). The resulting stream is highly disturbed and channelized (Figure 1-7).

The fire station at Meeks Bay, as described in the 2003 *Meeks Bay Resort Campground Rehabilitation Project* Decision Memo, is planned for replacement to alleviate health, safety, and accessibility problems. The Decision Memo describes replacing the fire station on the same site. The site is small, which does not allow enough space for a building that meets current standards, as well as adequate parking for station employees (see Figure 1-11). Furthermore, the site does not have a year-round water source, which limits the use of the facility during winter months. For these reasons, this document analyzes relocating the Meeks Fire Station to the William Kent site in Alternative 2 and 3.

Figure 1-4. Existing site challenges.

Map Designation	Existing Site Challenges Legend
A	Stormwater from the subdivision drains via a ditch onto USFS property.
B	Sheet flow from the subdivision drains onto USFS property.
C	Non-universally accessible restrooms (typical throughout).
D	The stream has been diverted under camping spurs and the road numerous times via culverts (indicated as stars on the map above).
E	Small turning radii and small campground spurs have resulted in off-pavement resource damage.
F	The fence along the property border is damaged seasonally by bears.
G	The stormwater pipe outlet drains directly into Lake Tahoe.

Figure 1-5. Evidence of sheet flow (water flowing evenly over a surface) from the subdivision onto the William Kent campground site (point B on the map in Figure 4).



Figure 1-6. Non-universally accessible restroom facility with extensive deferred maintenance.



Figure 1-7. Camping spurs and the roadway were constructed over the top of the ephemeral stream using culverts in 8 locations on the site (indicated as stars on Figure 4).



Figure 1-8. The camping spurs are very small and of variable sizes. The constrained size results in off-pavement parking and subsequent soil compaction and resource damage.



Figure 1-9. The stormwater pipe on the beach day use site flows directly into Lake Tahoe. This photo was taken during the spring snow melt. The depth of the scour area below the outfall is approximately 3 feet deep (point G on figure 4).



Figure 1-10. The stormwater pipe at the beach day use site, as viewed when standing on the outfall wall and looking towards the lake during spring snowmelt (point G on the map in Figure 4).



Figure 1-11. Meeks Bay Fire Station when viewed from across Hwy 89. The structure is extremely small and does not meet the needs of the fire crew stationed there.



1.4 Management Direction

The project specifically meets the following goals and objectives at the national, regional, and forest levels:

National Strategic Plan Goals and Objectives:

Goal 1. *Restore, Sustain, and Enhance the Nation's Forests and Grasslands*

Objective 1.5 Restore and maintain healthy watersheds and diverse habitats.

Goal 4. *Sustain and Enhance Outdoor Recreation Opportunities (USDA Objective 6.3)*

Objective 4.1 Improve the quality and availability of outdoor recreation experiences.

The LRMP, as amended (USDA FS 1988) guides overall LTBMU land management and resource protection through practices, standard and guidelines. Practices, Standards and Guidelines (S&G) that apply to this project:

S&G 30: Water Quality Maintenance and Improvement (pages IV-33-34).

Activities designed to prevent water quality degradation and the installation and maintenance of structures and vegetation to remedy impaired water quality. The primary purpose is to assure that activities on national forest land do not exceed

environmental standards and to restore damaged sites. Activities include installation of check dams, settling basins, infiltration devices, water spreading devices, water canalization conduits, riprap, retaining walls, straw and jute mat spreading and the planting of grass, shrubs, or trees.

Ward Management Area: *Resource Management Emphasis:*

“The major resource emphasis in this management area is to maintain opportunities for expansion of outdoor recreation. This includes ... developed recreation facilities, and both motorized and nonmotorized dispersed recreation. There are also opportunities for vegetation management and improvement for wildlife and fisheries enhancement.”

Forest-wide standards and guidelines apply. The following direction in the LRMP for the Ward Management Area supplements them:

Practice	Standard and Guideline
Recreation Construction	Development of new recreation facilities is projected at 280 PAOT* over present level.

*PAOT: Persons-at-one-time

1.5 Desired Condition

The desired condition at William Kent Campground, beach, and administrative site is to provide a high quality recreation setting and comply with established water quality protection Best Management Practices (BMPs). All developed amenities should meet current construction standards and provide universal access for persons with disabilities, consistent with FSORAG and the Architectural Barriers Act (ABA).

Improvements to the stream channel are desired to reduce erosion and improve water quality. A new fire station and administrative space are desired to improve the wildland fire response on the north shore, increase the efficiency of fire services, and increase the administrative presence on the west shore of Lake Tahoe and to provide appropriate facilities for these functions.

The following is the desired condition for all FSORAG-compliant facilities:

All new or altered camping facilities, picnic areas, beach access routes, outdoor recreation access routes (ORARs), and other constructed features associated with outdoor recreation areas in the National Forest System (including benches; trash, recycling, and other essential containers; viewing areas at overlooks; telescopes and periscopes; mobility device storage; pit toilets; warming huts; and outdoor rinsing showers) shall comply with the FSORAG.

Construction or alteration of all other outdoor recreation areas such as toilet buildings and information centers in the National Forest System shall comply with the applicable requirements of the Architectural Barriers Act Accessibility Standards (ABAAS).

The following is the desired condition for all ABA-compliant facilities:

All areas of newly designed and newly constructed buildings and facilities and altered or leased portions of existing buildings and facilities shall comply with these requirements.

Application Based on Building or Facility Use: Where a site, building, facility, room, or space contains more than one use, each portion shall comply with the applicable requirements for that use.

Temporary and Permanent Structures: These requirements shall apply to temporary and permanent buildings and facilities.

1.6 Purpose and Need for Action

The purpose of this project is to improve water quality and stream environment zone function, enhance the recreational experience, improve wildland fire response on the West and North shores, and address health and safety issues at the William Kent campground, administrative facility, and beach. This action is needed because of the deficiencies in stormwater treatment onsite, the lack of universal accessibility, and impacts to the recreation experience.

There is a need to increase stormwater infiltration and improve water quality due to conditions such as:

- Impervious coverage and compaction within the SEZ and low capability soils.
- Absence of BMPs to capture and infiltrate stormwater.
- Direct storm water outflow to Lake Tahoe at the William Kent Beach.

There is a need to improve the recreation experience and accessibility of the site due to:

- Absence of efficiently designed FSORAG compliant campsites and amenities.
- Six restroom facilities in the campground do not meet current building standards, including universal accessibility.
- Campground check-in kiosk is not universally accessible and is located where vehicles affect the traffic on Highway 89.
- Poorly located entrance signage and wayfinding mechanisms.
- Need for better privacy and screening between the campground facility and neighboring residences.
- Public demand for a greater range of camping opportunities.
- Inadequate pedestrian circulation and connection to the beach site.
- Inefficient and counter-intuitive vehicular circulation within the campground.

There is a need to improve the condition of Forest Service facilities relating to health and safety codes due to:

- The Meeks Bay Fire Station is no longer adequate for the size and mission of the fire engine module.
- Wildland fire response to the north and west shores of Lake Tahoe is not optimized due to current location of facility at Meeks Bay.
- There is no universally accessible administrative building and fire station that meets the function and needs of the LTBMU on the North and/or West shores.

1.7 Summary of Initial Proposed Action

Improvements in BMPs are proposed to bring the William Kent Campground, William Kent administrative site, and William Kent beach day use area into compliance with water quality protection and accessibility requirements. This includes implementation of water quality protection BMPs where appropriate to reduce stormwater runoff volume, reduce peak flow levels, reduce the amount of sediment and pollutants reaching Lake Tahoe, as well as to provide for universal accessibility consistent with the FSORAG and ABA requirements.

The proposal includes reconfiguration of the campground circulation pattern, with the primary access route created along the northern boundary of the campground. The initial proposed action also includes relocation of the kiosk area, relocation of the RV waste dump station, construction of new accessible restroom facilities, addition of utilities at some campsites, and an increase in the diversity of camping opportunities through the incorporation of yurt camping sites.

A new administrative building would be constructed on the William Kent administrative site. The building would serve as a replacement for the Meeks Bay Fire Station. The existing Meeks Bay Fire Station would be removed and the area rehabilitated.

The beach day use site would be re-contoured and excavated to shorten the stormwater pipe on the beach to expose the flow (“daylight” the stream), as well as to stabilize the resulting slope. This will increase the area for infiltration and reduce the pollutant/sediment loads of the stormwater before it enters Lake Tahoe. Stabilization of the slope may include riprap, boulder placement, retaining walls, structural walls, and vegetation. Bridges, footpaths, and safety rails would be installed where needed to ensure navigability, safety, and efficient use of the site by visitors. An accessible path would be constructed to access the beach from the picnic area.

A detailed description of the proposed action can be found in Chapter 2.

1.8 Decision Framework

This EA is prepared in accordance with NEPA and Council on Environmental Quality (CEQ) Regulations 40 CFR § 1500. The Responsible Official under NEPA is the

LTBMU Forest Supervisor who expects to issue a Decision Notice / Finding of No Significant Impact (DN/FONSI).

Based on the analysis provided in this EA, the Forest Supervisor will decide whether or not to implement the no-action alternative, the proposed action, or an alternative to the proposed action as described in this EA. It should be noted that the final decision may entail some combination of components of the proposed action and alternatives, as deemed most appropriate in consideration of the analyses described in this document.

1.9 Public Involvement

The proposal was listed in the Schedule of Proposed Actions on January 1, 2011. The proposal was mailed to adjacent property owners and interested agencies for comment during scoping from November 26 to December 30, 2010. In addition, the proposed action and scoping letter were posted on the LTBMU public website.

A total of 12 written, oral, or electronic comment letters were submitted (Project Record Documents Section C) and a total of 83 comments were identified and evaluated for relevance. These comments and their disposition are summarized in Project Record Document D-1. Using these comments (see *Issues* section), the interdisciplinary team developed a list of issues to consider in developing an action alternative (Alternative 3).

The analysis of the existing condition (Alternative 1), the initial proposed action (Alternative 2), and the new Alternative 3 were released for public comment on April 25, 2012. In response to the legal notice for the 30 day comment period for the Environmental Assessment (EA), ten comment letters were received. Three additional letters were dated after the comment period ended. The comments and the Forest Service (FS) responses are listed in Appendix C of the *Decision Notice and Finding of No Significant Impact* document for the William Kent BMP Retrofit and Administrative Site Redevelopment Project. No comments resulted in the need for an additional action alternative. Some of the comments, however, did result in the addition of a design feature or a slight modification of Alternative 3. This document (the EA) was then edited to reflect these changes. A summary of the changes that resulted from the public comment period can be found in Section 2.4, Table 2-2.

1.10 Issues

The Forest Service separated the issues into three groups: relevant issues, non-issues, and issues considered but eliminated from detailed study. A list of issues and the Forest Service response may be found in Project Record Document D-1. If an issue was listed as Category 1 (see below), the rationale for not being included in the analysis is incorporated in that document, as well.

Non- issues (Category 1) do not meet the purpose and need for the project; are outside the scope of the proposed action; are already decided by law, regulation, or LRMP; are not supported by scientific evidence; are addressed by project design

features; or are addressed by additional information or clarification of the proposed action. Non-issues also represent opinions and statements that do not present problems or alternatives. Numerous comments were received. Most of these were requests to the Forest Service to discuss and disclose specific items in the environmental document. None of these comments necessitated development of an alternative to the proposed action.

Issues considered but eliminated from detailed study (Category 2) meet the purpose and need for the project but were considered in alternatives already studied and eliminated, or additional project design features were developed which reduced or eliminated the effects. See Section 2.1 for a summary of these issues.

Relevant issues (Category 3) were used to develop alternatives to the proposed action. Relevant issues meet the purpose and need for the project and are important in the extent of the geographic distribution, the duration of effects, or the intensity of interest or resource conflict and therefore merit consideration for the development of an alternative to the proposed action. Comments relating to the location of the proposed administrative building, the location of new roads and restrooms within the campground, and the effect of noise and disturbance of increased activity near residential lots were considered relevant issues and initiated the development of the alternative proposed action. See section 2-4 for a description of these issues and how they were addressed by an alternative action.

1.11 Applicable Laws, Regulations, and Policies

All resource management activities described and proposed in this document would be consistent with applicable federal law, USDA regulations, Forest Service policies, and applicable provisions of state law. The major applicable laws are as follows:

1.11.1 National Forest Management Act

The National Forest Management Act (NFMA) requires the development of long-range land and resource management plans. The LRMP was approved in 1988 as required by this act. It has been amended several times, including in the Sierra Nevada Forest Plan Amendment (SNFPA). The LRMP provides guidance for all natural resource management activities on National Forest System lands. The NFMA requires that all projects and activities be consistent with the Forest Plan. The Forest Plan has been reviewed in consideration of this project, and the design of the William Kent Campground BMP Retrofit and Administrative Site Redevelopment Project is consistent with the Forest Plan. A Forest Plan consistency matrix and review for this project was completed (Project Record Document B-1).

1.11.2 Endangered Species Act

In accordance with Section 7(c) of the Endangered Species Act, the U.S. Fish and Wildlife Service (USFWS) list of “endangered and threatened species that may be affected by Projects in the Lake Tahoe Basin Management Area” (December 14, 2010) was reviewed. It was determined that the proposed action and alternative action of the William Kent Project may affect individuals, but is not likely to result in

a trend toward Federal listing or loss of viability for any endangered and threatened species (Project Record Document G-1).

1.11.3 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effect of a project on any district, site, building, structure, or object that is included in, or eligible for inclusion in, the National Register of Historic Places. Surveys were conducted for Native American religious or cultural sites, archaeological sites, and historic properties or areas that may be affected by this project (Project Record Document G-3). Compliance with the NHPA was achieved through the use of the USDA Forest Service Region 5 and California State Historic Preservation Officer (SHPO) Programmatic Agreement (2001) regarding compliance with Section 106 of the NHPA. There was a no effect determination made with the use of standard resource protection measures, so consultation with SHPO was not required as described in the Programmatic Agreement.

1.11.4 Clean Water Act (Public Law 92–500)

All federal agencies must comply with the provisions of the Clean Water Act (CWA), which regulates forest management activities near federal waters and riparian areas. The design features associated with the proposed action ensure that the terms of the CWA are met, primarily prevention of pollution caused by erosion and sedimentation.

1.11.5 Clean Air Act (Public Law 84–159)

The project area lies within the Lake Tahoe Air Basin and the Placer County Air Quality Management District. The Traffic Study (Project Record Document G-9) identifies an insignificant increase in vehicle trips. Chapter 93.3.B of the TRPA Code of Ordinances (TRPA 1987) requires that a project provide an air quality impact analysis only if the project is expected to significantly increase vehicle trips.

PLACER COUNTY AIR POLLUTION CONTROL DISTRICT: Construction and Grading Dust Control Requirements. Rule 228, Fugitive Dust, is applicable to the entire County of Placer and addresses fugitive dust generated by construction and grading activities, and by other land use practices including recreational activities. The proposed action and alternative action incorporate design features to comply with these requirements.

1.11.6 Environmental Justice (Executive Order 12898)

Executive Order 12898 requires that all federal actions consider potentially disproportionate effects on minority and low-income communities, especially if adverse effects to environmental or human health conditions are identified. Adverse environmental or human health conditions created by any of the alternatives considered would not affect any minority or low-income neighborhood disproportionately.

The activities proposed in alternatives 2 and 3 were based solely on the existing and desired condition of the campground facilities and surrounding vegetation, sensitivity of the natural environment adjacent to Lake Tahoe, the recreational needs of Forest users, and access in response to the purpose and need. In no case were the

campground and infrastructure/access designs based on the demographic makeup, occupancy, property value, income level, or any other criteria reflecting the status of adjacent non-federal land. Reviewing the location, scope, and nature of the proposed alternatives in relationship to non-federal land, there is no evidence to suggest that any minority or low-income neighborhood would be affected disproportionately. Conversely, there is no evidence that any individual, group, or portion of the community would benefit unequally from any of the actions in the proposed alternatives.

1.11.7 Migratory Bird Treaty Act of 1918 as amended (16 USC 703-712)

The original 1918 statute implemented the 1916 Convention between the United States and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the United States and Mexico, Japan, and the Soviet Union (now Russia). Specific provisions in the statute include the establishment of a federal prohibition, unless permitted by regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird.” Because forestlands provide a substantial portion of breeding habitat, land management activities within the LTBMU can have an impact on local populations. The William Kent Campground BMP Retrofit and Administrative Site Redevelopment Project would not adversely impact any populations or habitat of migratory birds (Project Record Document G-1) .

1.11.8 Invasive Species, Executive Order 13112 of February 3, 1999

This EA covers botanical resources and noxious weeds. The project’s design features are designed to minimize risk of new weed introductions. The Sierra Nevada Forest Plan Amendment (SNFP) outlines the direction for completing a noxious weed risk assessment (SNFP Appendix L). In addition, the Forest Service Manual 2080 Noxious Weed Management (effective 11/29/1995) includes a policy statement calling for a risk assessment for noxious weeds to be completed for every project (Project Record Document G-1).

1.11.9 Floodplain Management, Executive Order 11988 of May 24, 1977, and Protection of Wetlands, Executive Order 11990 of May 24, 1977

These executive orders provide for protection and management of floodplains and wetlands. Compliance with these orders will be ensured by adhering to the project design features.

1.11.10 Special Area Designations

There are no special designated areas that would be affected by the William Kent Campground BMP Retrofit and Administrative Site Redevelopment Project (e.g., Research Natural Areas, Inventoried Roadless Areas, Wilderness Areas, and Wild and Scenic Rivers).

1.11.11 Local Agency Permitting Requirements and Coordination

Lahontan Regional Water Quality Control Board

The LRWQCB has determined that the proposed action will require a (NPDES) General Permit for Discharges of Storm Water Runoff Associated with Construction Activity Involving Land Disturbance in the Lake Tahoe Hydrologic Unit, Board Order No. R6T-2005-0007. In addition, a Project-Specific Storm Water Pollution Prevention Plan (SWPPP) and a Storm Water General Permit (a new permit adopted in April 2011) will be required.

Permits will be obtained to comply with Sections 401 and 404 of the CWA through the Lahontan Regional Water Quality Control Board and the U.S. Army Corps of Engineers for stream and wetland restoration and road and trail activities that are not associated with vegetation and fuel reduction activities (as described above). The degree of permitting would be known by the time of the decision by the Forest Supervisor.

TRPA

It is anticipated that a TRPA project permit will be required because the proposed action falls outside of the terms outlined for exempt activities in the Memorandum of Understanding between the TRPA and the US Department of Agriculture, Forest Service (2009) due to the change in land coverage of the administrative structure and management activities proposed within the SEZ and the shore zone.

Placer County Air Pollution Control District

Placer County Air Pollution Control District Rule 228, Fugitive Dust, establishes standards to be met by activities generating fugitive dust. Rule 228 applies to the entire County of Placer and addresses fugitive dust generated by construction and grading activities, and by other land use practices including recreational uses. Fugitive dust is particulate matter discharged into the atmosphere due to a man-made activity or condition. Examples of dust sources that are subject to the rule are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement or masonry cutting operations, brush clearing, travel on unpaved roads within construction sites, and wind-blown dust from uncovered graded areas and storage piles. Rule 228 establishes standards to be met by activities generating fugitive dust. Among these standards to be met is a prohibition on visible dust crossing the property boundary, generation of high levels of visible dust (dust sufficient to obscure vision by 40%), and controls on the track-out of dirt and mud on to public roads. The regulation also establishes minimum dust mitigation and control requirements. These requirements are incorporated in the design features for the project.

2.0 Alternatives, Including the Proposed Action

This chapter describes the alternatives considered for the William Kent Campground BMP Retrofit and Administrative Site Redevelopment Project, including alternatives considered but dismissed from detailed analysis, the no-action alternative, the proposed action, and an alternative action.

2.1 Alternatives Considered but Dismissed from Detailed Analysis

An alternative considered but dismissed from detailed analysis was to implement the campground and beach proposed actions and keep the fire station at Meeks or another site. This alternative was dismissed based on fact that the Meeks site did not meet the needs of a new fire station and after a review of alternate locations on the West Shore, no other viable sites were found. Alternate sites were evaluated for wildland fire response effectiveness, access to utilities, impact to sensitive sites, and for regulations prohibiting construction (ex: Santini-Burton lots). This alternative was not analyzed further as the effects were analyzed in either Alternative 1 (leaving fire station at Meeks), or Alternatives 2 and 3 (different locations of the fire station/administration building within the William Kent site). See Project Record Documents B-2.

2.2 Alternative 1 – No Action

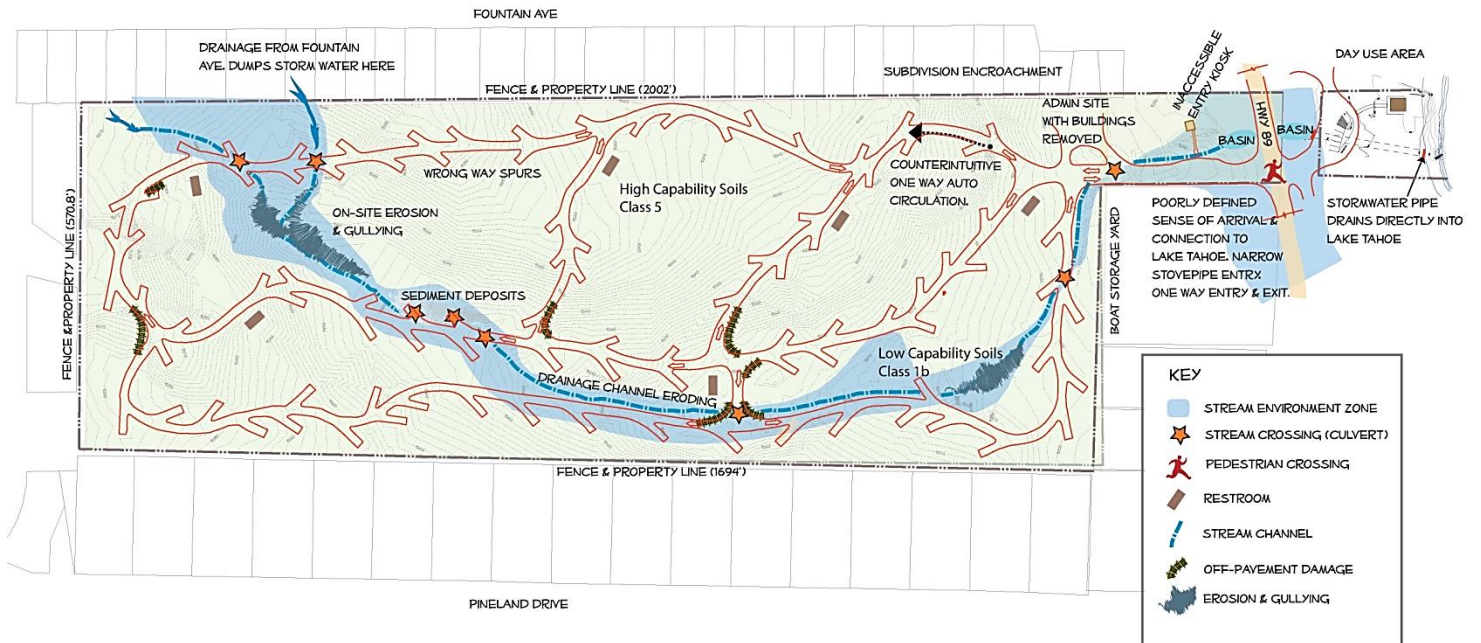
The No Action Alternative provides a baseline for comparing the effects of the action alternatives. The No Action Alternative reflects a continuation of existing recreational, administrative and traffic activities. No improvements to recreational, administration or traffic facilities would be made beyond those considered to be routine maintenance. No campground reconfiguration, BMP retrofit, administrative site construction, or accessibility upgrades would be implemented. A new fire station would not be built on the William Kent site and fire operations would remain at the Meeks fire station (Figure 2-1).

The campground would remain open and continue to be operated by the campground concessionaire. The restroom facilities would continue to degrade, resulting in more frequent repair and maintenance effort and costs. The road system within the campground will continue to be maintained at the present level. Parking and access to the beach area will continue at its present location and condition.

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Figure 2-1. No Action Illustration.

ALTERNATIVE 1 - NO ACTION ALTERNATIVE



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2.3 Alternative 2 – Proposed Action

The William Kent site is planned for rehabilitation, which would include installation of water quality BMPs, control of vehicle circulation by redefining and paving travel routes and camping spurs, relocation of the kiosk, and removal of inadequate restroom buildings. New construction would include four new toilet/shower buildings in the campground and a new fire station/administrative building on the administrative site (Figure 2-2). The Meeks Bay Fire Station would then be decommissioned and the area rehabilitated.

Areas of existing soil compaction that are not planned for campground, administrative building, or other use would be decompacted and mulched where appropriate. The areas may also be planted with native/adapted vegetation such as grasses and shrubs.

Overall project area impervious coverage would decrease from 207,000 to 200,300 square feet. SEZ coverage from current recreation use is proposed to be reduced from 34,600 to 12,800 square feet. BMP measures would be designed to meet the demands of a 1 inch / 1-hour storm, as well as a 2 inches / 24-hours storm event.

This project includes the removal of some existing trees in order to meet the requirements of the Proposed Action. Cut trees may be removed from the site or used as fuel wood. Any slash material generated from tree removal (e.g., smaller trees and limbs and tops) would be removed in whole, chipped and removed, or chipped for use on site. Tree removal may require the use of ground-based mechanical equipment, chainsaws, or chippers, and a staging area(s) in order to process materials. The stumps of cut trees would also be removed as part of this action.

Proposed improvements to the beach include improved stormwater management and accessibility to the beach from the parking lot.

Campground Facilities:

Camping capacity and the overall number of campsites are proposed for reduction. The Proposed Action includes a reduction of campsites from 95 to 81. Traffic routes and direction of travel would be changed to improve traffic flow and access to campsites. The size and configuration of the individual campsites will also be changed.

1. Remove approximately 21,714 square feet (83%) of asphalt from within the SEZ in the campground (Table 2-3).
2. Reduce the stream crossings from 8 to 2.
3. Remove and reconfigure all paved surfaces into four one-way loops connected to a two-way road that runs along the northern border of the campground.
4. Remove a net of 14 campsites for a total remaining of 81 campsites (Table 2-4).
5. Construct all new spurs to meet FSORAG accessibility requirements; 16' wide by 40' long (33 non-utility sites), 20' wide by 60' long (5 utility sites), 16' wide by 60' long (43 utility sites) (Table 2-4).

6. Up to 11 campsites (of the 81 total sites) may include yurts or tent cabins.
7. Relocate the RV dump site to an area of high capability soils near the exit that allows for easier vehicular circulation.
8. Relocate the entry kiosk further into the campground on the two-way road to allow for drive-up traffic on both sides.
9. Construct small infiltration basins and vegetated swales along the roadways and in areas where water flows from paved surfaces into the SEZ to prevent any campground pavement runoff from contributing to the water volume of the stream.
10. Remove impervious surfaces from within the SEZ and re-contour the stream channel in areas where the paved surfaces are removed to permit the water to spread out over the SEZ and allow for infiltration and to reduce the flow volume and velocity.
11. Plant native vegetation in eroded and disturbed areas.
12. Stabilize slopes in the campground with boulder placement and revegetate where needed.
13. Replace the signage along Hwy 89 and in the campground to improve navigation for vehicles and pedestrians.
14. Install electrical hookups in two campground loops closest to the entrance.
15. Install utilities at two host sites; to include water, electric, and sewer.
16. Repair fencing along the property line. "Gates" or gaps in the fence will be included to ensure that wildlife does not encounter a solid barrier when crossing the campground.
17. Remove the six existing restrooms and replace with four accessible shower/bathroom facilities, one serving each loop.
18. Plant vegetation for screening in any areas where vegetation was disturbed or removed along the campground perimeter and intensively plant for screening around the administrative site.
19. Approximately 400-800 trees would be removed to facilitate construction of BMPs and associated infrastructure. In addition, thinning of ladder fuels (smaller trees) will take place throughout the project area in order to provide defensible space for facilities.
20. Construct a ten-space overflow parking lot south of the campground entrance road.

Administrative Site:

A new combined fire station/administrative building would be built on the location of the existing administrative site. All new facilities will meet FSORAG and ABA accessibility guidelines.

1. Construct a new fire station/administrative building and associated parking on the site of the former house and garage.
2. The fire station/administrative building will contain two bays for a Type III fire engine, offices for the fire personnel (no overnight accommodations), a kitchen and meeting area, bathrooms and showers, office space for other Forest Service employees, and a public entrance. Approximate building size is 3,500 square feet. Design of the building is to be similar to the USFS Spooner Fire Station on Hwy 50 on the east side of Lake Tahoe.
3. Administrative facility parking lot would have room for twelve spaces dedicated for the fire crew and other forest service personnel, and ten spaces for public visitors, including two universally accessible spaces (approximately 10,000 square feet).
4. Redesign of the campground entry road will include widening of the road to allow for a dedicated striped emergency vehicle lane.
5. Privacy fencing will be installed along the property line between the administrative site and neighboring residences (minimum height to be six feet).

Beach:

Proposed activities at the beach site include improvements to stormwater management and accessibility to the beach from the parking lot.

1. Excavate and shorten the stormwater pipe on the beach to expose the flow ("daylight" the stream) and stabilize the resulting slope. Stabilization may include riprap, boulder placement, retaining walls, structural walls, and vegetation. Bridges, footpaths, and safety rails will be installed where needed to ensure navigability, safety, and efficient use of the site by visitors.
2. Create an accessible pathway from the beach parking to the waterfront.

Meeks:

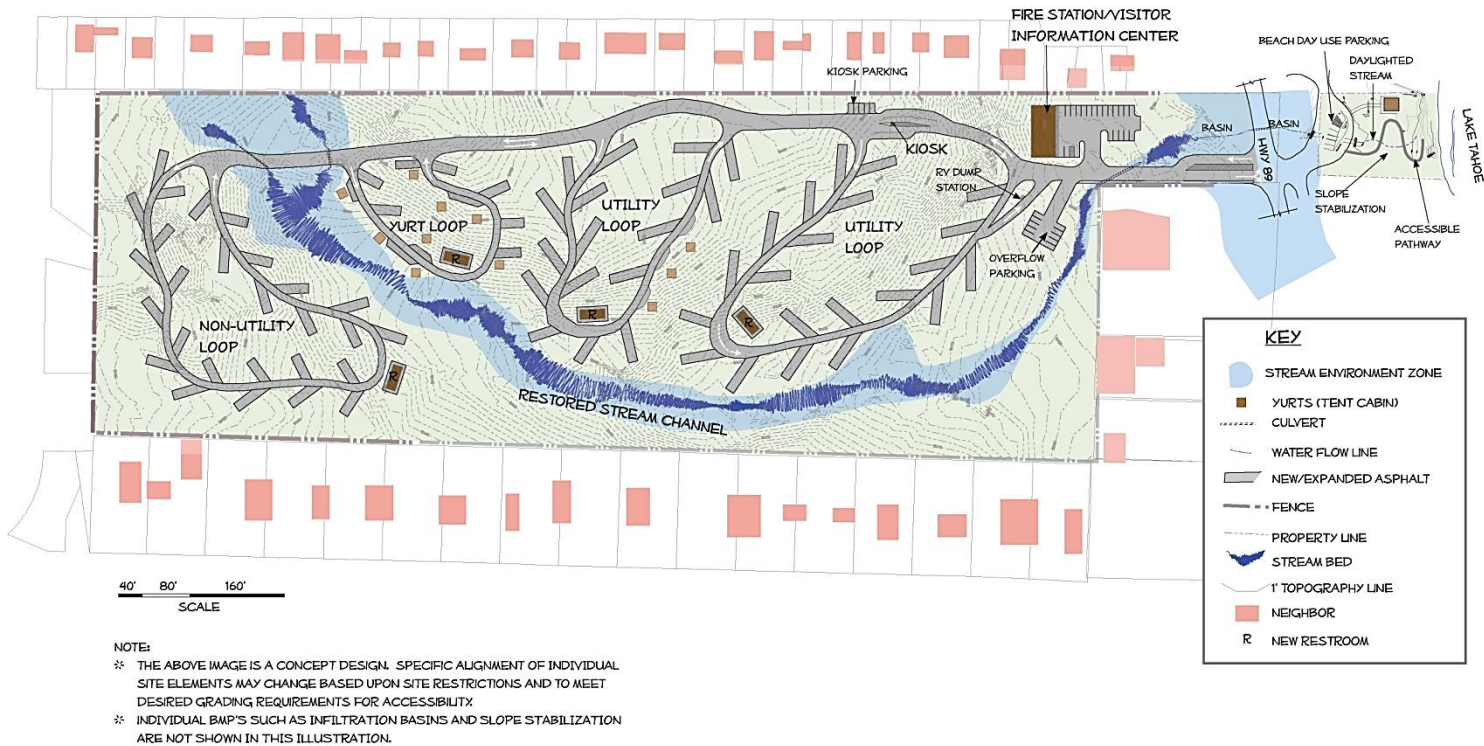
Proposed activities at the Meeks fire station include removing the fire station building and rehabilitate the site.

1. Decommission the building and remove excess asphalt.
2. Decompact the site and cover exposed soil (wood chips, pine needles, etc) to allow for natural revegetation.

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Figure 2-2. Alternative 2 Concept Design.

ALTERNATIVE 2 - PROPOSED ACTION
CONCEPT DESIGN



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2.4 Alternative 3 – Alternative Action

This alternative was developed in response to public comments received during the scoping period and EA comment period, as well as internal discussion relating to the use of the administrative site that resulted in the identification of issues (see Chapter 1.10) that merited the development and analysis of an alternative to the proposed action. Since the release of the EA to the public for comment, the need for visitor information services at this site was re-evaluated. It was determined that visitor information services are adequately provided at other facilities in the area and are therefore not considered further in this alternative. Table 2-1 discusses the major issues raised during public scoping and how such issues are addressed in Alternative 3.

After the action alternative was developed, the EA was released to the public for the legal 30 day comment period. Table 2-2 discusses issues raised during the comment period and how such issues were addressed in Alternative 3. No comments resulted in the need for an additional action alternative. Some of the comments, however, did result in the addition of a design feature or a slight modification of Alternative 3. A summary of the changes that resulted from the public comment period can be found in Table 2-2. See Appendix C of the *Decision Notice and Finding of No Significant Impact* document for the William Kent BMP Retrofit and Administrative Site Redevelopment Project for the full Forest Service response.

Table 2-1. Issues with Alternative 2 that were raised during public scoping, which resulted in the creation of an alternative action (Alt 3).

Issue with Alt 2	Forest Service Response
The location of the main campground two-way road will increase noise and activity levels along the northern boundary.	The two-way road was relocated into the interior of the campground in Alternative 3. The configurations of the one-way loops were changed to accommodate this new circulation pattern.
The location of the kiosk will increase noise and activity levels along the northern boundary.	The kiosk was relocated to the administrative site in Alternative 3.
The location of the fire station will increase noise and activity levels along the northern boundary.	The administrative building was relocated to the south of the campground entrance road and a greater distance from residential lots in Alternative 3.
The proposed action increases paved surfaces, even though it decreases the overall coverage in the SEZ and compacted areas.	The size of the overflow parking lots was reduced and the number of yurt parking spaces was decreased in Alt 3. The number of 60' camping spurs were reduced from 48 to 18 and only provides 7 overflow parking spaces. The actual total impervious surfaces amount is significantly decreased.

Table 2-2. Issues with Alternative 3 that were raised during the legal 30 day public comment period and the Forest Service response.

Issue with Alt 3	Forest Service Response
There is concern about the activity associated with the RV dump station in the location proposed in Alt 3 (too close to residential lots).	The RV waste dump station was moved slightly to be further from the residential lots in response to this concern. It is now located off of the proposed traffic circle.
The kiosk and RV dump station increase the general disturbance on the site of the former William Kent house and garage from the past uses.	A design feature was added to install a 6 foot (minimum) privacy fence along this portion of the campground. The RV dump station was moved (see above).
The proposed traffic circulation pattern results in an increase in vehicular movement in proximity to 480 Pineland Drive.	The roadway was moved slightly and the configuration of the campsites changed so that the road intersection is further from the property line. Additional vegetation screening or solid fencing may be added in this area, as well.
There is a general concern about screening of the campground from the residential lots.	The project description relating to vegetated screening was changed slightly to allow for screening in areas other than just where vegetation was disturbed (see #19 under Campground Facilities, Section 2.4).

Campground Facilities:

In Alternative 3 there are changes in the configuration of the roads within the campground and the addition of a two-way road traveling through the center of the site and reconfiguring the entrance road. The number of campsites proposed are the same as Alternative 2 but will be configured differently with the yurts located throughout the site rather than located in one loop as proposed in Alternative 2. General SEZ reconstruction is similar to Alternative 2 (Figure 2-3).

1. Remove approximately 23,500 square feet (90%) of asphalt from within the SEZ in the campground (Table 2-3).
2. Reduce the stream crossings from 8 to 1.
3. Remove and reconfigure all paved surfaces into three one-way loops connected to a two-way road that runs down the middle of the campground.
4. Remove a net total of 14 campsites for a total remaining of 81 campsites (Table 2-4).
5. Construct all new spurs to meet FSORAG accessibility requirements; 16' wide by 40' long (31 non-utility sites, 32 utility sites), 20' wide by 60' long (5 utility sites), and 16' wide by 60' long (13 utility sites) (Table 2-4).

6. Ten yurt or tent cabin sites will be mixed in with the other campground sites. Sites may function as a regular campsite until a yurt is constructed.
7. Reconfigure the entrance road to include a one-way traffic circle.
8. Relocate the kiosk and dump station to the site of the former William Kent house and garage. Reconfigure the circulation patterns to allow for drive-up kiosk and pedestrian access via a sidewalk. A total of five parking spaces will also be provided for overflow parking and walk-up access.
9. Construct small infiltration basins and vegetated swales along the roadways and in areas where water flows from paved surfaces into the SEZ to prevent any campground pavement runoff from contributing to the water volume of the stream.
10. Remove impervious surfaces from within the SEZ and re-contour the stream channel in areas where the paved surfaces are removed to permit the water to spread out over the SEZ and allow for infiltration and to reduce the flow volume and velocity.
11. Plant native vegetation in eroded and disturbed areas.
12. Stabilize slopes in the campground with boulder placement and revegetate where needed.
13. Replace the signage along Hwy 89 and in the campground to improve navigation for vehicles and pedestrians.
14. Install electrical hookups in two campground loops closest to the campground entrance.
15. Install utilities at two host sites; to include water, electric, and sewer.
16. Repair fencing along the property line. "Gates" or gaps in the fence will be included to ensure that wildlife does not encounter a solid barrier when crossing the campground. Fencing may be replaced with any type of fencing materials that fits the BEIG guidelines (ex: solid wood, split rail, poly-coated chain link, etc).
17. Remove the six existing restrooms and replace with five accessible shower/bathroom facilities.
18. Create seven overflow parking sites on high capability lands outside the SEZ.
19. Plant vegetation for screening in suitable areas where vegetation was disturbed or removed along the campground perimeter. Vegetation may also be planted for screening of facilities. Screening vegetation must follow defensible space guidelines for facilities.
20. Approximately 400-800 trees would be removed to facilitate construction of BMPs and associated infrastructure. In addition, thinning of ladder fuels (smaller trees) will take place throughout the project area in order to provide defensible space for facilities.

21. Privacy fencing will be installed along the property line between the check-in kiosk area and neighboring residences (minimum height to be six feet).

Administrative Site:

In Alternative 3, the administrative facility would be moved to the south side of the campground entrance road. The design for the building would be the same as Alternative 2.

1. Construct a new fire station/administrative building and associated parking south of the campground road to the west of the boat storage facility to serve the north and west shores of Lake Tahoe.
2. The fire station/administrative building will contain one or two bays for a Type III fire engine, offices for the fire personnel (no overnight accommodations), a kitchen and meeting area, bathrooms and showers, and office space for other forest service employees. Approximate building size is less than 3,500 square feet. Design of the building is to be similar to the USFS Spooner Fire Station on Hwy 50 on the east side of Lake Tahoe.
3. Administrative facility parking lot would have 23 parking spaces, including two universally accessible spaces (approximately 14,000 square feet).
4. Redesign of the campground entry road will include widening of the road to allow for a dedicated striped emergency vehicle lane.
5. Privacy fencing will be installed along the property line between the administrative site and neighboring residences (minimum height to be six feet).

Beach:

In Alternative 3 changes to the beach facility are similar to Alternative 2.

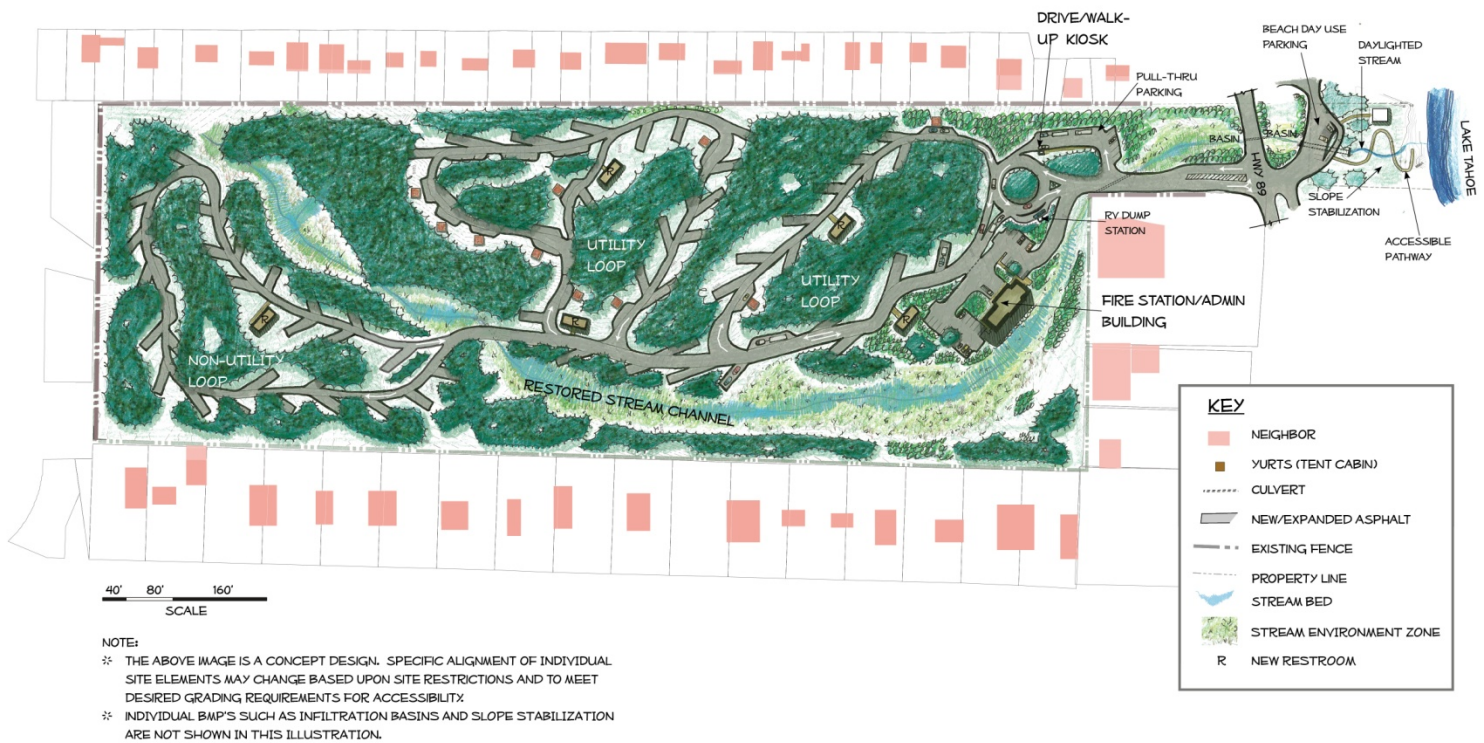
1. Excavate and shorten the stormwater pipe on the beach to expose the flow ("daylight" the stream) and stabilize the resulting slope. Stabilization may include riprap, boulder placement, retaining walls, structural walls, and vegetation. Bridges, footpaths, and safety rails will be installed where needed to ensure navigability, safety, and efficient use of the site by visitors.
2. Create an accessible pathway from the beach parking to the waterfront.

Meeks:

Proposed activities at the Meeks fire station are the same as those identified in Alternative 2.

Figure 2-3. Alternative 3 Concept Design.

FIGURE 2-3
ALTERNATIVE 3 - CONCEPT DESIGN



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2.5 Design Features Common to All Alternatives

Activities associated with implementation of this project could have localized, short-term effects. The following design features have been incorporated into both Action Alternatives and are intended to minimize or avoid effects on soils, water, vegetation, wildlife, fisheries, heritage resources, recreational resources, and air quality. Some of the design features were developed in response to comments received during scoping. Table 2-3 summarizes these comments. In addition to the following design features, applicable BMPs are identified in *Water Quality Management for Forest System Lands in California* (USDA Forest Service 2011). Adherence to these BMPs ensures compliance with the Clean Water Act. These specific BMPs are listed in Appendix A.

Table 2-3. Issues received during scoping and response.

Issue	Response
The fence along the northern edge of the site is constantly knocked down by bears traversing the site from south to north.	A design feature was added to accommodate bear movement along this north-south line and to ensure the fence does not create an impenetrable barrier along the entire length of the property line, therefore preventing the bears from needing to knock down the fence.
The campground design should follow the “dark-skies” initiative.	A design feature was added to include lighting guidelines that meet current code while minimizing light pollution for the campground and administrative facility.
Privacy screening needed between the administrative site and the neighbors.	A design feature was added to include native vegetative screening and fencing where needed between the administrative site and the neighboring residential lots.
The addition of an administrative building will add to congestion on Hwy 89.	A traffic analysis was conducted in response to this issue. It was determined that the addition of the administrative building is offset by the reduction in Daily Vehicle Trips (DVT) due to the reduction of campsites by 14 spaces. Increase in DVT is considered insignificant under Alternative 2 and 3.

Recreation and Access

1. Maintain recreational facilities in a usable condition to the extent possible as long as human health and safety is not compromised and project implementation is unimpeded. The existing kiosk would not be removed until the new kiosk is installed and vehicular access is available. Existing bathrooms would remain in operation until the new bathroom facilities are opened and accessible.
2. Prepare a traffic control plan prior to commencing project operations. A temporary forest closure may be implemented for project activities. Closure should be as limited as possible to reduce restrictions to public access. Closure would be only for areas of active construction activity.

3. Prohibit vegetative slash and construction burning. Construction wastes will be hauled offsite to an approved waste facility. Slash will be either chipped and used onsite or hauled offsite to an approved waste facility.
4. Provide advanced notice to the 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.
5. Signing and temporary fencing would be provided around the construction site.

Scenic Resources

1. New building facilities would be designed to blend with and enhance the existing landscape through the use of native materials and neutral colors. The design will be consistent with the USFS Built Environment Image Guide.
2. Emphasis will be placed on retaining large mature trees to ensure the natural forested appearance of the campground remains.

Heritage Resources

1. If any previously unrecorded cultural resources are discovered during project monitoring or project construction, all project-related activities would cease immediately in the vicinity of such discoveries, the Forest Service would begin the consultation process, as outlined in Section 800.13 of the Advisory Council on Historic Preservation regulations "Protection of Historic Properties" (36 CFR Part 800).

Soil and Ground Disturbance

1. Project activities would occur within the TRPA grading ordinance season (May 01 to October 15) and in accordance with the LRWQCB permit. If grading or movement of soil outside of this window becomes necessary (i.e. to finish BMP's, etc.) a standard grading exemption permit request would be submitted to TRPA and LRWQCB for approval. During periods of inclement weather, operations would be shut down at the discretion of the Contracting Officer until conditions are sufficiently dry and stable to allow construction to continue without the threat of substantial erosion, sedimentation, or offsite sediment transport.
2. Erosion control and prevention of sediment transport for this project (EA Appendix A) would be implemented in accordance with; *USDA, Water Quality Management for Forest System Lands in California -Best Management Practices* (USDA 2011).
3. Provision for hazardous materials spill kits would be included in the contract specifications.
4. Staging of materials and equipment would be limited to existing disturbed areas outside the SEZ (where soil is already compacted and vegetation has been cleared). Following project completion, any areas used for staging and not intended for continued vehicular use would be tilled, seeded, and mulched.

5. Rock, soil and other earthen material removed during grading operations may be stockpiled and used for construction activities. Consistent with BMP requirements, measures would be employed that prevent stockpiled material from entering the stream channel or otherwise adversely affecting ground water, such as with the use of fiber logs, covering with tarps, etc.
6. Riparian/stream/SEZ and soil restoration activities would be developed where appropriate. Appropriate restoration actions, methods, locations, and amount would be developed based on the types and magnitude of disturbance within the SEZ, as well as site-specific and watershed-level opportunities and constraints for SEZ enhancement.
7. Infiltration basins and vegetated swales would be installed to intercept stormwater flowing from the campground into the SEZ. BMPs would be designed for the 1 inch 1 hour event, and the 2 inch 24 hour rainfall event.
8. Disposal areas for sidecast material will be displayed on engineering plans. Compliance with contract specifications during implementation will be handled by the project contracting officer representative (COR).
9. To prevent pollutants such as fuels, lubricants, and other harmful materials from being discharged into watercourses or other natural channels, unless otherwise agreed upon by the COR, service and re-fueling areas shall be located outside of SEZs. If fuel storage capacities meet or exceed those stated in contract provisions, project Spill Prevention, Containment, and Counter Measures (SPCC) plans are required. Operators are required to remove service residues, waste oil, and other materials from National Forest land and be prepared to take responsive actions in case of a hazardous substance spill, according to the SPCC plan.
10. Construction and maintenance activities adjacent to SEZs will be done in accordance with construction designs. SEZ boundaries will be flagged prior to starting work adjacent near the SEZ. Compliance with contract specifications during implementation will be handled by the project COR.
11. The following will be required in contracts: Coordination with the LRWQCB for permits will be required when diverting any flow. Specifications for such activities will be included in the engineering plans. Compliance with contract specifications during implementation will be handled by the project COR.
12. Culvert specifications will be included in the engineering plans. Temporary BMPs such as silt fence will be used to ensure water quality is protected during installation. Compliance with contract specifications during implementation will be handled by the project COR.
13. Riprap (rock stabilization) use will be included in the engineering plans. Plans will specify what type and size to be used. Compliance with contract specifications during implementation will be handled by the project COR.
14. The road surface within the campground will be paved. Compliance with contract specifications during implementation will be handled by the project COR.

15. Erosion control will be accomplished through applying seed to disturbed areas, paving road surfaces, installing drainage features and basins, and retaining walls.

Botany/Non-Native Invasive Plant Species

1. If any sensitive plants or special interest plants are found they would be flagged by an LTBMU Forest Botanist and avoided.
2. Include non-native invasive species prevention measures in project contract. In the event that noxious weeds are found on the site, the LTBMU noxious weed coordinator would be consulted.
3. All construction and earth-moving equipment would be free of non-native invasive plant species before moving into the project area. Equipment would be considered free of non-native invasive plant species when visual inspection by the COR does not reveal soil, seeds, plant material, or other such debris.
4. Equipment would be cleaned prior to moving to other National Forest System lands.
5. All gravel, fill, or other materials would be required to be weed-free. Obtain certified weed-free materials from gravel pits and fill sources that have been certified weed free or have been surveyed and approved by the LTBMU Forest Botanist.
6. All mulches and seed mixes would be weed free. Seed mixes must be approved by the LTBMU Forest Botanist.
7. Staging areas for equipment, materials, or crews would not be situated in areas infested by non-native invasive species. Areas containing non-native invasive species would be “flagged and avoided” before implementation.
8. Cheatgrass infestations found during project activities would be treated and covered with weed matting prior to and during project implementation. Treatment may include chemical or hand methods, depending on the size of the infestation (see 2010 TIPS EA).
 - a. Staging areas for equipment, materials, or crews will be designated in paved areas away from cheatgrass and noxious weed infestations.
9. After the project is completed, all disturbed project areas will be monitored for 3 years to ensure non-native invasive species do not spread and additional non-native invasive species do not become established in areas affected by the project. Monitoring will occur through the LTBMU invasive weeds monitoring program.

Wildlife

1. If special status wildlife species are detected in the project vicinity, Limiting Operating Procedures (LOPs) would be implemented as determined by the project biologist. The project biologist would determine if LOPs are necessary based on habitat suitability or the most current wildlife data from pre-project field surveys.

2. Any sightings of threatened, endangered, candidate, sensitive, management indicator, or special interest species would be reported to the project biologist. Nests and dens would be protected with flagging, fencing, or limited operating periods in accordance with management direction. Species identification, known locations, and protection procedures for both plants and animals would be addressed with implementation crews during a pre-construction meeting.
3. Existing down logs greater than 20 inches dbh may be retained. Logs that are moved during construction could be repositioned.
4. Bear-proof garbage dumpsters would be temporarily installed during implementation or food-related trash associated with project activity would be removed daily to prevent wildlife attraction to the project area.

Engineering

1. Building construction would incorporate “green” sustainable construction features where appropriate (i.e. sourcing sustainably produced or local materials, utilizing passive solar, integrating energy-saving technologies, etc).
2. Paved surfaces around structures that do not require vehicular circulation would be designed with porous paving systems or other semi-pervious surface (i.e. gravel) where appropriate to enhance infiltration of stormwater.
3. Building structures would have roofline drip trenches or other BMPs to catch and slow stormwater flowing from the roof.
4. Select light features for the campground and administrative site that limit light pollution while following building code and Forest Service lighting design guidelines.
5. Fence repairs and new fence construction will allow places for through-travel of large wildlife (i.e. bears) in at least one location along each property line in a manner that does not necessitate the animal to go over the fence or push it down.
6. Specific allowable construction hours would be set from 7:00 am to 7:00 pm, Monday through Friday. Construction outside of these allowable hours must be coordinated and approved by the COR and the permittee.

Air Quality

1. Unpaved areas during construction subject to vehicle traffic must be stabilized by being kept wet, treated with chemical dust suppressants or covered. Cover materials must contain less than 0.25 percent naturally-occurring asbestos.
2. The speed limit on unpaved areas must be 15 mph or less unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 mph from emitting dust exceeding Ringelmann 2 (dust sufficient to obscure vision by 40%), or visible emissions from crossing the project boundary line.

3. Storage piles and disturbed areas not subject to traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
4. Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions crossing the boundary line.
5. Construction vehicles leaving the site must be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off site.
6. When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations are suspended.
7. No trucks are allowed to transport excavated material off site unless no spillage can occur from holes or openings, and loads are either covered with tarps, or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.
8. Actions must be taken such as surface stabilization, establishment of a vegetative cover, or paving to minimize wind-driven dust from inactive disturbed surface areas.
9. Track-out of dirt or mud onto public paved roadways must be minimized and cleaned up.
10. A Dust Control Plan (DCP) will be submitted to the Dust Control District for approval prior to the start of earth-disturbing activities if this requirement has been established as a Condition of Approval of a discretionary permit.

Tree Removal

1. Emphasis will be placed on retaining structurally complex large trees. Where feasible based on project activities, Jeffrey pine, sugar pine, and incense cedar would be retained and lodgepole pine and white fir would be removed. Trees showing signs of stress, or insect and disease infection would be removed, consistent with project activities.
2. Thinning of ladder fuels for defensible space standards around structures will take into consideration recreation and screening objectives. Identification of ladder fuels will occur in coordination with recreation program managers.
3. Cut trees may be removed, or utilized as fuelwood. Any slash material generated from tree removal (i.e. smaller trees, limbs, and tops) would be removed in whole, chipped, and removed or chipped for use on the site. Tree removal may require the use of ground-based mechanical equipment, chainsaws, or chippers, and a staging area(s) in order to process material.

Monitoring

1. The William Kent Campground BMP Retrofit and Administrative Site Renovation project would be included in the pool of projects for random BMP evaluations under the Best Management Practices Evaluation Program (BMPEP) program. Each year the LTBMU completes evaluations for the BMPEP as part of the Pacific Southwest Region's effort to evaluate the implementation and effectiveness of BMPs created for protecting soil and water resources associated with Forest Service management activities.
2. Monitoring to ensure that all contract items including temporary BMPs, design features, and permit requirements are being followed, will be provided by the Forest Service Contracting Officer's Representative following protocols established for public works contract administration.

2.6 Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the tables focuses on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. Chapter 3 provides the scientific and analytical basis for the comparison of effects found in Table 2-6.

Table 2-4. Comparison of total impervious surface coverage for each alternative.

	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3 (Alternative Action)
Total impervious surfaces (campground and admin site)	207,000 ft ² *	200,300 ft ²	190,500 ft ²
Reduction in impervious coverage (campground and admin site)	0	3%	8%
Total impervious coverage in SEZ (campground and admin site)	34,600 ft ²	12,800 ft ²	12,000 ft ²
Total impervious coverage in SEZ (campground only)	26,200 ft ²	4,500 ft ²	2,700 ft ²
Impervious coverage removed from SEZ (campground only)	0 ft ²	21,700 ft ²	23,500 ft ²
% impervious coverage removed from SEZ (campground only)	0%	83%	90%

*Calculation of total impervious surface for Alternative 1 is based on existing paved surface footprint plus a 2 foot buffer of compacted native surface surrounding the asphalt. The 2 foot buffer is an average estimate of the amount of disturbed soils as observed on the site.

Table 2-5. Comparison of Campsite type and number for each alternative.

	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3 (Alternative Action)
12' wide by 25' long spurs	95*	0	0
16' wide by 40' long spurs	0	33	63
20' wide by 60' long spurs	0	5	5
16' wide by 60' long spurs	0	43	13
Total	95	81	81

*Existing average spur size is 12' x 25', but is highly variable.

Table 2-6. Summary of Effects of Alternatives.

Area of Effect	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3 (Alternative Action)
Recreation	Existing recreation and management continues. Facilities do not meet accessibility standards, deferred maintenance remains. Undersized camp spurs remain, confusing circulation; traffic stacks up on Hwy 89. Noise levels remain consistent. Beach day use site remains the same.	Loss of 14 campsites. Facilities meet the BEIG ¹ and accessibility standards; deferred maintenance lowered. Increased amenities (showers, utilities). Increased noise and disturbance to neighbors along northern boundary. Campsites near admin site less rustic. Reduced amount of level ground on beach site, increased accessibility to beach.	Loss of 14 campsites. Facilities meet BEIG and accessibility; deferred maintenance lowered. Increased amenities (showers, utilities). Increased noise and disturbance to residential properties near admin site, but less so than Alt 2. Campsites near admin site less rustic. Reduced amount of level ground on beach site, increased accessibility to beach.
Wildland Fire Response	Fire station remains at Meeks Bay. The majority of wildland fire response calls are located significantly north of Meeks Bay and require longer response times. Facility does not meet accessibility needs, only usable in summer months, does not meet the space or facility needs of the fire crew.	Wildland fire response on north shore greatly improved. Improved facility that is universally accessible and able to be occupied year-round. Facility meets the needs of the fire crews.	Wildland fire response on north shore greatly improved. Improved facility that is universally accessible and able to be occupied year-round. Facility meets the needs of the fire crews.
Wildlife	Bears continue to knock down the fence. No effect on special status species.	Bears can travel through gaps in the fence without property destruction. May affect individuals, but is not likely to result in a trend toward Federal listing of special status species.	Bears can travel through gaps in the fence without property destruction. May affect individuals, but is not likely to result in a trend toward Federal listing of special status species.

Area of Effect	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3 (Alternative Action)
Botanical Resources	No known special status species or noxious weed species on the site.	Potential for introduction of noxious weed species during construction is moderate. Design features implemented to mitigate this. Likely no impact to botanical resources. Restoration of riparian vegetation.	Potential for introduction of noxious weed species during construction is moderate. Design features implemented to mitigate this. Likely no impact to botanical resources. Greater restoration of riparian vegetation than Alt 2.
Heritage Resources	No effect on heritage resources	No effect on heritage resources.	No effect on heritage resources.
Scenic Resources	Restrooms do not meet BEIG ¹ guidelines. Partial retention VQO ² for the middle ground; modification or better for foreground. Scenic stability moderate.	All facilities meet the BEIG. VQO is maintained. Beach visual appearance altered, but remains consistent with VQO. Scenic stability increases. Aesthetic appearance of campground improved. Aesthetic appearance of the Meeks Bay Resort entrance is improved.	All facilities meet the BEIG. VQO is maintained. Increased spacing between admin center and neighborhood residences compared to Alt 2. Beach visual appearance altered, but remains consistent with VQO. Scenic stability increases. Aesthetic appearance of campground improved. Aesthetic appearance of the Meeks Bay Resort entrance is improved.
Transportation and Traffic	Traffic stacks up onto Hwy 89 during periods of heavy use. DVT ³ is 481. Confusion and congestion within campground remains. Traffic patterns at Meeks Bay Fire Station remain.	Traffic does not stack onto Hwy 89. Insignificant increase in DVT (1 DVT). Reconfiguration of roadways increases efficiency and decreases confusion and congestion in campground. Traffic congestion and conflict at the Meeks Bay Resort entrance is reduced.	Traffic does not stack onto Hwy 89. Insignificant increase in DVT (2 DVT). Reconfiguration of roadways increases efficiency and decreases confusion and congestion in campground. Traffic congestion and conflict at the Meeks Bay Resort entrance is reduced.
Hydrology and Soils	Erosion and sedimentation of stream channel and impacts to water quality. 8 stream crossings remain in the campground.	Improved soil retention and infiltration, reduced erosion. 83% of impervious surfaces removed from SEZ ⁴ in campground. Two stream crossings remain.	Increased infiltration and soil retention, reduced erosion. 90 % of impervious surfaces removed from SEZ in campground. One stream crossing remains.
Air Quality/Greenhouse Gas Emissions	No change from existing condition.	Increase in DVT, but not significant. Not considered a significant increase in greenhouse gas emissions or decrease in air quality.	Increase in DVT, but not significant. Not considered a significant increase in greenhouse gas emissions or decrease in air quality.

Area of Effect	Alternative 1 (No Action)	Alternative 2 (Proposed Action)	Alternative 3 (Alternative Action)
Visitor Information	Limited visitor information disbursed from kiosk.	Visitor services for North and West Shores of Lake Tahoe offered in the administrative building.	Limited visitor information disbursed from kiosk.

¹BEIG : Built Environment Image Guide

²VQO: Visual Quality Objectives

³DVT: Daily Vehicle Trips

⁴SEZ: Stream Environment Zone

3.0 Environmental Consequences

The Council on Environmental Quality (CEQ) regulations direct that agencies succinctly describe the environment that may be affected by the alternatives under consideration (40 CFR 1502.15). This chapter describes the existing physical, biological, social, and economic aspects of the project area that have the potential to be affected by implementing any of the alternatives (i.e., the existing conditions). Each description of the existing conditions is followed by a description of the environmental effects (direct, indirect, and cumulative) that would be expected to result from undertaking the proposed action or other alternatives. Together, these descriptions form the scientific and analytical basis for the comparison of effects table found at the end of Chapter 2, “Summary of Effects of Alternatives.”

3.0.1 Organization of Chapter 3

Chapter 3 combines information on the existing conditions and environmental effects of the alternatives for the various resources. The information is separated into these resource areas for ease in reading. The discussion of alternatives is organized by resource area, and each resource area is presented as follows:

- *Introduction.* The scope of the analysis briefly describes the geographic area(s) for the individual resource and its indicators potentially affected by implementation of the proposed action or alternative. The scope of the analysis varies according to individual resource area and may also vary for direct, indirect, and cumulative effects.
- *Existing Conditions.* The existing conditions section provides a description of the resource environment that is potentially affected based on current resource conditions, uses, and management decisions.
- *Direct, Indirect, and Cumulative Effects.* This section provides an analysis of direct, indirect, and cumulative environmental effects on the resource area by implementing each of the alternatives, according to the indicators and issues identified for that resource.
- *Analytical Conclusions.* This section provides a synthesis of the effects analysis for that resource.

Direct effects are caused by the actions to implement an alternative, and occur at the same time and place. Indirect effects are caused by the implementation action and are later in time or removed in distance, but are still reasonably foreseeable (i.e., likely to occur within the duration of the project).

Cumulative effects are the result of the incremental direct and indirect effects of any action when added to other past, present, and reasonably foreseeable future actions. Cumulative effects can result from individually minor, but collectively significant actions, taking place over a period of time.

3.0.2 Projects Considered for Cumulative Effects

In order to understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing

conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects.

This cumulative effects analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions would be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the proposed action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each and every action over the last century that has contributed to current conditions. Additionally, focusing on the impacts of past human actions, risks ignoring the important residual effects of past natural events, which may contribute to cumulative effects just as much as human actions. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed those effects. Third, public scoping for this project did not identify any public interest or need for detailed information on individual past actions. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, “agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.”

The cumulative effects analysis in this EA is also consistent with Forest Service National Environmental Policy Act (NEPA) Regulations (36 CFR 220.4(f)) (July 24, 2008), which state, in part:

“CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions. Once the agency has identified those present effects of past actions that warrant consideration, the agency assesses the extent that the effects of the proposal for agency action or its alternatives would add to, modify, or mitigate those effects. The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonable foreseeable future actions) on the affected environment. With respect to past actions, during the scoping process and subsequent preparation of the analysis, the agency must determine what information regarding past actions is useful and relevant to the required analysis of cumulative effects. Cataloging past actions and specific information about the direct and indirect effects of their design and implementation could in some contexts be useful to predict the cumulative effects of the proposal. The CEQ regulations, however, do not require agencies to catalogue or exhaustively list and analyze all individual past actions. Simply because information about past actions may be available or obtained with reasonable effort does not mean that it is relevant and necessary to inform decision-making. (40 CFR 1508.7)”

For these reasons, the analysis of past actions in this section is based on current environmental conditions.

Appendix B discloses the present and foreseeable future actions that have affected or may affect resources in the William Kent Campground area that were considered for the analysis of cumulative effects.

3.1 Recreation

3.1.1 Introduction

There are more than 5 million visits to the LTBMU every year (USDA 2010). A large portion of these visits are to developed recreation sites, such as William Kent. The infrastructure and development in these areas allows for concentrated public use, while managing impacts to the natural setting.

This section evaluates the effects to the human environment and recreation use of the no-action, the proposed action, and the alternative actions. In evaluating the three alternatives, the following three categories of effects were analyzed:

1. Effects of the project on facility operations to the permittee
2. Effects to the recreation experience
3. Effects to the adjacent neighbors

3.1.2 Existing Condition

The William Kent campground and day use beach site offers forest setting recreation experiences and is popular with visitors due to its close proximity to Tahoe City and nearby amenities such as the swimming beach, restaurants, stores, a marina, and access to the rest of Lake Tahoe. Contributing to its popularity is that there are only three campgrounds situated in this area of Lake Tahoe and very few public access points to the lake along the west shore of Lake Tahoe.

The campground and administrative site have coexisted since 1924. The campground was operated by the Forest Service from its construction until 1990. Since 1990, the campground has been operated under special use permit. The administrative site currently contains only a parking area that serves as overflow for the campground and parking for the campground host vehicles. The William Kent house and garage that previously existed on the administrative site were decommissioned and removed in 2011.

The campground is well forested with tall Jeffery pine, white fir, and incense cedar; and campsites are spread among low ridges and shallow ravines. Urbanization over the years has surrounded this campground. The campground is surrounded by neighbors on three sides and a boat yard to the east. Some campsites are small and not level and others back up to perimeter fences. Highway noise can be heard from some campsites near the entrance. In spite of these site challenges, visitors report high satisfaction levels with their camping experience (as determined from comment cards returned to the permittee) and many campers return year-after-year.

The campground and day use beach area are open from mid-May to mid-October. The campsites are often full on busy weekends during the peak season from the Fourth of July through the end of the Labor Day. Campsites near the entrance currently experience high levels of vehicle and pedestrian activity during peak occupancy periods because all campground traffic flows by those campsites due to the one-way configuration of the roads. Currently, the campsites that are located

within the SEZ provide early season camping opportunities because the snow melts away from these sites first and little snow removal is needed in order to accommodate early season camping. The permittee uses the kiosk as their office, campground check-in, and visitor information center (the permittee offers general interpretive information to the public in addition to issuing Desolation Wilderness permits).

The day use beach area is directly across Highway 89 from the campground and is adjacent to the Sunnyside Resort. The permittee manages the day use area, parking lot, and restroom facility. It has an approximately ½-acre picnic area and a small rocky beach with lake access. It is a popular beach and is often visited by upwards of 100 people per day during the peak summer period by both visitors and neighbors alike for picnicking, swimming and beach activities.

3.1.3 Direct and Indirect Effects

Alternative 1 - No Action

The No Action Alternative would allow existing recreational activities at the campground and day use beach area to continue without interruption or substantial changes. The permit holder would continue to operate the campground and day use beach area as described in their special use permit and operation plan. There would be no addition of utilities to the campsites and no addition of yurt camping opportunities or reduction in deferred maintenance on the site. The restroom facilities would continue to not meet Forest Service accessibility standards. Camp spurs would continue to be undersized. The campground capacity would remain at 95 campsites accommodating 475 persons-at-one-time (PAOTs). The two host camping sites would continue to be located together near the campground entrance. There would be no change to the problems associated with the existing traffic patterns and the permittee would continue to operate the campground and manage their operations out of the existing kiosk. Little snow removal would continue to occur. Traffic would continue stacking up past the campground kiosk parking area onto Hwy 89 during periods of heavy use. There would be no change to the existing experience neighbors have while living in close proximity to a campground. Noise levels in and around the campground would remain the same. Some campsites would continue to be situated close to neighbors' backyards. There would be no change to the William Kent day use beach area. Demand for the campground and day use beach area is expected to increase with population growth. There would be no change to the administrative site and overflow parking would continue to occur there. There would be no change to the existing traffic patterns or administrative use at the Meeks Bay Fire Station. This alternative does not preclude future upgrades on the site.

Alternative 2 - Proposed Action

Alternative 2 provides improved campsite navigability by reconfiguring the campground, as well as the addition of shower facilities, yurt campsites, and electric hook-ups in two of the campground loops. All campsites would be upgraded to meet FSORAG and ABA accessibility guidelines, as well as to meet the Forest Service sizing guidelines. Increasing the size of the camp spurs will result in less vehicles driving on unpaved areas and less subsequent resource damage, as well as to decrease the incidence of vehicles blocking the roadway and parking on the roadside. Providing electric hookups in two of the campground loops would help update the

campground to meet public expectations. This alternative provides a total of 81 campsites, 14 less than is currently provided, which represents a net loss of 70 PAOTs available to the public.

The campground roads and camping spurs are reconfigured to improve circulation and to remove impervious coverage within the SEZ. With the loss of the campground sites in the SEZ that melt off first during the spring months, the campground permittee would incur more costs for snow removal to accommodate mid-May camping opportunities.

The new campsites which are designed with approximately 60 feet between the living areas of adjacent campsites would result in a sense of distance from neighboring campsites for a quality camping experience. See Table 3-1 for a summary of campground types and sizes. Upgrades to campsites would decrease the overall deferred maintenance costs that the permittee addresses on an annual basis.

The eleven new yurt sites or tent cabin sites would result in enhanced alternative camping opportunities offered to the public. The changeover of some sites to yurts would have some impact on the permittee's current operation of the facility. The permittee would be required to purchase and maintain the actual yurt structures, including the daily care and maintenance. The campsites may be used as regular campsites until the yurt structures are installed.

Host campsites 94 and 95 would be relocated within the campground. Host sites would have electric, water, and sewer hookups. Currently the hosts are located adjacent to one another. The planned separation of the host sites would provide campers with better access to hosts and improve customer service. This separation may result in a change in host operations. Relocation of the on-site RV dump station would result in better support for campground operations, as well. Providing these amenities that reflect changing public use patterns would increase the overall desirability of the campground and the financial viability of the campground is expected to improve.

The new kiosk would be positioned further into the campground and would be located in the middle of the entrance roadway. Its location further into the campground in the middle of the road would reduce the impacts from check-in traffic stacking up onto Hwy 89 and would allow both incoming and outgoing traffic the opportunity to conveniently stop by the kiosk for information without visitors getting out of their vehicle. Pedestrians can access the kiosk under Alternative 2 via the road with an 8% slope and then must cross traffic to approach the kiosk.

The kiosk is located on a road that parallels the northern boundary of the campground and subsequently parallels the private homes on Fountain Avenue that lie along its length. An overflow parking lot would also be situated on this road. As a result, those neighbors along this boundary would experience more vehicle movement, noise and headlights than they currently experience.

In Alternative 2 the new administrative building is planned on the existing administrative site location, north of the campground entrance road. Constructing the administrative center along the northern site boundary would only modestly impact the permittee's operation of the campground. Traffic controls would be implemented

to ensure that guests do not hinder emergency traffic leaving the administrative center. Some campsites situated closest to the administrative center and over flow parking lot may become less desirable due to their proximity to the increased activities of the administrative site. The overall camping experience in the campsites near the Administrative Center and overflow parking lot may become less rustic than in the past. It is anticipated that the campground would still fill up during the peak season and the overall impact on the viability of the campground would not be largely affected by the presence of the new administrative center.

Neighbors situated close to the entrance area along the northern boundary currently experience impacts from general campground operations (traffic and activities), and the noise generated by traffic on Highway 89. Activity and noise levels introduced by the proposed action would increase from the existing levels. Siren noise is not expected to have a significant impact on campground activities and neighboring residences because sirens would not be activated under normal emergency operations until reaching the highway/campground intersection.

The changes to the day use beach area may concentrate the current use of the picnic area into a smaller footprint. Less level open space would be available for recreation activities and picnic tables may be positioned closer together due to the grading required to re-create the stream channel. Creating a stream channel through the middle of the day use beach area may increase the permittee's on-site management obligations due to the increased site infrastructure. Easy access to the restrooms from all points within the day use site would be maintained.

Alternative 3 - Alternative Action

Alternative 3 provides improved campsite navigability by reconfiguring the campground, as well as the addition of shower facilities, yurt campsites, and electric hook-ups in two of the campground loops. All campsites would be upgraded to meet FSORAG and ABA accessibility guidelines. Increasing the size of the camp spurs will result in less vehicles driving on unpaved areas and less subsequent resource damage, as well as to decrease the incidence of vehicles blocking the roadway and parking on the roadside. Providing electric hookups in two of the campground loops would update the campground to meet public expectations of utility services in campgrounds.

The primary difference between Alternative 2 and Alternative 3 is that the 2-way road would be located in the center of the campground instead of the northern boundary. This design provides three one-way campground loops (instead of four loops in Alternative 2) and five restroom/shower facilities (instead of four in Alternative 2). The new Administrative Center would be situated to the south of the campground entrance road (adjacent to private property currently used as a boat storage yard).

The relocation of the kiosk onto the existing administrative site in Alternative 3 would improve and speed-up the permittee's check-in process. Campers would be able to check-in without leaving their vehicle via the drive-up window. This would result in faster check-ins and minimize waiting times, reducing the number of vehicles waiting for check-in. The kiosk would have a walk-up window accessible via a pedestrian sidewalk where interpretive information and wilderness permits can be dispensed to pedestrian traffic, as well. Relocating the existing entry kiosk to this

location would reduce potential impacts from check-in traffic stacking up onto Hwy 89. The additional parking would also serve as overflow parking during busy periods. The neighbors adjacent to the kiosk site would experience an increase in activity from current levels, but it is anticipated that it would be less activity than an administrative site in this location (as is proposed in Alternative 2).

It is anticipated that the proposed improvements to the campground would increase the overall quality of the campground and impacts to the permittee's operation would be minimal. The addition of ten yurts would not adversely affect the permittee's operation. Host sites would be separated (similar to Alternative 2) and would have electric, water, and sewer hookups.

The RV dump station was originally located near the kiosk in Alternative 3. In response to comments received during the 30 day legal comment period, the RV dump station was moved further from the residential lots. The RV dump station is now proposed under Alternative 3 to be located off the traffic circle. Moving the RV waste dump station closer to the staffed kiosk will result in an improved ability of the permittee to keep it well maintained. The effects from general disturbance to the residential lots near the kiosk are reduced from the original Alternative 3 concept plan.

This alternative provides a total of 81 campsites, 14 less than is currently provided, which represents a net loss of 70 PAOTs available to the public. See Table 3-1 for a summary of campground types and sizes. Some campsites situated along the two-way road would experience more traffic compared to existing conditions. Most of the campsites within the campground will experience less traffic than they currently experience. It is anticipated that these campsites would still provide an acceptable camping experience. As in Alternative 2, the overall quality of the campsite experience in the campground would be improved. The campsites nearest to the administrative center would become less rustic and more modified than in the past and may be considered less desirable, as well. It is anticipated that the campground would fill-up during the peak season and the overall impact on the economic viability of the campground would not be largely affected and most likely would be improved.

This Alternative should have fewer impacts to neighbors on the northern boundary than Alternative 2 because the two-way road is located in the center of the campground. Relocation of the Administrative Center away from the residential houses would reduce its effects on neighbors, as well. Siren noise is not expected to have a significant impact on campground activities and neighboring residences because sirens would not be activated under normal emergency operations until reaching the highway/campground intersection. The aesthetics of living next to a campground would be improved over those expected in Alternative 2 because the main roadway (and subsequent increased activity) is located on the interior of the campground.

Impacts to the William Kent day use beach area are the same as Alternative 2 and may result in a reduction in flat areas for picnic use.

Table 3-1 Number of camping spurs for each alternative by size and type.

Alternative	12' w¹ x 25' l²	20' w x 60' l	16' w x 60' l	16' w x 40' l
Alt 1	95	0	0	0
Alt 2	0	5 utility	43 utility	33 non-utility
Alt 3	0	5 utility	13 utility	31 non-utility, 32 utility

¹width, ²length**Direct and Indirect Effects from Construction common to Alternative 2 and 3**

The noises that would be generated from the campground construction would come from asphalt grinding machines, dump trucks, and heavy rolling equipment. Road construction noise would be heard by campers and nearby neighbors during the construction period. The campground usually does not reach capacity until the 4th of July weekend. Many of the neighboring homes serve as vacation homes and are not often occupied until early summer. The project can be phased to produce as little impact as possible on campground operations, the neighbors, and the recreating public.

The permit holder may experience a loss of revenue if the whole or sections of the campground is closed during any of the construction periods. Some campers may avoid William Kent due to construction activities. Campers would be notified of the status of construction activities when they make reservations and prior to their decision to select William Kent. The permit holder may also be impacted by having to manage visitors around construction zones. Information about the construction would be added to the online registration system, as well as at the kiosk.

Construction of the administrative building would span at least one entire calendar year. Ground-disturbing activities would be limited to the grading season (May 1 to October 15), but non-ground disturbing activities may continue outside of this period. Noises associated with construction of the administrative building would be typical building construction noises.

3.1.4 Cumulative Effects

Cumulative recreation impacts from this project would be represented by the number of campsites lost from this and other projects in the Lake Tahoe Basin Management Unit. No other non-Forest Service reductions in available campsites are known at this time.

Using a geographical area based on a 30 minute drive in each direction from William Kent, this project would reduce the number campsites by 14 units and 70 PAOTs, which represents only a 6% reduction in this geographical area. This project would, in turn, increase the quality of the camping experience in this region by upgrading the campground and providing improvements to meet changing user needs (e.g. showers, larger campsites and electric utility hookups).

When looking at the entire Lake Tahoe Basin Management Unit, there are cumulative losses to the number of campsites from the Camp Richardson Campground and Vehicle Circulation BMP Retrofit Project. This project is still in the planning stages and is anticipated to result in a decrease of campsites over the range of alternatives. The reduction in campsites from the Camp Richardson BMP Project and the William Kent BMP Project represent a loss of campsites currently available in the Lake Tahoe Basin in Forest Service campgrounds and resorts. The PAOT capacity of these campgrounds is reached only on a few weekends during the summer months. It is not anticipated that the loss in PAOTs will result in a loss of the ability to camp in the Lake Tahoe Basin or negatively affect the range of camping experiences available to the public. For these reasons this project does not contribute to significant negative cumulative effects due to decreased numbers of campsites. Water Quality improvements to the William Kent day use beach area would not decrease the public's ability to access Lake Tahoe.

3.1.5 Analytical Conclusions

Alternative 1 - No Action:

The result of not installing BMP's and removing the roadway from the SEZ would allow the campground to continue as it is currently operating with the associated resource damage. This action prolongs the period that the recreation site is managed below resource sustainability standards. Campsites would continue to be too small for the larger camping vehicles and the restrooms would remain non-universally accessible and in poor condition. Some campsites would remain close to the fence line and residences. Traffic stacking up onto Hwy 89 during busy periods would continue, as well as the perpetuation of confusing circulation within the campground.

Alternative 2 - Proposed Action:

Alternative 2 would bring the recreation sites up to resource sustainability standards by improving the circulation, accessibility, and quality of the recreation experience. Though the proposed action represents a net loss of 14 campsites available to the public, it provides improved campsite accessibility, showers, yurts and electric hook-ups. Providing amenities requested by the public would increase the overall desirability of the campground and encourage more visitors to use the facility in the early and late seasons. The new administrative center is not anticipated to negatively impact the permittee's operations, the overall campground economic viability, or the overall visitor experience. The proposed roadway/kiosk reconfigurations and administrative building location near the northern campground boundary would result in the neighbors along the northern boundary experiencing more vehicle movement, noise and headlights than they currently experience.

Alternative 3 - Alternative Action:

Alternative 3 would bring the recreation sites up to resource sustainability standards, and would have fewer impacts to visitors and neighbors than Alternative 2. By constructing the Administrative site to the south of the entrance road, the closest campsites would become more modified and less rustic. The overall camping experience in the campsites adjacent to the Administrative site would be less of a forested experience than in the past.

This Alternative should have fewer impacts to neighbors on the northern boundary than Alternative 2. This would be a result of relocating the 2-way road through the center of the campground and moving campsites away from the edges of the property. This would lessen campsites proximity to neighbors and minimize potential conflicts.

3.2 Wildlife Resources

3.2.1 Introduction

This section discloses the existing conditions and potential effects of the three alternatives on 1) species and their habitats listed as endangered, threatened, or proposed under the Endangered Species Act of 1973 as amended (ESA); 2) species designated as sensitive by the Regional Forester in Region 5; 3) habitats designated for Management Indicator Species (MIS) for the Lake Tahoe Basin Management Unit (MIS Report); and 4) wildlife and fisheries threshold standards as designated by the TRPA. This discussion is based on the Biological Assessment/Biological Evaluation (BA/BE) for Aquatic and Terrestrial Species Report (Project Record Document E-5), the MIS Report (Project Record Document E-9), and the TRPA Project Impact Analysis (Project Record Document E-6).

The existing condition of forest vegetation and the changes that would likely occur as a result of the proposed alternatives, as they relate to wildlife habitat suitability, are quantified using the California Wildlife Habitat Relationship (CWHR) personal computer program developed by California Department of Fish and Game (2005) and by field visits to the site collected prior to January 31, 2011. The CWHR program describes vegetation conditions through metrics such as tree size classes and canopy closure and functions as a predictive model of habitat suitability for wildlife species. Habitat suitability within each vegetation type is ranked as 0.0 (not suitable), 0.33 (low), 0.66 (moderate), or 1.0 (highly suitable) for each wildlife species. Changes in vegetation condition are therefore correlated to changes in habitat suitability. This correlation provides a useful tool to estimate the direction and magnitude of changes in wildlife habitat suitability caused by changes in vegetation condition.

3.2.2 Existing Condition

The CWHR program classifies the vegetation community within the William Kent campground as white fir and sagebrush. Vegetation communities within 0.5 miles of the campground include mid seral coniferous and lacustrine or lake. The open canopy white fir forest is extremely thick, with 44% canopy cover, 16 inches mean diameter at breast height, and consists of white fir, Jeffery pine, huckleberry oak, and Coulter pine. Shrubs include sagebrush and green leaf Manzanita. Herbaceous understory is sparse.

In general, the William Kent campground is considered unsuitable habitat for wildlife species because it is an urban campground that is surrounded by residential housing and is highly and frequently disturbed by intense recreational use.

Black bears frequently travel from north to south through the campground. The bears travel the same routes and often knock down the fence in attempt to pass through the campground. Human-bear interactions in the past have resulted in trapping and relocation of individuals.

Special Status Wildlife

The U.S. Forest Service's wildlife sensitive species are listed according to the Pacific Southwest Region's list as of 1988, which was most recently amended on October 15,

2007. These are the most current versions for the LTBMU. There is no proposed or designated critical habitat for federally listed species on the LTBMU. Table 3-2 below summarizes the distribution, habitat requirements, potential for occurrence, and rationale for exclusion or inclusion in the effects analysis.

Table 3-3. Special status wildlife distribution, habitat, and occurrence

Wildlife (genus and species)	Legal status ¹	Distribution	Suitable habitat in project area	Known to occur in project area ²	Comments
Birds					
Bald eagle (<i>Haliaeetus leucocephalus</i>)	D, S, SI, MB	Occurs throughout California. Nests in dense forest with supercanopy trees within one mile of large lakes with abundant fish prey.	Yes	no	Suitable habitat along the shore of Lake Tahoe. No bald eagles were detected during 2009 and 2010 surveys. The nearest nest is 12 miles southeast of the project area.
Northern goshawk (<i>Accipiter gentiles</i>)	S, SI	Occurs in the north Coast Ranges, Sierra Nevada, Klamath, Cascade, Warner, San Jacinto, and San Bernardino Mountains. Found in older-age coniferous, mixed conifer, and deciduous forest habitats at mid to high elevations during breeding season.	Yes	no	Forested portions of the project area are potential habitat for this species. No protocol-level surveys were completed during 2009 and 2010, because William Kent is a fragmented patch of habitat in an urban neighborhood, and no major tree removal is planned. The nearest detection is 0.6 mile north. 1.6 miles south to the East Blackwood PAC, with an active nest in 1981. Forested areas may be used for foraging, but human disturbance and road traffic makes nesting unlikely.
California spotted owl (<i>Strix occidentalis occidentalis</i>)	S, MIS, MB	Species occurs from the southern Cascades in Shasta County south through the Sierra Nevada into the mountains of southern California, and in the central Coast Ranges as far north as Monterey County. Usually found in old, dense, and layered mixed conifer forest. Also found in riparian/hardwood, ponderosa pine/hardwood, red fir, and east side pine forest.	Yes	no	Forested portions of the project area are potential habitat for this species. No protocol-level surveys were completed during 2009 and 2010, because William Kent is a fragmented patch of low quality mid seral habitat surrounded by an urban neighborhood, and no major tree removal is planned. The nearest detection is 0.8 mile north of the project area, 0.9 mile northwest to the Page Meadow East PAC, with no known active nest. Forested areas may be used for foraging, but human disturbance and road traffic makes nesting unlikely.

Wildlife (genus and species)	Legal status ¹	Distribution	Suitable habitat in project area	Known to occur in project area ²	Comments
Great gray owl (<i>Strix nebulosa</i>)	S	Found in the Sierra Nevada from Plumas County south into the southern Sierra Nevada. Nest in mature mixed conifer, red fir, or lodgepole pine forests within 600 feet of large meadow openings greater than 10 acres.	No	no	There is no suitable habitat for this species in or adjacent to the project area. Not known to occur in the Lake Tahoe Basin. The nearest detection is 30 miles south of the project area near Carson Pass.
Willow flycatcher (<i>Empidonax traillii</i>)	S, MB	A near arctic-neotropical migrant that breeds across North America and winters in Mexico to northern South America. In the Sierra Nevada, the species occurs in wet meadow and montane riparian habitats larger than 15 acres. Nest in dense willow thickets, with standing or running water on June 1.	No	no	There is no suitable habitat for this species in or adjacent to the project area. The nearest detection is 2 miles west of the project area.
Mammals					
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	S	Found throughout California in arid western desert scrub and pine forest regions. Strongly associated with caves, mines, tunnels, or rocky outcrops near wetlands or forest edges with moths. Occasionally found in old, abandoned buildings and other manmade structures.	No	no	There is no suitable roosting habitat for this species in or adjacent to the project area. This species may forage in the project area. The nearest documented occurrence is 11 miles east of the project area.

Wildlife (genus and species)	Legal status ¹	Distribution	Suitable habitat in project area	Known to occur in project area ²	Comments
American marten (<i>Martes americana</i>)	S, MIS	In California, this species occurs in the North Coast regions, Sierra Nevada, Klamath, and Cascade Mountains. The subspecies, Sierra marten, is found in dense late successional coniferous forest with snags, down logs, debris piles, and abundant squirrel prey. Usually found in mature red/white fir mix, lodgepole pine, and Sierran mixed conifer. Also found in montane hardwood-conifer, aspen, and red fir.	No	no	There is no suitable habitat for this species in or adjacent to the project area. The nearest detection is 0.7 mile north of the project area, but the residential neighborhood is considered a barrier to marten movement. The campground is mid successional white fir, and lacks abundant snags, down logs, debris piles, and abundant squirrel prey.
California wolverine (<i>Gulo gulo luteus</i>)	S	This species historically occurred throughout the Sierra Nevada and the North Coast Mountains. In the Sierra Nevada the species has historically occurred in a variety of habitats, including red fir, mixed conifer, lodgepole pine, sub-alpine conifer, alpine dwarf-shrub, barren, wet meadows, montane chaparral, and Jeffrey pine. The species has a large home range, and usually avoids areas of human disturbance.	No	no	There is no suitable habitat for this species in or adjacent to the project area. Species has not been documented in the Lake Tahoe Basin (CDFG, 2011).

Wildlife (genus and species)	Legal status ¹	Distribution	Suitable habitat in project area	Known to occur in project area ²	Comments
Sierra Nevada red fox (<i>Vulpes vulpes necator</i>)	S	Historically found across the Sierra Nevada. Currently known to occur in Lassen National Park. Detected in 2010 at Sonora Pass in the Toiyabe National Forest. Found in lodgepole pine, red fir, sub-alpine conifer, and alpine dwarf shrub with interspersed meadows or alpine fell-fields over 7,000 feet.	No	no	There is no suitable habitat for this species in or adjacent to the project area. Species has not been documented in the Lake Tahoe Basin and usually avoids areas of human disturbance (Perrine et al., 2010)
Amphibians					
Sierra Nevada (mountain) yellow-legged frog (<i>Rana sierra muscosa</i>)	C, S	Found in the Sierras between 4,500 and 12,000 feet elevation in streams, lakes, and ponds in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. Usually utilize open, gently sloping areas along aquatic habitats within a short distance of pools with refugia such as rocks, undercut banks, woody debris, and vegetation.	No	no	There is no suitable habitat for this species in or adjacent to the project area; habitat contains predatory trout that feed on frog tadpoles. Yellow-legged frogs have been extensively surveyed for in the Lake Tahoe Basin, and are currently known at one location 24 miles southeast of the project area.
Northern leopard frog (<i>Rana pipiens</i>)	S	Species occurs sporadically in California, and may mostly be introduced populations. Historic occurrences in the Lake Tahoe Basin are thought to be introductions from Nevada. Found in riverine and wet meadow habitat.	No	no	There are historic occurrences from Fallen Leaf Lake, Taylor Creek, and near William Kent (CNDDDB 2011). The LTBMU has conducted extensive amphibian surveys in streams, lakes, ponds, and meadows around the lake and have never located a northern leopard frog.

Wildlife (genus and species)	Legal status ¹	Distribution	Suitable habitat in project area	Known to occur in project area ²	Comments
Fish					
Lahontan Lake tui chub (<i>Gila bicolor pectinifer</i>)	S	Found in Lake Tahoe, Pyramid Lake, and Walker Lakes. Species occurs in large, deep lakes. Spawns in shallow water with aquatic vegetation.	Yes	no	Species is known to occur in Lake Tahoe, but not within 0.5 mile of the project area. No direct effects anticipated and indirect effects would be avoided through BMPs.
Lahontan cutthroat trout (<i>Oncorhynchus clarkii henshawi</i>)	T, SI	Found in lakes and streams, including Fallen Leaf Lake, Pyramid Lake, Walker Lake, Independence Lake, Summit Lake, and associated tributaries.	No	no	Extirpated from Lake Tahoe by 1939 because of predation by non-native trout, hybridization, overfishing, and siltation of spawning streams. No direct effects anticipated and indirect effects would be avoided through BMPs.
Aquatic invertebrates					
Great Basin rams-horn (<i>Helisoma newberryi newberryi</i>)	S	Currently found in and around the periphery of the northern Great Basin. Also found in Shasta and Lassen Counties of California. Known populations in the lower Truckee River. Found in cold and highly oxygenated water, large spring complexes, large lakes, and slow rivers with soft sediments and a muddy substrate.	Yes	no	Lake Tahoe may provide habitat for this species, but the project area is outside its known range. No direct effects anticipated because there is no project work in the lake, and indirect effects would be avoided through BMPs. BMPs in the SEZ would improve water quality, riparian, and aquatic habitat.

¹Legal status:

- E = Endangered species listed by the USFWS under the Endangered Species Act.
- T = Threatened species listed by the USFWS under the Endangered Species Act. The Delta smelt and Central Valley steelhead are threatened species for the LTBMU. The LTBMU is outside the current and historical range of these species, and would not be affected by this project.
- C = Candidate species for federal listing by the USFWS under the Endangered Species Act. The American wolverine, Pacific fisher, and Yosemite toad are candidate species for the LTBMU. An American wolverine was detected on the adjacent Tahoe National Forest in 2008 using bait stations with motion triggered cameras. DNA analysis concluded that the male originated from the Sawtooth Mountains in Idaho. A female American wolverine has not yet been detected. The LTBMU is outside the current and historical range of these species, and would not be affected by this project. No federally listed wildlife species would require technical assistance from the USFWS.
- D = Delisted species by the USFWS under the Endangered Species Act. Species would be monitored for 5 years.
- S = Sensitive species listed by Region 5, US Forest Service. Regional Forester sensitive species list was revised on October 15, 2007.
- MIS = Management indicator species listed by Region 5, US Forest Service. Sierra Nevada MIS amendment on December 14, 2007.
- SI = Special interest species listed by the TRPA. Regional plan of Lake Tahoe Basin, code of ordinances, 1987.
- MB = Migratory bird.

² Known to occur in or within 0.5 mile of the project area to account for potential direct and indirect effects according to TRPA guidelines.

Management Indicator Species

Management Indicator Species (MIS) for the LTBMU are identified in the 2007 SNF MIS Amendment (USDA Forest Service 2007a). Habitats, ecosystem components, and MIS to analyze for this project were selected from this list of MIS in Table 1. The table identifies the habitat or ecosystem component, the CWHR types defining each habitat or ecosystem component, the associated MIS, and whether or not the habitat of the MIS is affected by the project.

Table 3-4. Selection of MIS for project-level analysis

Habitat or ecosystem component	California wildlife habitat relationship types which define the habitat component ¹	Sierra Nevada Forests management indicator species	Analysis category ²
Riverine & lacustrine	Riverine, and lacustrine or lake.	Aquatic macroinvertebrates ³	2
Riparian	Montane riparian, and valley foothill riparian.	Yellow warbler (<i>Dendroica petechia</i>)	3
Wet meadow	Wet meadow, freshwater emergent wetland.	Pacific tree frog (<i>Pseudacris regilla</i>)	1
Early seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree sizes 1, 2, and 3. All canopy closures.	Mountain quail (<i>Oreortyx pictus</i>)	1
Mid seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 4. All canopy closures.	Mountain quail (<i>Oreortyx pictus</i>)	3
Late seral open canopy coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 5. Sparse and open canopy.	Blue grouse (<i>Dendragapus obscurus</i>)	1
Late seral closed canopy coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, and red fir. Tree size 5 (moderate and dense canopy) and 6.	California spotted owl (<i>Strix occidentalis occidentalis</i>)	1
		American marten (<i>Martes americana</i>)	
		Northern flying squirrel (<i>Glaucomys sabrinus</i>)	
Snags in green forest	Medium and large snags in green forest.	Hairy woodpecker (<i>Picoides villosus</i>)	2
Snags in burned forest	Medium and large snags in forest burned by a stand-replacing fire.	Black-backed woodpecker (<i>Picoides arcticus</i>)	1

¹ All California wildlife habitat relationship size classes and canopy closures are included (Mayer and Laudenslayer, 1988). DBH = diameter at breast height. Tree size classes and canopy closure classifications are:

1 = seedling less than 1" DBH.

2 = sapling from 1" to 5.9" DBH.

3 = pole from 6" to 10.9" DBH.

4 = small tree from 11" to 23.9" DBH.

5 = medium to large tree over 24" DBH.

6 = multi-layered tree in pine and Sierran mixed conifer.

S = sparse cover, 10% to 24% canopy

P = open cover, 25% to 39% canopy

M = moderate cover, 40% to 59% canopy

D = dense cover, 60% to 100% canopy

² Category of management indicator species habitat for project analysis:

1 = habitat is not in or adjacent to the project area, and would not be affected by the project.

2 = habitat is in or adjacent to project area, but would not be directly or indirectly affected by the project. Habitat would be buffered or fenced off, there would be no reduction in acres of forest or understory shrub cover, or there would be no removal of designated nest trees, perch trees, or down woody debris.

3 = habitat would be directly or indirectly affected by the project.

³ Aquatic macroinvertebrates include worms, clams, snails, shrimp, crayfish, mayflies, caddisflies, stoneflies, diving beetles, and other invertebrates that are highly sensitive to changes in water quality and condition of aquatic habitat. Gravel and cobble substrates provide interstitial spaces that trap organic particles, habitat for aquatic macroinvertebrates, and prey for fish and riparian birds. The index of biotic integrity was last monitored at 17 sites in the Lake Tahoe Basin from 2000-2001. The ratio of observed to expected macroinvertebrate species = 0.89, which is a very good score of aquatic sensitive species richness (Sierra Nevada Forests bioregional management indicator species report, January 2008). The management indicator species list was last revised in August 2006.

Migratory Birds

In late 2008, a *Memorandum of Understanding between the USDA Forest Service and the USDI Fish and Wildlife Service to Promote the Conservation of Migratory Birds* was signed. The intent of the MOU is to strengthen migratory bird conservation through enhanced collaboration and cooperation between the Forest Service and the Fish and Wildlife Service as well as other federal, state, tribal and local governments. Within the National Forests, conservation of migratory birds focuses on providing a diversity of habitat conditions at multiple spatial scales, and ensuring that bird conservation is addressed when planning for land management activities.

3.2.3 Direct and Indirect Effects

Alternative 1 - No Action

There are no known special status wildlife species currently present on the site, but suitable habitat for multiple species does exist. There would be no change to the habitat, timing of nesting, denning, or foraging for special status species, migratory birds, or waterfowl. Existing sediment levels contributed by hill slope and channel bank erosion would not measurably change. Shade provided by riparian vegetation along stream reaches would not change. There would be no change in stream temperatures and no effect on any aquatic species. There would be no reduction in impervious coverage within the SEZ. Black bear would continue to knock over the perimeter fence on their migratory paths.

Alternative 2 - Proposed Action

There are no known special status wildlife species currently present on the site, but suitable habitat for multiple species does exist. Special status wildlife may be temporarily disturbed by construction during the breeding season. LOPs for special status wildlife species would be implemented as necessary unless surveys confirm that special status wildlife species are not nesting. Project activities could alter the timing of nesting, denning, and foraging. However, the scale of this reduction is small, and design features and mitigation measures would reduce both direct and indirect impacts. Direct effects during construction may include short term displacement of migratory bird individuals to suitable habitat adjacent to the project area. Short term displacement would not cause any substantial negative impacts to wildlife species. Disturbance from the project activity would not be greater than disturbance from existing road traffic, commercial, residential, and recreational activity.

Direct effects to individual waterfowl may occur during construction. Disturbance from the project activity is not greater than disturbance from existing road traffic,

commercial, residential, and recreational activity. There is a minor potential for disturbance to individuals during construction but improved habitat conditions in the long term.

Tree removal associated with construction activities would increase soil moisture, improve resistance to drought, disease, and insects; decrease competition, allow big trees to grow faster, enhance habitat quality for species that prefer a more open understory, and protect wildlife habitat by developing stands that are more resistant to catastrophic wildfires.

Indirect effects after construction include an initial reduction in canopy cover as some trees are removed during campground reconfiguration, followed by improved habitat conditions over the long term. Old forest characteristics that are lacking include a multilayered canopy, species diversity, structural complexity, abundant snags, and large amount of down woody debris. Late successional habitat characteristics would be accelerated. Compacted soil and areas of disturbance would be reduced, and vegetative diversity would be improved.

Alternative 3 - Alternative Action

Effects to special status wildlife, migratory birds, and waterfowl would be to the same as Alternative 2. Riparian habitat would be enhanced to a greater degree under this alternative because impervious coverage in the SEZ would be reduced by 90% from 0.6 acres to 0.06 acres in the campground area.

3.2.4 Cumulative Effects

Alternative 1

Current management including past, present, and reasonably foreseeable actions on all ownerships would cause very little change in sedimentation, stream shade, and water temperature. No cumulative effects would result from the No Action alternative, because current conditions in the project area would continue.

Alternative 2

Projects considered include the Sierra Pacific power line upgrade Environmental Impact Statement (EIS), and the Carnelian fuels reduction and healthy forest restoration Environmental Assessment (EA). Phased construction over more than one construction season would keep the campground open during the summer, would reduce the disturbed area at any one time, and would allow individuals to find refuge in adjacent suitable habitat.

No cumulative effects to waterfowl or their population sites are expected as the result of the incremental impact of the proposed action when added to other past, present, or reasonably foreseeable future actions, because of the limited scope and anticipated impacts of the project.

The proposed action when combined with past, present, and reasonably foreseeable future actions are not expected to have a cumulative effect to migratory birds, because effects to survival are unlikely, and because effects to reproduction are not expected. The suitability of migratory bird habitat would increase in the long term, because soil decompaction would increase the prey base.

Alternative 3

Cumulative effects to special status wildlife, migratory birds, and waterfowl would be similar to Alternative 2. Riparian habitat would be enhanced to a greater degree under this alternative because impervious coverage in the SEZ would be reduced by 90% from 0.6 acres to 0.06 acres in the campground area.

3.2.5 Analytical Conclusions

The following determinations were found based on the description of the proposed alternatives and the analysis considered. The No Action Alternative would have **no effect** on all special status wildlife species, because current conditions in the project area would continue. The Proposed Action and Alternative Action would have **no effect** on the **great gray owl, willow flycatcher, Townsend's big-eared bat, American marten, Sierra Nevada red fox, California wolverine, Sierra Nevada (mountain) yellow-legged frog, northern leopard frog, Lahontan Lake tui chub, Lahontan cutthroat trout, and Great Basin rams-horn**, because the proposed action is outside the current range of these species or because there is no suitable habitat in or within 0.5 miles of the project area. The Proposed Action and Action Alternative of the William Kent Project **may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability** for the **bald eagle, northern goshawk, and California spotted owl**.

The project **would not affect riverine and lacustrine habitat, wet meadow, early seral coniferous forest, late seral open canopy coniferous forest, late seral closed canopy coniferous forest, snags in green forest, and snags in burned forest MIS habitat**. The William Kent BMP project would affect **riparian and mid seral coniferous forest MIS habitat, but these effects would be less than significant**.

The proposed action will have no effect, or will not likely adversely affect migratory landbird species.

The project **Will Not Affect** the golden eagle, peregrine falcon, mule deer, Lahontan cutthroat trout, lake habitat, stream habitat, and instream flow. The William Kent BMP project **May Affect** the northern goshawk, osprey, bald eagle, and waterfowl.

3.3 Botanical Resources

3.3.1 Introduction

The most recent species list for the LTBMU was obtained from the US Fish and Wildlife Service (USFWS) Sacramento Fish and Wildlife Office website on March 11, 2011, which had been updated on April 29, 2010. This list fulfills the requirements of the USFWS to provide a current species list pursuant to section 7 of the Endangered Species Act (ESA). The LTBMU does not currently support any plant species listed as threatened or endangered under the ESA; however, *Rorippa subumbellata* (Tahoe yellow cress), a candidate species for listing, does occur on lands administered by the LTBMU, but there is no population in the vicinity of the proposed project.

A pre-field review of existing information from the LTBMU flora atlases and available GIS coverages was performed to evaluate the extent of potential habitat and known populations of sensitive plants within the proposed project areas.

Botanical surveys conducted in July 2006 in proposed project areas focus on species with potential habitat; however, surveys are floristic in nature and attempts are made to identify all plants encountered in the field. Many species have specific habitat preferences (such as wet meadows, fens, granite scree), and botanists search for these as well as their constituent species.

3.3.2 Existing Condition

There is pebble-size rocky habitat on the beach area, which is limited suitable habitat for Tahoe yellow cress. The campground campsite loop road has an overstory of *Pinus jeffreyi* (Jeffrey pine), *Abies concolor* (white fir), and *Calocedrus decurrens* (incense cedar). The shrub layer consists of *Arctostaphylos patula* (Greenleaf Manzanita), *Ceanothus cordulatus* (mountain whitethorn), *Ceanothus prostratus* (Squaw carpet), *Prunus emarginata* (bitter cherry), and *Salix scouleriana* (Scouler's willow). There is a seasonal rain runoff SEZ running through the middle of the campground with a lot of forbs (herbaceous plants) and graminoids (grasses). There are sections dominated by herbaceous layer of *Artemisia douglasiana* (Douglas' sagewort), *Lotus nevadensis* (Nevada's bird's-foot trefoil), and *Wyethia mollis* (woolly mule's ear). Species are diverse near the stream channel and less diverse away from it.

The William Kent Campground and administrative site was surveyed by the LTBMU Botany Department for sensitive plants and noxious weeds in July 2006. No sensitive species were located at that time. However, this survey expired July, 2011, and the project area would be resurveyed prior to project implementation. Any sensitive species found would be flagged and avoided. No sensitive species habitat other than *Hulsea brevifolia*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lewisia kelloggii* ssp. *kelloggii*, and *Rorippa subumbellata* occur in the project area. No noxious weeds were found on the site, however there are St. Johns Wort and bull thistle infestations adjacent to the project area.

Table 3-3 lists all candidate and sensitive plant and fungi species that are known to occur or have potential to occur on the LTBMU as of March 2011. No other

threatened, endangered, proposed, or sensitive plant species have known occurrences or potential habitat on the LTBMU. Species that do not have potential habitat in the project area, based on the reasons given in Table 3-3, are not further analyzed in this document.

Table 3-5. Candidate and sensitive plant and fungi species with potential habitat in the proposed project area and are known or suspected to occur on the LTBMU.

Species	Legal Status ¹	Suitable habitat in project area	Known to occur in project area	Distribution and Comments
Galena Creek rock cress (<i>Arabis rigidissima</i> var. <i>demota</i>)	S	No	No	Species is found in open, rocky areas along forest edges of conifer and/or aspen stands. Usually found on northerly aspects above 7,500 feet (ft). Project is below elevational habitat.
Tiehm's rock cress (<i>Arabis tiehmii</i>)	S	No	No	Species is known from open rocky soils in the Mt. Rose Wilderness. No rocky outcrops in the project area.
Upswept moonwort (<i>Botrychium ascendens</i>)	S	No	No	<i>Botrychium</i> species share similar preferences in habitat, i.e. wet or moist soils such as marshes, meadows, and along the edges of lakes and streams at elevations between 4,700 and 9,000 ft. They generally occur with mosses, grasses, sedges, rushes, and other riparian vegetation. SEZ is present in the project area but no suitable habitat was detected during the 2006 survey.
Scalloped moonwort (<i>Botrychium crenulatum</i>)	S	No	No	See <i>Botrychium ascendens</i>
Slender moonwort (<i>Botrychium lineare</i>)	S	No	No	See <i>Botrychium ascendens</i>
Common moonwort (<i>Botrychium lunaria</i>)	S	No	No	See <i>Botrychium ascendens</i>
Mingan moonwort (<i>Botrychium minganense</i>)	S	No	No	See <i>Botrychium ascendens</i>
Western goblin (<i>Botrychium montanum</i>)	S	No	No	See <i>Botrychium ascendens</i>
Bolander's candle moss (<i>Bruchia bolanderi</i>)	S	No	No	Montane meadows and stream banks are favored habitat. This moss tends to grow on bare, slightly eroding soil where there is little competition from other vegetation. The eroded banks are too dry for potential habitat for this species. Erosion may be too extreme.

Species	Legal Status ¹	Suitable habitat in project area	Known to occur in project area	Distribution and Comments
Branched collybia (<i>Dendrocollybia racemosa</i>)	S	No	No	This species is a mycoparasite growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually within old growth stands. There are no areas with coniferous duff in old growth.
Tahoe draba (<i>Draba asterophora</i> var. <i>asterophora</i>)	S, SI	No	No	Species is found in rock crevices and open granite talus slopes at high elevations between 8,000 to 10,200 ft on north-east facing slopes. Outside elevation, species was not seen during 2006 surveys.
Cup Lake draba (<i>Draba asterophora</i> var. <i>macrocarpa</i>)	S, SI	No	No	This species is found on steep, gravelly or rocky slopes at elevations of 8,400 to 9,235 ft. Outside elevation, species was not seen during 2006 surveys.
Subalpine fireweed (<i>Epilobium howellii</i>)	S	No	No	Plants are known from wet meadows and mossy seeps at 6,500 to 9,000 ft in subalpine coniferous forest. No meadows or seeps in project area.
Starved daisy (<i>Erigeron miser</i>)	S	No	No	Plants are known from high elevation granitic rock outcrops above 6,000 ft. No rocky outcrops in the project area.
Torrey's or Donner Pass buckwheat (<i>Eriogonum umbellatum</i> var. <i>torreyanum</i>)	S	No	No	This species grows in dry gravelly or stony sites, often on harsh exposures such as ridge tops or steep slopes. Project area is outside ridge top or steep slopes.
Blandow's bog-moss (<i>Helodium blandowii</i>)	S	No	No	Habitat for this moss is in bogs and fens, wet meadows, and along streams under willows. There are no fens, bogs, or wet meadows in project area.
Short-leaved hulsea (<i>Hulsea brevifolia</i>)	S	Yes	No	This species is known primarily from red fir forests, but has also been found in mixed conifer forests. The elevational range of the plant is between 4,920 ft to 8,860 ft. The project area is a campground surrounded by a neighborhood. Conifer forest is sparse in the area.
Kellogg's lewisia (<i>Lewisia kelloggii</i> ssp. <i>Hutchisonii</i>)	S	Yes	No	Habitat for this plant occurs on ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil from about 5,000 to 7,000 ft. Project area was determined suitable during 2006 survey.
Kellogg's lewisia (<i>Lewisia kelloggii</i> ssp. <i>Kelloggii</i>)	S	Yes	No	See <i>Lewisia kelloggii</i> ssp. <i>Hutchisonii</i>

Species	Legal Status ¹	Suitable habitat in project area	Known to occur in project area	Distribution and Comments
Long-petaled lewisia (<i>Lewisia longipetala</i>)	S, SI	No	No	This species occurs on the northerly exposures on slopes and ridge tops at elevations between 8,000 and 12,500 ft where snow banks persist throughout the summer. The plants are often found near the margins of the snow banks in wet soils. The project area is not found in areas where late snow persists.
Three-ranked hump-moss (<i>Meesia triquetra</i>)	S	No	No	This moss prefers bogs and fen habitats, but is also found in very wet meadows. There are no fens, bogs, or wet meadows in project area.
Broad-nerved hump-moss (<i>Meesia uliginosa</i>)	S	No	No	This moss prefers bogs and fen habitats, but is also found in very wet meadows. There are no fens, bogs, or wet meadows in project area.
Veined water lichen (<i>Peltigera hydrothyria</i>)	S	No	No	This species is found in cold unpolluted streams in mixed conifer forests. Dry stream in project area is result of drainage from neighborhood.
Tahoe yellow cress (<i>Rorippa subumbellata</i>)	C, S, SI	Yes	No	This species is endemic to the shorezone around Lake Tahoe in CA and NV. Typically found in back beach areas between elevations of 6,223 and 6,230 ft. Habitat present.

^aStatus explanations

- No species in LTBMU are currently listed as “Endangered” by USFWS under ESA
- C = USFWS Candidate species for listing as threatened or endangered under ESA
- S = USFS LTBMU Sensitive Species, Regional Forester’s Sensitive Species List, Amended 2006
- SI = TRPA Special Interest Species, Regional Plan for the LTBMU: Goals and Policies (1986) and Code of Ordinances (1987)

3.3.3 Direct and Indirect Effects

Alternative 1 - No Action

There are no sensitive plants within the footprint of the proposed project. Therefore, no direct effects are anticipated from the No Action Alternative.

The following species may experience indirect insignificant effects from Alternative 1: *Hulsea brevifolia*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lewisia kelloggii* ssp. *kelloggii* and *Rorippa subumbellata*

Indirect insignificant effects may occur as a result of “No Action” alternative within the proposed project area. It is anticipated that erosion of the stream channel would continue and damage to native soils from vehicles will continue to occur in the campground area. Any sensitive plants found within SEZ ecosystems may be impacted through habitat loss resulting from decreased soil moisture due to loss of topsoil to erosion. There may also be an increase in growth and density of the existing

shrub layer across the landscape. All these combined factors can result in the loss of potential habitat for all sensitive species with suitable habitat within the project area by decreasing the amount of available suitable acreage. This may occur in forest, meadow, riparian, and shrub dominated areas.

There are no known noxious weed sites on the site; however there is always a certain level of risk of introduction. The risk of introduction of noxious weeds to the site would not change under this alternative.

Alternative 2 - Proposed Action

There are no sensitive plants within the footprint of the proposed project. Therefore, no direct effects are anticipated from implementation of the proposed project.

Indirect effects include impacts on sensitive plant species habitat. It is anticipated that project activities would increase the vegetation health on the site, however there is also an increase in potential noxious weed invasions and subsequent changes in vegetation structure as a result of project implementation. There are no known noxious weed sites known on the site, but there are known noxious weed sites in the vicinity of the project area. Standard noxious weed management requirements would be used during project implementation, greatly minimizing the risk of noxious weed establishment or spread. (see William Kent Campground BMP Retrofit and Administrative Site Redevelopment Noxious Weeds Risk Assessment Summary).

Alternative 3 - Alternative Action

Direct and indirect effects for Alternative 3 would be to the same as Alternative 2.

3.3.4 Cumulative Effects

Alternative 1

Alternative 1 does not result in an increase in negative cumulative effects on the site. The existing resource damage and vegetation health issues would continue to contribute to an overall reduction in suitable habitat for sensitive plant species in the area around William Kent.

Alternative 2 and Alternative 3

It is anticipated that project activities would increase the vegetation health on the site, contributing positively to cumulative effects from other projects where vegetation is improved. However, disturbing the site increases the risk of colonization by invasive species, which could contribute negatively to the control of noxious weed populations in the area.

Noxious weed invasion can result in negative impacts to all ecosystems, although different habitats may be invaded by different noxious weed species. Noxious weed infestations can lead to changes in habitat characteristics that are detrimental to sensitive plant species. Once weeds have become established they can indirectly impact sensitive species through allelopathy (the production and release of chemical compounds that inhibit the growth of other plants), altering fire regimes, and competing for nutrients, light, and water. Because noxious weeds can be difficult to control or eradicate, weed control efforts that must be conducted on a regular basis, such as hand-pulling, digging, or use of herbicides could also negatively impact

sensitive plants. The risk of the spread of noxious weeds from project activities is considered moderate and it is anticipated that the project design features would ensure project activities would have a less than significant effect on the cumulative effects from noxious weeds.

3.3.5 Analytical Conclusions

Based on the description of the proposed action and the evaluation contained herein, it is the determination that the proposed project alternatives would not have a significant effect on botanical resources and that the project:

1. **will not affect** *Arabis rigidissima* var. *demota*, *Arabis tiehmii*, *Botrychium ascendens*, *Botrychium crenulatum*, *Botrychium lineare*, *Botrychium lunaria*, *Botrychium minganense*, *Botrychium montanum*, *Bruchia bolanderi*, *Dendrocollybia racemosa*, *Draba asterophora* var. *asterophora*, *Draba asterophora* var. *macrocarpa*, *Epilobium howellii*, *Eriogonum umbellatum* var. *torreyanum*, *Erigeron miser*, *Helodium blandowii*, *Lewisia longipetala*, *Meesia triquetra*, *Meesia uliginosa*, and *Peltigera hydrothyria*, because there is no suitable habitat for these species within the project area.
2. **may affect** individuals, but is not likely to result in a trend toward Federal listing or loss of viability for *Hulsea brevifolia*, *Lewisia kelloggii* ssp. *hutchisonii*, *Lewisia kelloggii* ssp. *kelloggii*, and *Rorippa subumbellata*. Due to the presence of suitable habitat for the above mentioned species, it is possible that isolated populations may occur within the project area and undiscovered individuals may be inadvertently affected. For this reason (potential impact to undiscovered individuals) a determination of “may impact individuals but not likely to cause a trend toward federal listing or loss of viability” has been made for these species.

The overall risk of noxious weed establishment as a result of the proposed action and alternative proposed action is moderate. This determination is based on the following:

1. There are St. Johns Wort and bull thistle infestations adjacent to the project area.
2. There will be considerable ground disturbance.
3. Design features are planned to reduce the potential spread of non-native invasives.

3.4 Scenic Resources

3.4.1 Introduction

The LTBMU Land and Resources Management Plan (LRMP) addresses visual concerns within this site. With respect to the developed recreation the plan “assure[s] an attractive and usable forest setting within and surrounding existing [developed recreation] sites” (LRMP IV-46). With respect to the administrative site, the management prescription directs the LTBMU to “make [administrative facilities] visually compatible with the surrounding setting. In some cases, administrative facilities may be combined with dispersed or developed recreation facilities” (LRMP IV-48).

Scenic Resource management on National Forest System lands in the Lake Tahoe Basin is directed by the Visual Quality Objectives (VQO) adopted in the LTBMU Land and Resource Management Plan (Forest Plan). The VQO describes objectives for maintaining different degrees of “naturally appearing” landscapes. Scenic stability is a measure of the likelihood of the valued scenic attributes of a place being perpetuated into the future. Additionally, the USFS Built Environment Image Guide (BEIG) provides direction for constructed facilities and features on National Forest System lands to ensure that they reflect the visual character and cultural identity of the landscape within which they are built. The BEIG describes the lands within the Lake Tahoe basin as belonging to the “North Pacific” design province, which includes the alpine architectural approaches and building designs that are commonly locally referred to as having “Tahoe Style”.

This analysis would consider the effects to scenic resources from the three alternatives, and would use VQO and BEIG compliance, in addition to scenic stability as the measures of effect.

3.4.2 Existing Condition

The site is consistent with the adopted Visual Quality Objective (VQO) of *Partial Retention* when viewed as middleground and *Modification* or better when viewed as foreground. The *Partial Retention* VQO allows for management activities which are visible in the landscape as long as they do not dominate the view of the naturally appearing landscape when viewed from a middleground distance of greater than one-half mile. The *Modification* VQO when viewed from a foreground distance allows for management activities, such as the construction of a campground, to be a dominant view compared to the naturally appearing setting.

The restroom buildings at the William Kent Campground and the Meeks Bay Fire Station do not meet the standards of the BEIG.

Scenic stability within this landscape is moderate. Tree density is currently high in some locations on the site, resulting in a condition in which individual trees compete for scarce resources.

Most of the campground is heavily vegetated and the campground living areas are fairly well screened. However, some campsites along the border of the campground are in close proximity to neighboring residences and the campsites currently situated

in the SEZ have less screening vegetation and feel more open. The administrative site currently contains very little screening vegetation. The William Kent House and Garage that were removed from the administrative site in 2011 were readily visible to the adjacent neighboring residences along the northern boundary. Currently there are no buildings on the administrative site and the view from the neighbors is that of parked employee vehicles and campground overflow vehicles.

3.4.3 Direct and Indirect Effects

Alternative 1 – No Action

There would be no direct effects to scenic resources resulting from the No Action alternative. Current scenic conditions within campground, administrative site, and beach area would remain consistent with the Partial Retention VQO. Scenic stability within this landscape would remain moderate. Tree density is currently high in some locations on the site, resulting in a condition in which individual trees compete for scarce resources. The valued scenic attributes of forested land may be reduced over time under the No Action alternative as individual trees become stressed under conditions such as drought or insect infestation. Flows of storm water through the ephemeral stream channel would continue to erode channel banks, undermining existing vegetation and development. The visual quality of the SEZ would continue to be negatively affected by the adjacent impervious surfaces. Negative effects to scenic stability and channel stability are considered indirect effects of the No Action alternative. The restrooms and Meeks Bay Fire Station would continue to not meet the guidelines outlined in the BEIG. The administrative site would continue to contain only an overflow parking area and no structures, and the residential neighbors would continue to be in proximity to an overflow parking area.

Alternative 2 – Proposed Action

Implementation of Alternative 2 would reduce the density of trees within the campground, however the valued scenic attribute of forested land would remain. Removal of roadway and drainage structures within the Stream Environment Zone (SEZ), and reestablishment of these areas with native plants would increase the scenic attractiveness of the area. The Proposal would result in an improvement in the visual quality of the campsite in a manner that maintains consistency with the VQO of Partial Retention. Elimination of the development and incised drainage channel within the SEZ would increase the scenic stability of the area. Additionally, the reduction in tree density within the campground is anticipated to result in individual trees with greater vigor and health compared to trees in competition for limited resources. These healthier trees may grow larger over time and may trend toward an additional valued scenic attribute of large diameter trees. These indirect effects to forested lands are considered an improvement in scenic stability as a result of this Alternative.

All of the existing campground restroom buildings would be replaced in this Alternative, as well as the campground check-in kiosk. These new structures would include steep roof pitches, and architectural detailing consistent with the Tahoe area, resulting in structures that meet the guidelines of the BEIG.

The construction of a fire station / administrative office building would represent an increase in building mass compared to the existing condition in this area. The design

of the administrative building is consistent with the BEIG, and includes rock bases and large wood posts. The design style and massing is not unlike many of the newer residences in the project area. The proximity of the proposed administrative building to neighboring residences would be increased from current conditions, but is consistent with local building regulations regarding setback from property lines. The proximity of this building to adjacent neighboring buildings is consistent with spacing between existing neighborhood structures.

Proposed work to expose the drainage channel through the beach site would alter the appearance of this portion of the project area. The proposal would result in an increase in topography in this area and elimination of the pipe outfall at the lakeshore. Picnic tables which exist at the site would be positioned in closer proximity to each other than exists in current conditions. Construction of an accessible path to the lake shore would include slope stabilization measures. These measures would include use of materials selected to reduce visual contrast with the surrounding landscape. Proposed work within the beach area would be consistent with the VQO.

Removal of the Meeks Bay Fire Station would positively impact the scenic integrity along that section of Highway 89. The developed footprint would decrease as a result of removing the building and restoring the site. In general that section of Highway 89 has a low level of development and removal of the building would improve the view from the highway.

Alternative 3 – Alternative Action

Actions under Alternative 3 are to the same as those in Alternative 2 with a few exceptions. The western-most campground restroom is proposed in closer proximity to the campground center compared to Alternative 2. Additionally, the fire station / administrative building is proposed for location further south within the property. This alternate facility locations increase the distance between the facilities and neighboring properties. Alternate configuration of roadways, traffic circulation routes and parking areas in Alternative 3 result in an improvement in the visual quality of the campsite in a manner than maintains consistency with the VQO of Partial Retention, increase compliance with the BEIG, and increase the scenic stability of the campground. Scenic integrity from Highway 89 would be improved with the removal of the Meeks Bay Fire Station.

3.4.4 Cumulative Effects

Redevelopment of the William Kent facilities under Alternatives 2 and 3 would result in a reduced density of trees within the property. This reduction would be consistent with the VQO and would increase the scenic stability within the property. Fuels reduction projects within the region that are considered for analysis would not result in any lasting negative cumulative effects to scenic resources when combined with the effects from this project. Similarly, shorezone work associate with this project would not result in negative cumulative effects when combined with effects from other shorezone projects on public and private lands.

3.4.5 Analytical Conclusions

Each of the proposals analyzed are consistent with the established VQO of Partial Retention. Alternatives 2 and 3 would increase the scenic stability of the area and

improve the consistency of built features on the property with the BEIG. Alternative 3 increases visual separation of constructed features from neighboring properties compared to Alternative 2. Management actions proposed at the beach site under both Alternatives 2 and 3 would improve the visual appearance of the area compared to existing conditions but would remain consistent with the VQO. The scenic stability will continue to decline under the No Action Alternative.

3.5 Transportation/Traffic

3.5.1 Introduction

The following are important definitions for analyzing effects to transportation and traffic, as defined by the TRPA (TRPA Code of Ordinances, Chapter 93):

Insignificant Increase: An insignificant increase is an increase of 100 or fewer daily vehicle trips, determined from the Trip Table (Subsection 32.2.H) or other competent technical information.

Minor Increase: A minor increase is an increase of more than 100, but not more than 200 daily vehicle trips, determined from the Trip Table or other competent technical information.

Significant Increase: A significant increase is an increase of more than 200 daily vehicle trips, determined from the Trip Table or other technical information.

Trip Table: TRPA shall adopt and maintain a trip table for the purpose of estimating the number of vehicle trips resulting from additional development or changes in operation. TRPA shall generate and update the data in the Trip Table by referring to recent publications on traffic and trip generation (for example, publications of the Institute of Transportation Engineers and California Department of Transportation) and field surveys conducted in the Tahoe Region by TRPA or other competent technical experts.

Vehicle Trip: A vehicle trip is a one directional vehicle movement to or from a project area. The number of vehicle trips assigned to a project shall be the total daily vehicle trips to or from the project at its maximum hours of full operation during the review period. When exact numbers of vehicle trips are not known for a use, they shall be determined from the Trip Table or other competent technical information.

3.5.2 Existing Condition

The William Kent Campground has 95 campsites with two vehicles allowed per site. The paved footprint of most of the campsites is too small to fit two vehicles, resulting in parking on non-paved surfaces. Visitors will often try to fit vehicles in between trees or have portions of vehicles hanging out into the roadway, causing problems with traffic flow. Larger RVs or trucks with trailers do not fit into most of the camp spurs. The small turning radii of the campground roads often result in vehicles having to back up on the one-way roads to complete a multi-point turn or drive off the pavement, resulting in soil compaction and damage to vegetation. The counter-intuitive circulation pattern sometimes results in vehicles driving the wrong way down the one-way roads, as well.

The administrative site has parking room for approximately 5 vehicles which are used by employees of the campground operator; overflow parking for campers with more than two vehicles; and occasionally visitors to the kiosk. The kiosk serves as the center for campground operations, visitor information, and the backcountry

permit office with a small pullout drive that can fit up to 3 small vehicles or one large vehicle with a trailer. Once this pullout becomes full, vehicles begin stacking up to wait for a spot, sometimes extending onto the highway shoulder and increasing congestion on the highway. The beach day use site has 9 parking spaces that are almost always full during the summer months.

The Meeks Bay Fire Station shares the highway entryway with the Meeks Bay Resort, which can result in confusion for visitors to the resort, as well as conflicts with the fire vehicles when responding to fire calls. The line-of-sight to the south on Highway 89 is poor in this location.

Traffic volumes are most commonly measured in vehicle daily vehicle trips (DVT). DVT for William Kent Campground and Administrative Site is 481 (see Table 3-6), with peak use during summer holiday weekends and no use during winter months when the campground is closed behind a gate.

3.5.3 Direct and Indirect Effects

Alternative 1 – No Action

There would be no direct or indirect effects from the No Action alternative. Traffic would continue periodically stacking up onto Hwy 89 during peak use times on summer weekends. The DVT for the campground and administrative site would remain at 481 (see Table 3-6). Confusion and congestion within the campground would continue. Existing traffic patterns and conflicts at the Meeks Bay Fire Station would remain. .

Alternative 2 – Proposed Action

There would be no significant direct or indirect effects from the Proposed Action. The DVT would increase by only one trip to 482 (see Table 3-6). The decrease in traffic as a result of 14 fewer campsites is offset by an increase in traffic due to the use of the administrative site. TRPA considers an increase of less than 100 trips-per-day as an “insignificant” increase. The reconfiguration of the entryway and circulation patterns in the campground should result in positive effects on the flow of traffic in and out of the site and eliminate vehicles stacking up onto Highway 89. Larger turning radii and efficiently designed roadways would decrease driver confusion and resource damage within the campground.

Impacts to congestion and traffic on Hwy 89 may temporarily increase during the construction period, but it is anticipated that this increase would be offset by the reduced visitor levels due to the closure of the campground during the construction of the campground elements of the proposed action; and the proposed timing of the administrative center construction, which is planned to occur during the non-peak season as much as possible. General traffic levels on Hwy 89 are reduced during this period, as well. Design features are planned to reduce the impacts from construction on traffic and circulation within the campground and on Hwy 89.

The use of the administrative site during winter months will increase traffic levels from the current winter use, however general traffic levels on Hwy 89 are already

reduced during this period and the resulting increase is considered less than significant.

Traffic from the Meeks Bay Fire Station would be eliminated at that site, resulting in reduced congestion and fewer conflicts with visitors to Meeks Bay Resort.

There is no proposed change to the parking or vehicle circulation at the beach day use site and no resulting direct or indirect effects.

Alternative 3 – Alternative Action

Direct and indirect effects from changes to the campground would be similar to Alternative 2 because the proposed change in the number of camping sites is the same under both alternatives.

In this alternative there is no public visitor information center associated with the administrative building. The proposed public parking will be used as parking for the administrative center. This results in an increase of only 2 DVT from Alternative 1.

All other effects from Alternative 3 to transportation are similar to Alternative 2 and result in no significant direct or indirect effects.

Table 3-6. Daily vehicle trips (DVT) generated by each alternative.

Category	Factor	Alternative 1 DVT	Alternative 2 DVT	Alternative 3 DVT
Visitor Information Center ¹	45.5/1,000 sf GFA ²	6 ¹	23	6 ¹
Developed Campground/RV Park	5/campsite	475	405	405
Employee parking	3.5/employee	0	42	42
Admin Center long term parking	2/parking space	0	0	18
Fire Vehicles	6/vehicle	0	12	12
Total		481	482	483

¹ The campground check-in kiosk currently serves as a small visitor information center. The 6 trips-per-day shown for Alternative 1 and 3 represent existing visitors to the kiosk for purposes other than campground check-in, such as for Desolation Wilderness permits.

² GFA = Gross Floor Area, which includes all areas that serve the public space, such as the restrooms and behind-the-counter space associated with the visitor information center.

3.5.4 Cumulative Effects

Alternative 1 – No Action

This alternative would not contribute to any cumulative effects to transportation and traffic in the region.

Alternative 2 – Proposed Action

This alternative would contribute to the overall increase of traffic on the Hwy 89 corridor during the winter months, but the cumulative effects are insignificant. The Homewood Resort Master Plan project is anticipated to increase congestion on Hwy 89. The William Kent project does not have any significant direct or indirect effects that would contribute to cumulative effects from the Homewood project. Caltrans is planning water quality improvements to the Highway 89 corridor, but it is not anticipated that the project timelines will overlap. No other large construction projects are currently known to occur during the same period as the planned project implementation that would cause cumulative impacts during construction.

Alternative 3 – Alternative Action

Cumulative effects from this alternative would be the same as Alternative 2.

3.5.5 Analytical Conclusions

Alternative 1 – No Action

This alternative would not contribute to any cumulative effects to transportation and traffic in the region.

Alternative 2 and 3

Both Alternative 2 and 3 will improve the circulation within the campground and reduce stacking onto Highway 89. There are no negative effects to traffic or congestion with either alternative. When comparing the alternatives, the circulation pattern of Alternative 3 is anticipated to improve circulation in the campground more than Alternative 2 due to the traffic circle and a separate drive “lane” for the kiosk that is removed from the main road.

3.6 Hydrology/Soils

3.6.1 Introduction

In the project area, water runoff and associated erosion/sedimentation or flooding is directly related to the condition of the soil resource. Onsite improvement of the soil-water interactions (hydrologic function) will result in reduced threats of overland flow, erosion/sedimentation, and flooding. As such, effects to the water resource will be discussed in the context of changes to properties of the soil resource. Effects to soil hydrologic function would occur primarily as an indirect effect of reduction in soil porosity, so these indicators are discussed together. The following soil quality objectives (USDA Handbook 25.09) are used as indicators for this analysis and are defined and discussed below.

Soil Porosity and Soil Hydrologic Function

This indicator is expressed as the change in the amount of compacted/impervious surface area. Soil hydrologic function describes the ability of water to move into and through soils. Infiltration is the movement of water *into* soils, while hydraulic conductivity (sometimes called permeability) is the movement of water *within* soils. Soil hydrologic function is primarily controlled by physical soil properties such as texture, structure, and porosity. Soil texture (the relative distribution of sand, silt, and clay) is not affected by forest management activities. Soil structure (the arrangement of individual soil particles into aggregates) and soil porosity can both be affected by forest management activities that cause compaction. Infiltration can also be reduced when the soil surface becomes hydrophobic (water repellent).

Effective Soil Cover

This indicator is expressed as a qualitative estimate of change. The presence of effective soil cover generally indicates that the soil surface is adequately protected from accelerated surface erosion. Accelerated erosion can impair site productivity and water quality. The topsoil (the A horizon of the soil profile) is the most fertile and biologically active part of the soil profile due to its enrichment by organic matter in varying stages of decomposition. Loss of all or part of this horizon through erosion impairs the ability of the soil to support natural vegetation communities and often imparts a competitive advantage to nonnative invasive species (weeds). When eroded soil is deposited in water bodies it can affect water quality and aquatic habitats.

As noted above, effects to water quality are closely associated with effects to soil characteristics. In addition, potential effects to water quality would be evaluated by the following indicators:

Tahoe Regional Planning Agency (TRPA) Land Capability. TRPA uses the Bailey Land Scoring System to assist in evaluating the level of development an area can tolerate without sustaining permanent damage through erosion and other causes (Bailey 1974).

- Category 1b: 6.4 acres
- Category 5: 15.6 acres

According to the TRPA Bailey Land Scoring System, Category 1b is allowed 1-5% impervious surfaces and Category 5 is allowed 25% impervious surfaces.

Effects to Stream Environment Zone.

This would be a qualitative discussion regarding the potential beneficial effects to the SEZ from the action alternatives, as compared to taking no action.

3.6.2 Existing Condition

Topography

The project area is gently rolling land with north-south slopes ranging from 2-15 percent. Elevation ranges from of 6,290 feet to 6,380.

Climate

The precipitation in the project area averages 20 to 30 inches per year. The area has summers that are dry and cool and winters that are wet and cold. About 80 percent of the annual precipitation occurs between October and April. Although winter precipitation falls primarily as snow, heavy winter rains can occur. Flooding can result from rain-on-snow events as well as from intense summer thunderstorms (Bailey 1974). The design storm used by regulatory agencies for Tahoe Basin BMPs is the 20-year/1-hour storm which is 1 inch of rain (USDA Forest Service 2007).

Hydrology

The project proposes restoration and improvement actions within 22 acres of the *Ward Creek Frontal* watershed. There are a total of 6,208 acres in the Ward Creek Frontal watershed. The proposed project encompasses less than one percent of the total watershed area. This sub-watershed is moderately developed with houses and roads, as well as development along the shore of Lake Tahoe. The only drainage with a clearly defined channel within the project area is an ephemeral channel that runs through the project area. The channel is incised and show signs of sedimentation.

Stream Environment Zone

The SEZ is approximately 6.4 acres in size with approximately 0.79 acres of existing project area coverage in the campground and administrative site (0.6 acres of which is in the campground only). Vegetative indicators were primary used to map the extent of SEZ. This channel is an ephemeral drainage, fed from urban runoff and ground water. Currently, there are 22 campsites located within the SEZ. There are 8 culvert crossings over the stream. Project Record G-4, Soil Scientist Specialist Report.

Beneficial Uses

Of the beneficial uses identified in the Lahontan Basin Plan for the Minor Surface Waters (LRWQCB 1995), one is applicable to the project site:

Non-contact Water Recreation. Beneficial uses of waters used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping,

boating, tide pool and marine life study, hunting, sightseeing, and aesthetic enjoyment in conjunction with the above activities.

Soils

The Tahoe Basin, a subset of the Sierra Nevada range, is underlain predominantly with granitic rocks. Areas not dominated by bedrock, such as along the lake shore and much of the southern portion of the basin; consist primarily of glacial moraine and outwash terrain. In general, the soils in the basin are shallow (3 feet or less) and rocky, with gravelly loamy sands overlying impervious bedrock. Being coarse textured and poorly aggregated, with resulting low water holding capacity, the soils are generally very permeable and are susceptible to erosion, particularly on slopes greater than 20 percent (Bailey 1974).

Currently, the site is covered by 169,490 square feet of paved surfaces, 134,897 ft² (1.4%) on high capability land and 34,563 ft² (3.6%) on low capability land. Current recreational use by vehicles, foot traffic, and campers has caused compaction of the soils and decreased vegetative cover throughout the 22-acre project area. There are approximately 207,098 square feet (4.75 acres) of impervious land surface coverage in the project area. The exposed soils in the camping areas, for the most part, are considered impervious surfaces due to the extensive past recreational use including unconstrained vehicle parking. This past use has resulted in decreased infiltration of precipitation and accelerated runoff from the area with an increased risk of potential for erosion and offsite deposition. The only documented riparian area within the project area is an ephemeral stream channel fed mainly by urban runoff.

Soil cover has been lost, rendering the exposed soil surface susceptible to accelerated runoff and erosion. Surface runoff drainage has also been severely altered, redirected, or obliterated as a result of vehicle and human traffic patterns and onsite camping.

The soil survey for the project area (USDA NRCS 2011a) indicates that 100 percent of the project area is Kneeridge gravelly sandy loam, moderately well drained to well-drained. There are three soil types evident within the project boundary. These are listed in Table 3-5.

Table 3-7. Acres of Soil Map Units in Project Area

Map Unit Symbol	Map Unit Name	% project area
7171	Kneeridge gravelly sandy loam, 2 to 9% slopes, extremely stony	38
7172	Kneeridge gravelly sandy loam, well drained, 5 to 15 % slopes, very stoney	38
7173	Kneeridge gravelly sandy loam, 2 to 5% slopes, very stoney	24

In addition to supporting native vegetation and wildlife, soils play a critical role in supporting watershed and ecosystem health through their functions of accepting, storing, and releasing water. Under natural conditions, the predominant soil types in the project area are very permeable in infiltration of water and are not subject to flooding. Table 3-6 displays key attributes of the soil types.

Table 3-8. Soil Characteristics

Soil Series (symbol)	Permeability	Runoff Potential	Flood Frequency
Kneeridge (7171, 7172 & 7173)	Moderately high to very high	Low	None
Source: USDA NRCS 2011b.			

The soil survey indicates that under undisturbed circumstances that most of this site (71%) is within Bailey's 1974 mapping capability classes 5. This class is identified as having a low disturbance hazard, having a slight erosion potential and allowing for an impervious cover of from 25 to 30 percent. The exception is the 6.4 acres of the project area in land Class 1b which are among the least tolerant to land use exhibiting high erosion and disturbance hazards and very poor drainage capacity (Fig. 1.4).

3.6.2 Direct and Indirect Effects

The temporal scope for assessment of soil, water, and riparian area resource environmental effects includes short term (1–10 years following project implementation) and long term (10–20+ years following project implementation) for this analysis. This timeframe would capture both the immediate effects of the proposed project activities and the expected effects to the point where they are no longer discernible from other activities. The action alternatives have the potential to affect soil, water, and riparian resources.

Alternative 1 - No Action

The campground, administrative site, and day use beach area would continue to not meet current BMP standards associated with developed recreational sites (USDA Forest Service 2011). The project site would continue to be at risk of ongoing soil damage and offsite erosion. Vehicle circulation and camp site locations are poorly defined, consisting mainly of unpaved surfaces with extensive soil compaction. The existing conditions would continue to have the potential to contribute sediment to the ephemeral drainage and SEZ. Soil porosity and hydrologic function would continue to degrade as current use continues. Soil cover would not be able to re-establish itself, and organic matter would continue to be lost by repeated vehicle and foot traffic in unmanaged camping areas. Approximately 37,600 square feet of essentially impermeable and compacted native surface soils would persist and may possibly increase above current recreational use in the future. This is an estimate of the amount of native soil that is compacted adjacent to the paved surfaces based upon site visits. Soils would continue to be compacted by users. The SEZ would continue to decline as a result of campsite use. The 8 stream crossing culverts within the campground would remain. No BMP or design features would be implemented to offset the environmental degradation in the project area.

Alternative 2 - Proposed Action

With implementation the BMPs and design features and because the William Kent project is situated on soils that have inherent high infiltration rates, the risks of deleterious runoff and associated erosion are minimal following project completion.

The elimination of existing campsites, roads, and impervious surfaces in the SEZ and creation of new, updated, and BMP-improved campsites, roads, and trails would have a net benefit to soil and water resources over both the short and long term.

Sedimentation and associated runoff from the existing campground sites and road and trail systems would be reduced, and soil structure and hydrologic function would be improved due to increases in ground cover, properly managed stormwater runoff, and reductions in impervious surfaces, which would allow greater onsite infiltration of precipitation. This alternative would manage stormwater runoff to infiltrate it on site, as close to its point of origin as possible. Paved surfaces in the campground and administrative site would reduce erosion and the generation of sediment by gathering and infiltrating runoff as part of a designed drainage system that includes the most current BMP guidelines. Stormwater would be directed to shoulders, micro-basins, drip-line trenches, and swales where appropriate for infiltration. Decompaction (where appropriate) of existing compacted soils not planned for campground use would allow for dispersed infiltration and a reduction in sheet flow of water through the site. These treatments would improve the porosity and hydrologic function of soils in the project area. Removal and improvement of campsites and roadways within the SEZ would reduce riparian area impervious surface coverage by 83 percent in the campground area, from 26,245 to 4,531 square feet (from 0.6 acres to 0.17 acres). Across the entire site the reduction of riparian area impervious surface coverage is by 63 percent; from 34,600 to 12,800 square feet (0.8 acres to 0.3 acres). See Table 2-4 for a summary of all coverage information.

Actual *paved* surface impervious coverage (across the entire site, not just in the SEZ) increases by 18 percent from existing paved surfaces due to the addition of the administrative site. However, as mentioned above, the estimation of *actual* existing impervious surface coverage includes areas compacted by pedestrian and off-pavement vehicular traffic. It is therefore estimated that the overall impervious surface coverage would actually decrease by 3% under this alternative. Reduction in the square footage of compacted area coverage via circulation management and campsite reduction in conjunction with soil de-compaction would accelerate the rate of hydrologic conductivity recovery (porosity-infiltration/permeability) in the project area. Increased infiltration, permeability, and soil cover would substantially decrease surface runoff and associated erosion. Dispersal of chipped material would increase soil protective cover and introduce surface organic matter. The added surface organic materials would hold moisture close to the surface for an extended period of time, affording re-vegetation of areas not planned for campground use.

With the implementation of design features and BMPs the proposed action is expected to improve the function and viability of the soil resources, protect the quality of water flowing from the site, and enhance riparian areas. The beneficial uses of the project site would also be fully protected.

As stated in the Water Quality Management Plan, TRPA's environmental threshold goal is to "preserve existing naturally functioning SEZ lands in their natural condition and restore 25% of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5% total increase in the area of naturally functioning SEZ lands" (TRPA 1998). This project would contribute towards meeting the TRPA goal by improving the SEZ and reducing potential effects from the adjacent campgrounds and traffic infrastructure.

Alternative 3 - Action Alternative

The beneficial effects of Alternative 3 are slightly greater than Alternative 2 because there is a decrease in the amount of impervious surface remaining in the SEZ in the campground area as compared to Alternative 2 (2742 square feet as compared to 4531 square feet under Alternative 2, which is a 90% reduction versus 83%). Overall impervious surface coverage is reduced by 8% as compared to 3% in Alternative 2.

This alternative, like the proposed action, would improve the management of stormwater runoff to infiltrate it on site, as close to its point of origin as possible. The recreational and traffic facilities would be designed consistent with current BMPs, which would provide for effectively collecting and transporting of runoff to road shoulders, micro-basins, drip-line trenches, and swales for infiltration.

As compared to Alternative 2, smaller areas of soil would be disturbed because of the savings in coverage needed to construct the circulation pattern. Therefore, these treatments would improve the porosity and hydrologic function of soils on a greater portion of the project area. The extent of soil hydrologic conductivity (porosity-infiltration/ permeability) would be improved over this comparatively larger area.

With the implementation of design features and BMPs, Alternative 3 is expected to improve the function and viability of the soil resources, improve the quality of water flowing from the site, and enhance riparian areas within the William Kent site.

3.6.3 Cumulative Effects

Under the No Action alternative, existing conditions would continue to have the potential to contribute sediment to the ephemeral drainage and SEZ and ultimately contribute to the degrading water quality of Lake Tahoe. In Alternative 2 and Alternative 3, the ability of stormwater to infiltrate into the ground and be filtered by vegetation and the soil column is greatly increased, which decreases the negative cumulative effects to the lake clarity and water quality of Lake Tahoe that are currently occurring. The project would contribute to the positive cumulative effects from the reduction in sediment reaching Lake Tahoe when combined with other projects such as the Blackwood Creek Floodplain Restoration project. Because there are no negative direct or indirect impacts associated with either alternative 2 or 3, there are no negative cumulative effects.

3.6.4 Analytical Conclusions

Alternative 3 would have slightly more beneficial effects on soil and water resources than Alternative 2 because it would (1) allow a larger surface of the project area to be decompacted, (2) have less concentrated runoff from paved surfaces, and (3) still provide for the restoration of the SEZ area. The beneficial uses associated with the project area would be protected.

3.7 Air Quality

3.7.1 Introduction

This analysis is based in part upon the William Kent BMP Retrofit and Administrative Site Redevelopment Transportation Specialist Report (Project Record Document G-9). Most of the Lake Tahoe Basin air quality thresholds developed by the TRPA show a positive trend toward attainment. The most detrimental air pollutants in the area are greenhouse gasses (GHGs) such as nitrous oxides (NO_x), carbon monoxide (CO), and sulfur dioxide (SO₂). The most common source of GHGs is from vehicle emissions. Particulate matter less than 10 microns in diameter (PM10) is also studied to determine effects on air quality. Particulate matter is expelled into the atmosphere through exhaust and dust.

The project would have effects from vehicle emissions. Vehicle Miles Traveled (VMT) is used as a proxy for estimating the changes in vehicle emissions. The project may also have effects from temporary fugitive dust that would be generated during implementation of the project. No burning is proposed, so no smoke-related emissions would occur.

3.7.2 Direct and Indirect Effects

Alternative 1—No Action

Under this alternative, no increase in fugitive dust emission levels would be produced from construction activities.

Current vehicular use and emissions would remain the same. During the busy summer weekends there may be continued need for vehicles to idle as they wait to check-in at the kiosk.

Alternative 2—Proposed Action

Effects of fugitive dust caused by construction and use of unpaved roads during construction would be localized and would be mitigated by effective dust abatement methods on staging areas and construction areas using project design features and BMP's.

The Transportation Report identified an increase in 1 Daily Vehicle Trip (DVT) (Table 3-4) from the No Action Alternative. TRPA considers an increase of less than 100 DVT as an “insignificant” increase. The increase in trips-per-day under this alternative is not considered to have a significant effect on air quality or greenhouse gases in the basin.

The year-round administrative facilities would require snow removal following snow storms. Snow removal activities have the potential to increase air pollution above base-line conditions. In the context of the ongoing snow-removal in the surrounding area, this addition does not represent a significant increase in air pollutants.

Alternative 3 – Alternative Action

Direct and indirect effects from construction activities would be similar to Alternative 2. The estimated increase in DVT from the alternative proposed action is only 2 more (Table 3-4) than the No Action Alternative, which is substantially below the TRPA threshold for an insignificant increase in DVT.

3.7.3 Cumulative Effects

Alternative 1

Over 5 million people visit the basin each year. The distance between recreation sites and the many dispersed recreation activities means that most of these visitors travel to and within the basin in a motor vehicle. The *Transportation Monitoring Program 2008* document from the Tahoe Metropolitan Planning Organization (TMPO), states that 87% of summer visitors to a recreation site in the basin come in a private vehicle (data from the 2006 TRPA Transportation Survey). The remaining visitors walked (8%), rode a bike (4%), or took transit (1%). Leaving the William Kent site in its current configuration would maintain the status quo of private vehicles as the major mode of transportation in the basin.

Alternative 2

There is likely to be fugitive dust from recreational activities, nearby construction activities, and firewood cutting of local residents.

This alternative does not change the private vehicle as the major mode of transportation to and from the site. The increase in DVT under this alternative is considered insignificant and cumulative effects to increasing greenhouse gases and emissions in the basin are considered to be minimal.

Alternative 3

Cumulative effects would be the same as for Alternative 2.

3.7.4 Analytical Conclusion

The no-action alternative would not result in any change to direct, indirect, or cumulative effects to air quality. The use of recreation vehicles would continue to contribute to increased emission levels.

Effective dust abatement methods on staging areas and dirt-surfaced roads as required by the design features of the proposed action and alternative proposed action, and which would be included as contractual requirements, would ensure that there are minimal to no direct effects from Alternative 2 or 3.

4.0 Consultation and Coordination

The Forest Service consulted the following individuals, Federal, State, tribal, and local agencies during the development of this environmental assessment:

4.1 Interdisciplinary Team Members:

Ashley Sommer	Project Leader/Landscape Architect.
Michael Alexander	Assistant Forest Engineer.
Robert Becker	Recreation coordinator.
Gerrit Buma	Assistant NEPA Coordinator.
Daniel Cressy	Landscape Architect.
Stephanie Coppeto	Wildlife Biologist.
Rena Escobedo	Ecologist.
Tom Fuller	Archeologist.
Michael Gabor	Forest Engineer.
Stephanie Heller	Hydrologist.
Stanley Kot	Wildlife Biologist.
Duncan Leao	Vegetation Planner
Cheryl Schumacher	Civil Engineer.
Gina Thompson	Recreation Staff Officer.

4.2 Federal, State, and Local Agencies:

Tahoe Regional Planning Agency
Caltrans
Lahontan Regional Water Quality Control Board

4.3 Tribes:

Washoe Tribe of Nevada and California

4.4 Individuals

Elin Vanderstroom

Steve and Margaret Redmond
Susan and Jim Rice
Brian and Christine York
Tony Luci
Sharon Dove
Robert Thomas
Kim Lambert
Perry O Bray
Henry Tollette
Chuck McCormick
Ken and Rebecca Burg
Ralph and Diana Davisson
Leslie Aldredge

4.5 Organizations

League to Save Lake Tahoe

California Land Management (site permittee)

Friends of the West Shore

5.0 References

Cited Documents

- Bailey, Robert G. 1974. Land-Capability Classification of the Lake Tahoe Basin, California-Nevada, A Guide for Planning. USDA Forest Service in cooperation with the Tahoe Regional Planning Agency. Available: <<http://www.trpa.org/default.aspx?tabid=187>>.
- California Natural Diversity Database (CNDDB). 2011. California Department of Fish and Game, Biogeographic Data Branch, January 1, 2011 (Version 3.1.0).
- California Department of Fish and Game (CDFG). 2008. California Interagency Wildlife Task Group. California Wildlife Habitat Relationships (CWHR) version 8.2 personal computer program. Sacramento, California.
- Detrich, P. 1990. The California bald eagle management plan—draft; unpublished report. Available at the Tahoe National Forest Supervisor's Office, Coyote Street, Nevada City, CA. 71p.
- USDA Forest Service. 2001. The Built Environment Image Guide for National Forests and Grasslands. September.
- Hickman, J.C., ed. 1993. The Jepson Manual. Higher Plants of California. Univ. of California Press, Berkeley.
- Hitchcock, A.S. 1971. Manual of the Grasses of the United States: Volume I. 2nd Edition. Dover Publications, Inc. New York.
- Lahontan Regional Water Quality Control Board. 1995. Water Quality Control Plan for the Lahontan Region. March. Available: <http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/ch2_beneficialuses.pdf>.
- Mason, H. L. 1969. A Flora of the Marshes of California. Berkeley: University of California Press.
- Munz, P. A., and D.E. Keck. 1968. A California Flora Supplement. Berkeley: University California Press.
- Ratliff, R. D. 1985. Meadows in the Sierra Nevada of California: State of Knowledge. U.S. Department of Agriculture, Forest Service, Pacific Southwest Forest and Range Experiment Station.
- Riparian Habitat Joint Venture. 2004. The riparian bird conservation plan: A strategy to reversing the decline of riparian associated birds in California. California Partners in Flight. 170 pages. Available online at: http://www.prbo.org/calpif/pdfs/riparian_v-2.pdf
- Siegel, R.B. and D.F. DeSante. 1999. Version 1.0. The draft avian conservation plan for the Sierra Nevada Bioregion: conservation priorities and strategies for safeguarding Sierra bird populations. Institute for Bird Populations report to California Partners in Flight. Available on-line: <http://www.prbo.org/calpif/htmldocs/sierra.html>.

- Sierra Nevada Ecosystem Project. 1996. Status of the Sierra Nevada: Volume 1, Assessment Summaries and Management Strategies. Wildland Resources Center Report No. 36 University California, Davis.
- Tahoe Regional Planning Agency. 1982. Regional Plan for the Lake Tahoe Basin: Threshold Carrying Capacities. Tahoe Regional Planning Agency, Zephyr Cove, NV.
- Tahoe Regional Planning Agency. 1987. Regional Plan for the Lake Tahoe Basin Code of Ordinances Rules of Procedure. Adopted May.
- Tahoe Regional Planning Agency. 1996. Regional Plan for the Lake Tahoe Basin: Threshold Evaluation. Tahoe Regional Planning Agency, Zephyr Cove, NV.
- Tahoe Regional Planning Agency. 1998. Water Quality Management Plan for the Lake Tahoe Region. November. Stateline, NV. (available at: <http://www.trpa.org/default.aspx?tabid=168>)
- Tahoe Regional Planning Agency. 2002. Regional Plan for the Lake Tahoe Basin: Threshold Evaluation. Tahoe Regional Planning Agency, Zephyr Cove, NV.
- USDA Forest Service and the California State Water Resources Control Board. 2002. Best Management Practice Evaluation Program (BMPEP) (available at: <ftp://frap.cdf.ca.gov/pub/incoming/IMMP/Papers%20and%20Reports/Sediment%20Discharge%20Control/Studies/USFS%202004%20BMPEP%201992-2002%20Report.pdf>)
- USDA Forest Service LTBMU. 1988. Land and Resource Management Plan for the Lake Tahoe Basin Management Unit.
- USDA Forest Service. 1995. Soil Management Handbook, R5 Supplement No. 2509.18-95-1. San Francisco, California.
- USDA Forest Service. 2011. USDA Water Quality Management for National Forest System Lands in California - Best Management Practices.
- USDA Forest Service. 2000b. Lake Tahoe Watershed Assessment. USDA Forest Service, Pacific Southwest Region. General Technical Report: PSW-GTR-175.
- USDA Forest Service. 2003. Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management; Chapter 2380 – Landscape Management. Approved March. Washington, D.C.
- USDA Forest Service. 2004. Sierra Nevada Forest Plan Amendment (SNFPA): Record of Decision and Final EIS. Pacific Southwest Region. Vallejo, CA.
- USDA Forest Service. 2006. Forest Service Manual 2300 – Recreation, Wilderness, and Related Resource Management. Approved February. Washington, D.C.
- USDA Forest Service. 2007. USDA Forest Service, Pacific Southwest Region, Sensitive Animal Species by Forest. Update October 2007.
- USDA Forest Service. 2008. Sierra Nevada Forests Bioregional Management Indicator Species (MIS) Report: Life History and Summary of the Status and Trend Of Management Indicator Species for 10 Sierra Nevada National Forests: Eldorado, Inyo,

- Lassen, Modoc, Plumas, Sequoia, Sierra, Stanislaus, and Tahoe National Forests and the Lake Tahoe Basin Management Unit. Pacific Southwest Region, Vallejo, CA. January 2008. 128pp.
- USDA Forest Service. 2009a. Lake Tahoe Basin Management Unit wildlife files of species sightings. Forest Service, Region 5, South Lake Tahoe, CA.
- USDA Forest Service. 2009b. Draft Environmental Impact Statement/Environmental Impact Report for the Lake Tahoe Basin Management Unit South Shore Fuel Reduction and Healthy Forest Restoration. El Dorado County, California.
- USDA Forest Service. 2010. National Visitor Use Monitoring Results, National Summary Report. Data collected FY 2005 through FY 2009. Last updated: April 25, 2010. Available:
<http://www.fs.fed.us/recreation/programs/nvum/nvum_national_summary_fy2009.pdf>.
- USDA Natural Resource Conservation Service. 2011a. Web Soil Survey. Available:
<<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>>. Accessed: January 27, 2011.
- USDA Natural Resource Conservation Service. 2011b Official Soil Series Descriptions. Available: <<http://soils.usda.gov/technical/classification/osd/index.html>>. Accessed: January 28, 2011
- USFWS (U.S. Fish and Wildlife Service). 2010. Federal Endangered and Threatened Species That Occur in or May Be Affected by Projects in the Lake Tahoe Basin Management Area. Last revised: April 29, 2010. Available:< http://sacramento.fws.gov/es/spp_list.htm >. Accessed: January 25, 2011.

Appendix A

Best Management Practices for the William Kent Campground BMP Retrofit & Administrative Site Redevelopment

This appendix discusses the applicable BMPs for the proposed action's design features. Details are provided for application of the BMPs. These BMPs are designed to reduce or eliminate direct, indirect, and cumulative impacts to soil and hydrologic conditions and to reduce potential impacts (nutrient and sediment loads, affecting lake clarity) to Lake Tahoe, a unique national feature. Actual application of these BMPs is based on the proposed action and integration (further refinement) with project design features (Section 2.3.2 of the EA).

Sections 208 and 319 of the federal Clean Water Act, as amended, acknowledge land treatment measures as being an effective means of controlling non-point sources of water pollution and emphasize their development. Working cooperatively with the California State Water Quality Control Board (SWQCB), the Forest Service developed and documented non-point pollution control measures applicable to NFS lands. Following evaluations of the control measures by SWQCB personnel as they were applied on site during management activities, assessment of monitoring data, and the completion of public workshops and hearings, the Forest Service's measures were certified by the state and approved by the U.S. Environmental Protection Agency (EPA) as the most effective means the Forest Service could implement to control non-point source pollution. These measures were termed best management practices. BMP control measures are designed to accommodate site-specific conditions. They are tailor-made to account for the complexity and physical and biological variability of the natural environment.

In the 1981 Management Agency Agreement between the SWQCB and the Forest Service, the State agreed that "the practices and procedures set forth in the Forest Service document constitute sound water quality management and, as such, are the best management practices to be implemented for water quality protection and improvement on NFS lands." The implementation of BMPs is the performance standard against which the success of the Forest Service's non-point pollution water quality management efforts is judged.

The Clean Water Act provided the initial test of effectiveness of the Forest Service non-point pollution control measures because it required the evaluation of the practices by the regulatory agencies (SWQCB and EPA) and the certification and approval of the practices as the best measures for control. Another test of BMP effectiveness is the capability to custom fit the measures to a site-specific condition where non-point pollution potential exists. The Forest Service BMPs are flexible in that they are designed to account for diverse combinations of physical and biological environmental circumstances. A final test of the effectiveness of the Forest Service BMPs is their demonstrated ability to protect the beneficial uses of the surface waters in the state. The BMPs incorporate 75 years of erosion control and watershed protection experience and are based on sound scientific principles. The land treatment

measures incorporated into Forest Service BMPs evolved through research and development and have been monitored and modified over several decades with the expressed purpose of improving the measures and making them more effective. Onsite evaluations of the control measures by state regulatory agencies found the practices were effective in protecting beneficial uses and certifiable for Forest Service application as their means to protect water quality.

Implementation, effectiveness, and forensic monitoring would be performed to monitor project activity. Implementation monitoring consists of detailed visual monitoring of treated areas and roads/landings prior to the rainy season with emphasis placed on determining if management measures (such as erosion control measures or riparian buffers) were implemented.

Included within the Tahoe Regional Planning Agency (TRPA) 2008 Water Quality Management Plan for the Tahoe Basin (TRPA 2008) is a section devoted to SEZ protection and restoration. The term SEZ was developed by TRPA to denote perennial, intermittent, and ephemeral streams and drainages, as well as marshes and meadows. SEZs generally possess the following characteristics: riparian or hydric (wet site) vegetation; alluvial, hydric soils; and the presence of surface water or near-surface groundwater at least part of the year. SEZs are essential because they provide multiple resource benefits; provide natural treatment and conveyance of surface runoff; contain significant fish and wildlife habitat; improve and maintain environmental amenities of the Lake Tahoe region; and achieve TRPA's environmental thresholds for water quality, vegetation preservation, and soil conservation.

As stated in the Water Quality Management Plan, TRPA's environmental threshold goal is to "preserve existing naturally functioning SEZ lands in their natural condition and restore 25% of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5% total increase in the area of naturally functioning SEZ lands" (TRPA 2008). BMPs, as described in this document, have been effective in protecting beneficial uses within the affected watersheds and have been applied in other projects within the Lake Tahoe Basin Management Unit. Where proper implementation has occurred, there have not been any substantive adverse impacts to cold-water fisheries habitat conditions or primary contact recreation use of the surface waters. The practices specified herein are expected to be equally effective in maintaining the identified beneficial uses.

The following management requirements are designed to address the watershed management concerns. BMPs are derived from the Forest Service publications *Nation Best Management Practices for Water Quality Management on National Forest System Lands* (USDA Forest Service 2012) and *Water Quality Management for National Forest System Lands in California* (USDA Forest Service 2001).

Table A-1. William Kent Campground BMP Retrofit & Administrative Site Redevelopment Soil and Hydrology Best Management Practices.

Nation Core BMPs	Best Management Practice Objective Description
Plan-1. Forest and Grassland Planning	Use the land management planning and decision making processes to incorporate direction for water quality management consistent with laws, regulation, and policy into land management plans.
Plan-2. Project Planning and Analysis	Use the project planning, environmental analysis, and decision making processes to incorporate water quality management BMPs into project design and implementation.
Plan-3. Aquatic Management Zone Planning	To maintain and improve or restore the condition of land around and adjacent to waterbodies in the context of the environment in which they are located, recognizing their unique values and importance to water quality while implementing land and resource management activities.
AqEco-1. Aquatic Ecosystem Improvement and Restoration Planning	Reestablish and retain ecological resilience of aquatic ecosystems and associated resources to achieve sustainability and provide a broad range of ecosystem services.
AqEco-2. Operations in Aquatic Ecosystems	Avoid, minimize, or mitigate adverse impacts to water quality when working in aquatic ecosystems.
AqEco-4. Stream Channels and Shorelines	Design and implement stream channel and lake shoreline projects in a manner that increase the potential for success in meeting project objectives and avoids, minimizes or mitigates adverse effects to soil, water quality and riparian resources.
Fac-1. Facilities and Nonrecreation Special Uses Planning	Use the applicable special use authorization and administrative facilities planning processes to develop measures to avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources during construction and operation of facilities and nonrecreation special uses activities.
Fac-2. Facility Construction and Stormwater Control	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources by controlling erosion and managing stormwater discharge originating from ground disturbance during construction of developed sites.

Nation Core BMPs	Best Management Practice Objective Description
Fac-3. Potable Water Supply Systems	Provide potable water supplies of sufficient quality and quantity to support the use at facilities.
Fac-4. Sanitation Systems	Avoid, minimize or mitigate adverse effects to soil and water quality from bacteria, nutrients and other pollutants resulting from collection, transmission, treatment and disposal of sewage and wastewater at facilities.
Fac-5. Solid Waste Management	Avoid, minimize or mitigate adverse effects to water quality from trash, nutrients, bacteria and chemicals associated with solid waste management at facilities.
Fac-6. Hazardous Materials	Avoid or minimize short- and long-term adverse effects to soil and water resources by preventing releases of hazardous materials.
Fac-7. Vehicle and Equipment Wash Water	Avoid or minimize contamination of surface water and groundwater by vehicle or equipment wash water that may contain oil, grease, phosphates, soaps, road salts, other chemicals, suspended solids, and invasive species.
Rec-1. Recreation Planning	Use the applicable recreation planning process to develop measures to avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources during recreation activities.
Rec-2. Developed Recreation Sites	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources at developed recreation sites by maintaining desired levels of ground cover, limiting soil compaction and minimizing pollutants entering waterbodies.
Rec-9. Recreation Special Use Authorizations	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources from physical, chemical and biological pollutants resulting from activities under recreation special use authorizations.
Road-2. Road Location and Design	Locate and design roads to avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources.
Road-3. Road Construction and Reconstruction	Avoid or minimize adverse effects to soil, water quality and riparian resources from erosion, sediment and other pollutant delivery during road construction or reconstruction.
Road-4. Road Operations and	Avoid, minimize, or mitigate adverse effects to soil, water quality and riparian resources by controlling road use and operations and providing adequate and appropriate maintenance to minimize

Nation Core BMPs	Best Management Practice Objective Description
Maintenance	sediment production and other pollutants during the useful life of the roads.
Road-6. Road Storage and Decommissioning	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources by storing closed roads not needed for at least 1 year and decommissioning unneeded roads in a hydrologically stable manner to eliminate hydrologic connectivity, restore natural flow patterns and minimize soil erosion.
Road-7. Stream Crossings	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources when constructing, reconstructing or maintaining temporary and permanent waterbody crossings.
Road-9. Parking Staging Ares	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources when constructing and maintaining parking and staging areas.
Road-10. Equipment Refueling and Servicing	Avoid or minimize adverse effects to soil, water quality and riparian resources from fuels, lubricants, cleaners and other harmful materials discharging into nearby surface waters or infiltrating through soils to contaminate groundwater resources during equipment refueling and servicing activities.
Veg-1. Vegetation Management Planning	Use the applicable vegetation management planning processes to develop measures to avoid, minimize, or mitigate adverse effects to soil, water quality and riparian resources during mechanical vegetation treatment activities.
Veg-2. Erosion Prevention and Control	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources by implementing measures to control surface erosion, gully formation, mass slope failure, and resulting sediment movement before, during and after mechanical vegetation treatments.
Veg-3. Aquatic Management Zones	Avoid, minimize, or mitigate adverse effects to soil, water quality and riparian resources when conducting mechanical vegetation treatment activities in the AMZ.
Veg-4. Ground-Based Skidding and Yarding Operations	Avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources during ground-based skidding and yarding operations by minimizing site disturbance and controlling the introduction of sediment, nutrients and chemical pollutants to waterbodies.
Veg-6. Landings	Avoid, minimize or mitigate adverse effects to soil, water quality and

Nation Core BMPs	Best Management Practice Objective Description
	riparian resources from the construction and use of log landings.
Veg-8. Mechanical Site Treatment	Avoid, minimize, or mitigate adverse effects to soil, water quality and riparian resources by controlling the introduction of sediment, nutrients, chemical or other pollutants to waterbodies during mechanical site treatment.
WatUses-1. Water Uses Planning	Use the applicable authorization and administrative planning processes to develop measures to avoid minimize or mitigate adverse effects to soil, water quality and riparian resources during construction, operation, maintenance and restoration of water use infrastructure.

Appendix B

Projects Considered for Cumulative Effects

Present Projects

No projects were considered in this category because there are no projects currently in construction in the area considered.

Projects in the Foreseeable Future

The following projects were considered for the overall cumulative effects analysis for this project. However, the scale and time frame was considered individually for each resource discussed in this chapter. Some projects were considered under certain resources and not others, and some projects considered for cumulative effects may not be listed below. This list was the master list from which analysis was further refined for each resource.

Table B-1. Future projects considered for cumulative effects.

Project	Description	Potential Cumulative Effects
Homewood Resort Master Plan	Proposed improvements to the existing ski area, both on-mountain and at the existing North and South Base Areas to include a 50-60 room lodge-hotel, small neighborhood retail village, a residential area on the South Base, upgrades to chairlifts and snowmakers, and a new mid-mountain lodge facility accessible year-round by a new 8-passenger high-speed gondola. The project also includes forest health and fire protection measures, watershed management, and storm water runoff management. Buildings are planned to be LEED certified and the North-Base neighborhood development is planned to be LEED ND (Neighborhood Development) certified.	This project will lead to increased congestion on Hwy 89, significantly during the winter and summer months. The William Kent project is not anticipated to have significant negative effects on congestion and therefore does not contribute to negative cumulative effects. Watershed management and storm water runoff management is planned, which could provide increased ecosystem resilience in combination with this project. Additional impacts to wildlife and botany are not anticipated from the William Kent project.
Caltrans Water Quality Improvement Project	Water quality improvement projects along the Hwy 89 corridor and within Tahoe City. The William Kent/Sunnyside portion is tentatively scheduled for 2015.	Positive cumulative effects to water quality. No negative cumulative effects during construction are expected because project timelines do no overlap.

Project	Description	Potential Cumulative Effects
64-Acres Transit Center	This project is currently under construction. The project includes construction and operation of a transit center and associated parking facilities on the NW portion of the tract (west of SR 89 just south of Fanny Bridge over the Truckee River in Tahoe City, California). Associated with the transit center is roadway system improvements and recreation trail alternation necessary to accommodate the new facility. The transit center will provide parking for 6 buses at a time. The facility will also provide an enclosed structure with a heated waiting area to serve 40 patrons. The parking area has 130 spaces to support the Intermodal Transit Center. Intermodal transportation includes bicycling, roller blading, and walking as well as bus, shuttle, and taxi transportation.	The Transit Center is expected to reduce congestion on Hwy 89, therefore there are no negative cumulative effects on congestion. Construction of the facility will not overlap with construction at William Kent, therefore there is not cumulative effects from construction.
Blackwood Creek Phase III, Stream and Floodplain Restoration Project	This final phase (Phase III) would address excessive bank erosion and channel incision as well as diminished nutrient uptake capacity along Blackwood Creek's main-stem. The approach involves installation of physical structures made of boulders and logs, re-contouring of existing floodplain surfaces and channel, plug and fill of existing gully channel, and new channel construction. Riparian vegetation transplant and planting of containerized riparian stock would occur where needed.	Cumulative effects involve an increase in SEZ vegetation health in the area, increased forest health, and possible increased habitat for plant and animals.
Camp Richardson Resort BMP Project	Upgrades to the campground, water quality BMPs. Reduction in campsites. Decision not yet published.	Reduction in campsites available to the public.