

**DRAFT
ENVIRONMENTAL IMPACT REPORT**

**TOWN OF MAMMOTH LAKES
TRAILS SYSTEM MASTER PLAN PROJECT**

TOWN OF MAMMOTH LAKES, CALIFORNIA



JULY 2011

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TRAILS SYSTEM MASTER PLAN PROJECT**

TOWN OF MAMMOTH LAKES, CALIFORNIA

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

This Draft Environmental Impact Report (Draft EIR) has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA) with respect to the proposed Town of Mammoth Lakes Trails System Master Plan (TSMP). In accordance with *CEQA Guidelines* §15123, this Section of the EIR provides a brief description of the project; identification of significant effects and proposed mitigation measures or alternatives that would reduce or avoid those effects; areas of controversy known to the lead agency; and issues to be resolved including the choice among alternatives and whether and how to mitigate the significant effects.

1. PROPOSED PROJECT

The TSMP is a comprehensive trails and public access plan that updates the Town's 1991 Trails System Plan, for the area within the Town's Municipal Boundary. In addition to new trails, paved pathways, soft-surface trails, signage and wayfinding, and associated amenities, the TSMP recommends actions to improve sidewalks, crosswalks, bus stops, bike lanes, bicycle parking, summer maintenance, and snow removal. The TSMP will also integrate and adopt the Sherwins Area Recreation Plan (SHARP) as a component of the TSMP. The SHARP includes proposals for trails, public access, and recreation facilities for winter and summer use within the Sherwins area.

The TSMP addresses the entire area within the Town's Municipal Boundary. This includes trail components within the Town's UGB, which is comprised of a mix of urbanized uses, as well as system components that extend beyond the Town's UGB into mostly undeveloped National forest lands. There are a number of existing facilities that are located mainly north of the Town's UGB within the Shady Rest Park area. The Soft Surface Trail Concept (SSTC) and related Sherwin Area Trails Special Study (SATTs), both included as appendices to the TSMP, anticipate future trails system components in the Sherwin Area; the SSTC also anticipates future trails within Shady Rest and Mammoth Knolls areas to the north, and the Lakes Basin to the west of the Town's urbanized area.

Among the individual projects presented within the TSMP and the SHARP, the Town has also identified a number of "Priority Projects" that are well defined and intended for near-term implementation. The Priority Projects identified within the SHARP reflect more in-depth analysis and study completed by the SHARP Trails Technical Committee (SHARP TTC), as compared to the projects described in the November 2009 SHARP document. For purposes of this Draft EIR, the TSMP, SHARP, and Priority Projects are collectively referred to as the "Project," and are the focus of the environmental analysis included in Chapter 4, *Environmental Impact Analysis*. With the exception of the Priority Projects, the recommendations and projects included in TSMP and SHARP are conceptual in nature and are therefore evaluated at a program-level, recognizing that subsequent more focused environmental review will occur as future project-specific development proposals are initiated under the TSMP. The Priority Projects are evaluated at a project-level to the extent possible based on available site-specific information. The area encompassing trail components and/or facilities as part of the TSMP and the SHARP is collectively referred to as the "Project Area" in this Draft EIR, unless stated otherwise.

2. CEQA BACKGROUND

The Town of Mammoth Lakes (“the Town”) has the primary responsibility for carrying out or approving the Project and is therefore, the Lead Agency with principle responsibility for preparing documents required by CEQA. To date, several steps of the public environmental review process have been completed. A Notice of Preparation (NOP) for a Draft EIR regarding the Project was circulated by the Town from November 3, 2010 to December 6, 2011 based on an Initial Study which determined that implementation of the Project could result in potentially significant impacts to the environment. Copies of the NOP and public agency comments received during the 30-day public comment period for the NOP are provided in Appendix A. In addition, in accordance with Public Resources Code Section 21083.9, a public scoping meeting was held for the Project on November 17, 2010 to obtain input as to the scope and content of the environmental information about the Project that should be explored in the EIR. Based on the results of the Initial Study and comments received during the public review period, issues regarding Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Wildland Fires/Fire Protection, Hydrology/Water Quality, Land Use/Planning, Noise, Recreation, and Transportation/Traffic have been identified as having potentially significant impacts. As such, these 13 issues are included in this EIR analysis for further environmental review.

3. SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

Unavoidable significant impacts can occur as a result of project impacts, cumulative impacts, and as a secondary effect from the implementation of a mitigation measure. Based on the analysis contained in Chapter 4, *Environmental Impact Analysis*, the Project will result in no significant and unavoidable environmental impacts.

4. AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

The following summarizes the environmental concerns raised in response to the NOP (the numerical reference in parenthesis is the EIR section in which the analysis is provided). The NOP comments are contained in Appendix A:

- Traffic impacts at locations proposed for roundabouts, (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);
- Impacts of trail crossing geometry at roadways (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);
- Interface between the trail system and transit system (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);
- Safety issues, including probable behavior of trail system users and collision history (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);
- Vehicle parking needs for trail system users (e.g. staging areas, trail heads) (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);
- Wayfinding signage for trail system users (refer to Section 4.L, *Transportation/Traffic*, of this Draft EIR);

- Ensure facilities meet the Americans with Disabilities Act, where appropriate (refer to Chapter 2, *Project Description*, of this Draft EIR);
- Consistency with other planning documents and studies (e.g. Mobility Plan, Main Street Signal Feasibility Study, Caltrans State Route 203 Traffic Concept Report, Minaret Alignment Study, South Side (Main Street) Path Plan, private development proposals, etc.). (refer to Section 4.I, *Land Use and Planning*, and Section, 4.L, *Transportation/Traffic*, of this Draft EIR);
- Potential for direct, indirect, and cumulative impacts to biological resources, with particular emphasis upon identifying special-status species including rare, threatened, and endangered species (refer to Section 4.C, *Biological Resources*, of this Draft EIR);
- Impacts to wildlife corridors (refer to Section 4.C, *Biological Resources*, of this Draft EIR);
- Consideration of a range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources (refer to Chapter 5, *Alternatives*, of this Draft EIR);
- Secondary effects associated with prescribed mitigation measures (refer to Chapter 6, *Other Mandatory CEQA Considerations*, of this Draft EIR);
- Impacts to wetland areas and riparian habitat (refer to Section 4.C, *Biological Resources*, of this Draft EIR);
- Impacts to nesting birds (refer to Section 4.C, *Biological Resources*, of this Draft EIR);
- Direct, indirect, and cumulative physical impacts regarding water quality as a result of filling and excavation of wetlands, riparian areas, and other waters of the State (refer to Section 4.C, *Biological Resources*, and Section 4.H, *Hydrology and Water Quality*, of this Draft EIR);
- Water quality impacts from pollutants during and after construction activities (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR);
- Post-construction stormwater impacts (refer to Section 4.H, *Hydrology and Water Quality*, of this Draft EIR); and
- Continued access by the Mammoth Community Water District to one of its groundwater production wells and several monitoring wells in the Mammoth Meadows from the southern end of Tamarack Street (refer to Chapter 2, *Project Description*, of this Draft EIR).

5. ALTERNATIVES

The *CEQA Guidelines* require an EIR to “describe the range of reasonable alternatives to the project, or to the location of the project, which will feasibly attain most of the basic objectives of the project but will avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” The *CEQA Guidelines* direct that selection of alternatives be guided by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice.

As described in detail in Chapter 5, *Alternatives*, of this EIR, three alternatives to the project were identified, which include a No Project/No Development Alternative, a No Project/Existing Trails Plan Alternative, and a Reduced Trails Network Alternative. Based on an analysis of these alternatives, an environmentally superior alternative is identified. The three identified alternatives, as well as the identified environmentally superior alternative, are summarized below.

a. Alternative A – No Project/No Development Alternative

Under the No Project/No Development Alternative, no improvements to the Planning Area would occur with regard to trails and other recreational facilities. Existing trails and recreational facilities would not be improved or expanded and would continue to operate as they do currently.

b. Alternative B – No Project/Existing Trail Plan Alternative

Under the No Project/Existing Trail Plan Alternative, the adopted 1991 Mammoth Lakes Trail System Plan would be implemented, which includes the Main Path and Future/Alternative Trails within and outside the Town's UGB including trails in the Sherwin, Knolls and Shady Rest areas. The 1991 TSMP has a much more limited set of related improvements than the proposed Project; for example, it does not include bicycle facilities or any substantial improvements to recreational nodes. Under this Alternative, remaining unbuilt Main Path segments would be built, including the "4A" segment between Mammoth Creek Park and Minaret Road, Lodestar, and Main Street segments. "Future/Alternative" Trails would also be developed within and outside the Town's UGB as deemed necessary, which would include Shady Rest Park Trail, Meridian Trail, Mammoth Creek Trail, Sherwin Trail, Sherwin Creek Trail, Mammoth Mountain Trail, and Knolls/Overlook Trail. These improvements would be implemented in accordance with the design specifications and other recommendations contained in the adopted 1991 Trail System Plan, as well as any subsequent amendments.

c. Alternative C – Reduced Trail Network Alternative

The Reduced Trail Network Alternative would represent a reduced intensity project that would only include TSMP improvements within the Town's UGB, and therefore would not implement any improvements located outside the UGB, including all SHARP project improvements and other improvements within USFS jurisdiction. All improvements under this Alternative would be implemented according to the proposed TSMP for components within the Town's UGB, similar to the proposed Project.

d. Environmentally Superior Alternative

Section 15126.6(e)(2) of the *CEQA Guidelines* indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The *CEQA Guidelines* also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. With respect to identifying an environmentally superior alternative among those analyzed in this EIR, the range of feasible alternatives to be considered includes Alternative A, the No Project/No Development Alternative; Alternative B, the No Project/Existing Trails Plan Alternative; and Alternative C, the Reduced Trail Network Alternative.

A comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the Project is provided in Table 5-1 in Chapter 5, *Alternatives*, of this EIR, while a summary of the ability of each alternative to meet the project goals and objectives is provided in Table 5-2. A more detailed description of the potential impacts associated with each alternative is provided in Chapter 5. Based on the evaluation of impacts presented in Chapter 5 of this EIR, and the findings regarding each Alternatives' ability to meet the Project's stated goals and objectives summarized in Table 5-2, Alternative C, the Reduced Trail Network Alternative, is determined to be the environmentally superior

Alternative. Alternative C would result in incrementally reduced impacts relative to the proposed Project, as proposed improvements would be limited to those within the Town's UGB, and would at least partially meet all of the TSMP goals and objectives, though not to the extent that the proposed Project would. Furthermore, while Alternative C would fail to meet any of the goals for the SHARP projects, as all improvements under this Alternative would be limited to the Town's UGB, the SHARP goals would not be applicable to the Reduced Trail Network Alternative.

6. SUMMARY OF ENVIRONMENTAL IMPACTS

This section provides a summary of impacts, mitigation measures, and impacts after implementation of the mitigation measures associated with development of the TSMP Project. The summary is provided by environmental issue area below in **Table ES-1**, *Summary of Project Impacts and Mitigation Measures*.

Table ES-1

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
A. Aesthetics			
Scenic Vistas	4.A-1: Project implementation would not substantially block, obstruct, or change any scenic vista or other panoramic views that are available from public vantage points. Thus, Project implementation would result in less than significant impacts regarding scenic vistas.	No mitigation measures a required.	Less Than Significant
Scenic resources	4.A-2: Project implementation would not substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Thus, Project implementation would result in less than significant impacts to scenic resources.	No mitigation measures a required.	Less Than Significant
Visual Quality and Character	4.A-3: Project implementation would be consistent with visual character policies of the Town of Mammoth Lakes General Plan and the USFS Inyo National Forest LRMP. However, construction activities may result in a temporary, visually unappealing quality, particularly when combined with concurrent construction projects. Mitigation measures are prescribed that would reduce construction	4.A-3.A: Trail development on slopes greater than 20 percent shall be avoided where feasible alternative alignments exist. If a feasible trail alignment does not exist, design features shall be employed to minimize erosion to the maximum extent feasible. Also refer to mitigation measures provided in Section 4.E, <i>Geology/Soils</i> , and Section 4.H, <i>Hydrology and Water Quality</i> , of this EIR, that also address soil	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	<p>impacts to a less than significant level. Visual quality impacts associated with long-term operation of the Project would be less than significant.</p>	<p>erosion impacts.</p> <p>4.A-3.B: Mature, healthy, native trees shall be circumvented or avoided through the design of trail alignments to the extent feasible. The need for replacement of trees shall be evaluated and implemented based on Healthy Forest and Fire Safe Council principles.</p> <p>4.A-3.C: All disturbed areas, cuts, graded areas, and cleared areas should be stabilized and hydroseeded with an approved seed mix upon completion of the individual construction project, or as seasonally appropriate. Visually prominent cut areas that are too steep for re-vegetation shall be supported or covered with natural materials or materials that have a natural appearance.</p> <p>4.A-3.D: Retaining walls that are visually prominent shall be composed, to the extent feasible, of natural or natural-appearing materials, or finished or treated to give the appearance of natural materials. Generally, large, above-grade, plain concrete walls shall not be permitted.</p> <p>4.A-3.E: Adverse effects on natural</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>features that stand out or are distinctive in a particular setting shall be avoided through the location and design of trail alignments. Where alignments cannot be avoided, additional screening vegetation shall be planted to obscure the trail relative to the adjacent feature.</p> <p>4.A-3.F: Fill or debris piles and large construction equipment visible from public viewpoints shall be removed from construction sites as soon as practicable or located, covered and/or screened so as to minimize their visual appearance.</p>	
Light and Glare	4.A-4: With implementation of the Town of Mammoth Lakes Outdoor Lighting Ordinance, night lighting for MUP segments and other trail component facilities would be directed downward to avoid harsh contrasts or unnecessary light intensity, direct glare, and light trespass and would protect dark skies. Thus, lighting would not substantially adversely affect day or nighttime views in the Project Area.	No mitigation measures a required.	Less Than Significant
A. Air Quality			
Consistency with Air Quality Plan	4.B-1: Project implementation would result in less than	4.B-1.A : All active portions of the construction site shall be watered	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	significant air quality impacts and would not conflict with or obstruct implementation of the applicable air quality plan.	to prevent excessive amounts of dust. 4.B-1.B : On-site vehicles' speed shall be limited to 15 miles per hour (mph). 4.B-1.C : All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized. 4.B-1.D : All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust; watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day. 4.B-1.E : If dust is visibly generated that travels beyond the site boundaries, clearing, grading, earth moving or excavation activities that are generating dust shall cease during periods of high winds (i.e., greater than 25 mph averaged over one hour) or during Stage 1 or Stage 2 episodes. 4.B-1.F : All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.	
Violation of an Air Quality Standard	4.B-2: Project implementation	4.B-2: The Town shall limit the	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	would result in less than significant air quality impacts, based on the applicable threshold of significance. Potentially significant construction impacts would be reduced to a less than significant impact with implementation of the prescribed mitigation measure and would not violate applicable air quality standards nor substantially contribute to an existing or projected air quality violation.	extent of mass grading for all simultaneous TSMP construction and maintenance activities to no more than 5 acres of active disturbance daily.	
Cumulatively Considerable Net Increases of a Criteria Pollutant	4.B-3: Project implementation would result in less than significant cumulative considerable net increases of any criteria pollutant for which the project region is non-attainment air quality impacts, based on the applicable federal or state ambient air quality standards (including ozone precursors).	4.B-3: The Town shall limit TSMP construction activities in the following manner so as to ensure exhaust emissions shall not exceed the established daily thresholds for gaseous pollutants: No more than 20 pieces of construction equipment operating simultaneously per 8-hour day, or 16 pieces operating 10 hours per day, averaging 200 hp rated engine capacity. Each on-road delivery or haul truck traveling approximately 200 miles per day equals one piece of non-road equipment, and shall be included in the daily limit.	Less Than Significant
Expose Sensitive Receptors to Substantial Pollutant Concentrations	4.B-4: Implementation of the Project would not expose sensitive receptors in the vicinity of the	No mitigation measures are required.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	Project Area to substantial pollutant concentrations.		
C. Biological Resources			
Sensitive Species	4.C-1: Project elements are proposed within habitats that could support sensitive animal species, a limited number of sensitive plant species, and several special-status plant and wildlife species. In such cases, the loss of habitat and individuals of sensitive species would be considered potentially significant and would warrant mitigation. The analysis has concluded that impacts to these sensitive species would be reduced to a less than significant level with implementation of the prescribed mitigation measures.	4.C-1: Willow Flycatcher: Prior to approval of individual projects proposed under the TSMP or PRMP that have the potential to substantially disturb riparian vegetation associated with Mammoth Creek and its tributaries, the Town shall require a habitat evaluation by a biologist well versed in the requirements of willow flycatcher to be completed. If no suitable habitat for the species is identified within 300 feet of construction or maintenance activities, no further measures would be required in association with the project. If suitable habitat for the species is identified within 300 feet of such activities, prior to construction the Town shall require that a survey be completed by a qualified biologist for the species according to CDFG survey guidelines (Bombay et. al., May 29, 2003). This survey protocol requires a minimum of two surveys, one between June 15-25 and one during either June 1-14 or June 26-July 15. Surveys during these periods must be at least five days apart and the second survey shall be conducted no more than	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>one week prior to clearing of vegetation and/or the operation of motorized heavy equipment. If the surveys determine the species is not present within 300 feet of the area to be affected by an individual project, no further action shall be required. If, however, willow flycatcher is determined to be present and is using habitat within 300 feet of Project-related activities, inclusive of nesting and foraging, the Town shall consult with CDFG prior to initiating any construction activities in the area. Consultation may entail the processing of a 2081 Incidental Take Permit that includes certain conditions to avoid and/or mitigate for potential impacts to the species. Such conditions could include, but not be limited to, restrictions on the time of year for construction, noise monitoring, restrictions on equipment use, and others.</p> <p>4.C-2: To the extent practicable, brush and tree removal activities for trail and facilities and major construction activity shall be initiated outside of the nesting bird season, which is generally held to be from April 1 to August 31 in the Mammoth Lakes area, and shall be carried out with no more than a</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>two week lapse in the work. If the Town deems this to not be practicable the Town shall require a nesting bird survey by a monitoring biologist to be conducted within 300 feet (for songbirds) and 500 feet (for raptorial birds) of construction sites no more than one week prior to initiating construction to ensure no birds protected under the MBTA and/or State Fish and Game Code Section 3503 et seq. are harmed or harassed.</p> <p>If no active nests of songbirds and raptors are found within 300 feet and 500 feet, respectively, of the construction site, the work may begin. If active nests are found within the survey areas the Town shall delineate a buffer zone of 300 feet and 500 feet for songbirds and raptors, respectively, around the nest. Based on the nature of the work to be performed and the equipment to be used, the monitoring biologist may reduce the buffer zone based on intervening vegetation and topography. Such buffer zones shall remain in place until the young in the nest have fledged or the nest has failed, as determined by the monitoring biologist.</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>All projects involving removal of trees or vegetation capable of supporting nesting birds shall be subject to the requirements of this Mitigation Measure.</p> <p>4.C-3: Other Sensitive Wildlife: As discussed earlier, there are a number of wildlife species of concern to federal and State resource agencies that are known or are expected to occur in the Project area.</p> <ul style="list-style-type: none"> • For such avian species, implementation of the mitigation measure for nesting birds below will suffice in reducing impacts to these species to less than significant. • For such amphibian species, including the Mount Lyell salamander and Yosemite toad, where suitable habitat exists for these species in the project area, a thorough search of areas to be disturbed shall be made by construction personnel trained in the methods of searching for these species. If any amphibians are found, regardless of species, they will be captured and relocated in like habitat no less 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>than 100 feet away from construction sites.</p> <ul style="list-style-type: none"> • For such sensitive mammal species with the potential to occur in conjunction with particular project components, including the Sierra Nevada red fox, American marten, Sierra Nevada mountain beaver, Townsend’s western big-eared bat, and Mount Lyell shrew, and where suitable habitat for these species exists in the project area, pre-construction surveys shall be conducted by a biologist familiar with the sign of each species to identify signs of their presence or determine their absence no more than two weeks prior to initiating construction activities. Such surveys shall encompass the area to be disturbed and the habitat within 300 feet of construction activities. Due the secretive and/or nocturnal activity patterns of these species, the following signs shall be used: <ul style="list-style-type: none"> • Sierra Nevada red fox – evidence of den, normally on slopes with porous soils. • American marten – evidence of den, normally in hollow trees or downed logs. 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<ul style="list-style-type: none"> • Sierra Nevada mountain beaver – evidence of extensive tunnels, runways and burrows beneath dense streamside vegetation. • Townsend’s western big-eared bat – evidence of occupation by colonies in caves, mine tunnels, and buildings • Mount Lyell shrew – evidence of nests of dry leaves or grasses in stumps or under logs or piles of brush. <p>If no evidence of the presence of any of these species is found, no further mitigation activities shall be required. However, if evidence of the presence of any of these species is observed, impacts will be avoided or minimized in one or more of the following ways and in consultation with CDFG and/or USFS: realigning trails and relocating new facilities so as to retain a 100-foot buffer between the occupied site and construction activities and human use; suspending construction activities within 300 feet of the den, nest, or bat roosts during the breeding period, generally held to be March 1 to July 31 for these species;</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>verifying the actual occupation of dens, nests, or roosts by means such as placing tracking medium around the den or nest entrance or conducting a bat survey at the roost entrance at sunset; temporarily blocking the entrance of a den or nest verified to be unoccupied until after construction is completed; excluding winter recreational use (both motorized and non-motorized) within one-quarter mile of any known or discovered nests, dens, or roosts.</p> <p>It should be noted that the Noise assessment for the Project incorporates mitigation measures that limit engine idling from construction and avoids several pieces of equipment from operating at the same time, so as to minimize the intrusion of excessive noise into habitat areas where it could disturb sensitive wildlife.</p> <p>4.C-4: Sensitive Plants: Prior to approval of individual projects proposed under the TSMP that are located in areas not previously surveyed for sensitive plant species, and that are determined to have habitat suitable to support such plants, the Town shall require that a survey be completed by a qualified botanist for sensitive</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>plant species within 100 feet on either side of a trail alignment or within the disturbance area of other proposed facilities. These surveys shall be conducted during the flowering period for the target species when they are most readily detectable. For those species with at least a low potential to occur in the Project area, this period is usually from late June to mid-August. For reference, the flowering period for individual species is provided in Table 5, Sensitive Plant Species, of the Biological Resources Assessment Trails System Master Plan – Recreational Resources Master Plan (July 2011). If no sensitive plant species are located within the area of disturbance, no further action shall be required. If sensitive plant species are located within such areas and are likely to be impacted by and individual project, conservation actions shall be implemented. Such actions shall include, but not necessarily be limited to re-routing the trail alignment so as to avoid or minimize impacts to sensitive plants while preserving an off-site population that is substantially larger than the population to be impacted, developing a</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		transplantation program, and collecting seeds to move populations elsewhere out of harm's way. These measures shall be developed in consultation with the CDFG and USFS.	
Sensitive habitats	4.C-2: Construction and maintenance activities, direct human activity, and invasion by exotic plant species could result in the loss of high priority inventory communities. These impacts would be considered potentially significant and would warrant mitigation. The analysis has concluded that impacts to these sensitive species would be reduced to a less than significant level with implementation of the prescribed mitigation measure.	<p>Refer to Mitigation Measure 4.C-2 and the following mitigation measures:</p> <p>4.C-5: Sensitive Habitats: As previously noted, there are three vegetation types within the Project area that are considered sensitive. These are aspen forest and woodland, mixed willow riparian, and montane wet meadow. To the extent practicable new trails and other recreational facilities shall avoid these vegetation types. In the event this is not practicable impacts will be minimized by restricting the Project footprint, including temporary and permanent impacts, to the minimum required to implement the project. Mitigation for trees that are necessary to remove has also been incorporated in the Project's Aesthetics and Visual Resources assessment.</p> <p>In the event the Town elects to repair, maintain and/or improve trail crossings along stream</p>	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>courses and other drainage features (that often support the sensitive vegetation types mentioned above) in association with individual projects proposed under the TSMP, prior to project approval the Town shall notify and consult with the CDFG regarding the need for a Streambed Alteration Agreement (SAA). All work shall be performed in compliance with the conditions set forth in the SAA, as determined by the CDFG. Such conditions may include the in-kind replacement or restoration of riparian habitat at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts within the Project Area, or as otherwise directed by the CDFG. Alternatively, if the impacts are very minor, the CDFG may, at its discretion, allow the work to proceed under a letter of law without mitigation other than notification and consultation.</p> <p>As part of the SAA agreement process and prior to beginning construction within CDFG regulated drainages, a Habitat Mitigation and Monitoring Plan (HMMP) should be developed in coordination with the CDFG and USFS if necessary that ensures no</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>net loss of riparian habitat value or acreage. The HMMP shall include, but not necessarily be limited to, the following:</p> <ul style="list-style-type: none"> • The establishment of a reference site near regulated resources to be impacted that have similar hydrology, soil regimes, and exposure as the resources to be impacted. • The establishment of baseline conditions at the reference site regarding absolute native shrub and tree cover, woody shrub and tree stalk density, percentage cover by non-native plant species, and plant species diversity the vegetation using the Sorensen method (Stiling, 1999) within a 400 square foot prescribed reference plot. • The establishment of a restoration site to encompass the mitigation needs of one or more Project elements either on the Project element site or off site within the Mammoth Creek watershed. • A minimum 3-year establishment, monitoring, and maintenance (trash collection, weeding, etc.) period. • The establishment of the 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>following success criteria within a 400 square foot prescribed plot within the restoration site – 70 % of baseline absolute cover by native shrubs and trees; 70 % of baseline woody shrub and tree stalk density; no more than 5% cover by non-native plant species; and a Sorensen value of 0.6.</p> <p>The HMMP shall be subject to CDFG approval and may require additional measures in addition to the mitigation discussed above. Because the implementation of individual projects proposed under the TSMP is expected to occur over several years, the Town should also explore the processing of a Programmatic SAA with CDFG.</p> <p>Also of note, the Project’s Hydrology and Water Quality assessment identified several mitigation measures which are consistent with the protection of sensitive riparian and wet meadow vegetation. These include: measures that control erosion; avoidance of wet areas, springs, wetlands, and the lower portions of slopes; crossing structures at stream crossings; and, the establishment of 5 foot wide vegetation buffers between trails,</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>streams, and wetlands. Implementation of these mitigation measures would further reduce the potential impacts to sensitive habitats.</p> <p>4.C-6: Federally Protected Wetlands: In the event the Town elects to construct, repair, maintain and/or improve trail crossing in association with individual projects proposed under the TSMP within waters of the U.S. and federally protected wetlands, prior to project approval the Town shall notify and consult with the ACOE regarding the need for a Section 404 Permit and the RWQCD regarding the need for its 401 certification. All work shall be performed in compliance with the conditions set forth in the Permit, as determined by the ACOE. Such conditions may include the in-kind replacement or restoration of waters and/or wetlands at a ratio of 1:1 for temporary impacts and a ratio of 2:1 for permanent impacts within the Project Area, or as otherwise directed by the ACOE. Alternatively, if the impacts are less than 0.1 acre, the ACOE may, at its discretion, allow the work to proceed without mitigation other than notification and consultation.</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		The mitigation shall use the same approach as for the mitigation of impacts to CDFG regulated resources (see 4.C-5, above). As is usually the case, CDFG jurisdiction extends beyond that of ACOE and mitigation for impacts to CDFG regulated resources is inclusive of ACOE mitigation needs.	
Wetlands	4.C-3: Construction and maintenance of park and trail facilities could affect wetlands through potential dredging and filling activities. This impact would be potentially significant and may require CWA Section 404 Permits from the ACOE, and a certification from the RWQCB. With the implementation of such permits and the prescribed mitigation measure, impacts would be reduced to less than significant levels.	Refer to Mitigation Measure 4.C-6	Less Than Significant
Wildlife Corridors	4.C-4: Impacts related to the movement of wildlife are not expected to be significant and no mitigation would be required.	No mitigation measures are required.	Less Than Significant
Local ordinances	4.C-5: Potential conflicts between humans and their pets and wildlife are likely to currently occur within and adjacent to the Project Area, particularly in the SHARP area and, as such, the Project could conflict	4.C-7: Local Policies or Ordinances: In order to educate trail and facility users about the potential for human/wildlife conflicts, the Town shall install signage at all new entry points to the trail system that	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	with the management goals and standards and guidelines of the Inyo National Forest Land and Resource Management Plan (LRMP). This impact could be significant and mitigation would be warranted. With the implementation of the prescribed mitigation measures, impacts would be reduced to less than significant levels.	include warning signs. The signs shall explain the risks and potential dangers that could be encountered by trail use and include instructions for what to do in case of a potential human/wildlife conflict. The signage shall include, but not necessarily be limited to the following: refer to the Police Department/Wildlife Management Officer, USFS personnel and/or CDFG personnel as appropriate when dealing with bears; prohibitions on feeding wildlife; warnings against approaching wildlife; and user responsibilities for removing trash.	
Conservation Plans	No impacts with respect to adopted conservation plans are expected and no mitigation would be required.	No mitigation measures are required.	No Impact
<i>D. Cultural Resources</i>			
Historic Resources	4.D-1: Project implementation would potentially impact historical resources within the Project Area. However, analysis has concluded that impacts to historic resources would be reduced to a less than significant level with implementation of the prescribed mitigation measures.	4.D-1: The Old Mammoth City neighborhood and Sherwin’s Grade Toll Road are both previously identified California Points of Historical Interest, and therefore, improvements on or adjacent to the points of interest that have the potential to directly impact these resources or their settings, must be designed to comply with the Secretary of the Interior’s Standards. Likewise, the Ranger	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Station and/or CCC Camp administration buildings/campground in the vicinity of the Shady Rest Sawmill Cutoff Road, on USFS lands, are previously surveyed resources that require reevaluation by qualified surveyors, if determined necessary. Prior to designing or implementing projects in this area, the Town shall engage a qualified historic preservation consultant to review the proposed projects. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The Town shall undertake and complete construction in a manner consistent with the preservation consultant's recommendations to ensure that the Project meets the Secretary of the Interior's Standards for Rehabilitation. The preservation consultant shall review the final construction</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>drawings for conformance to the Secretary of the Interior’s Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior’s Standards is considered fully mitigated under CEQA. For projects on federal lands, upon completion of any report on findings, the State Historic Preservation Officer shall be consulted to allow for Section 106 review and concurrence with the study findings.</p> <p>4.D-2: The Hayden Cabin is listed on the California Register and new adjacent construction, additions, or rehabilitation to the Hayden Cabin or its contributing property setting visible from the Hayden Cabin, other than surface trail or minor paving improvements, must comply with the Secretary of the Interior’s Standards. Prior to designing or implementing such improvements in this area the Town shall engage a qualified historic preservation consultant to review the proposed Project. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Secretary of the Interior’s Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary’s Standards and Guidelines. The Town shall undertake and complete construction in a manner consistent with the preservation consultant’s recommendations to ensure that the Project meets the Secretary of the Interior’s Standards for Rehabilitation. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior’s Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior’s Standards is considered fully mitigated under CEQA.	
Archaeological Resources	4.D-2: Project implementation has the potential to significantly impact archaeological resources in the Project Area. However, analysis has concluded that impacts to archaeological resources would be reduced to a	4.D-3: The Town shall conduct a Phase I Cultural Resources Assessment of the Project to identify any archaeological resources within the area of a proposed project component. The Area of Potential Effect (APE) will	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	<p>less than significant level with implementation of the prescribed mitigation measures.</p>	<p>be the focus of the analyses for projects located on federal lands per Section 106. The Phase I assessment shall include cultural resources records searches through the Eastern Information Center (as needed) and the Inyo National Forest Field Office, a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the Project area (Note: Surveys may not be required in areas of the TSMP and SHARP that have already been surveyed unless resources were identified, such a determination should be made in consultation with the Inyo National Forest). For projects on federal lands, upon completion of any report on findings, the State Historic Preservation Officer shall be consulted to allow for review and concurrence with the study findings.</p> <ul style="list-style-type: none"> • If resources are identified during the Phase I assessment, then a Phase II assessment shall be required, as described in Mitigation Measure 4.D.-4 • If no resources are identified as part of the assessment, no 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>further analyses or mitigation shall be warranted, unless it can be determined that the project has a high potential to encounter buried archaeological or historical resources;</p> <ul style="list-style-type: none"> • If it determined that there is a moderate or high potential to encounter buried archaeological resources, appropriate mitigation shall be developed and implemented. Appropriate Mitigation may include realignment of the trail to avoid the sensitive area, in which case no additional mitigation would be required. If avoidance is not possible, appropriate mitigation may include but not be limited to the following: <p><u>Archaeological Monitoring During Construction:</u> A qualified archaeologist shall be retained by the Town and approved by the reviewing agencies prior to the commencement of the Project. The archaeologist shall monitor all ground-disturbing activities and excavations within the Project area. If archaeological resources are encountered during implementation of the Project, ground-disturbing activities shall temporarily be redirected from the</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>vicinity of the find. The archaeologist shall be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a testing/data recovery investigation or preservation in place. The archaeologist shall prepare a final report about the find to be filed with the Town and the CHRIS-EIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California and National Registers. The Town, in consultation with the archaeologist, shall designate repositories to curate any material in the event that resources are recovered on Town property. If the resources are encountered on private land, the landowner shall determine appropriate curation in consultation with the archaeologist and Lead Agency. If archaeological resources are encountered on federal lands, ground-disturbing activities shall cease in the</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. The Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.</p> <p>4.D-4: If resources are identified during the Phase I assessment, a Phase II Cultural Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resources, or if an alternate alignment is not selected. The Phase II assessment shall evaluate the resource(s) for listing in the California Register of Historical Resources (per CEQA) and the National Register of Historic Places (per Section 106). If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological excavations, additional background research, and coordination with interested individuals in the community.</p> <p>4.D-5: If, as a result of the Phase II assessment, resources are</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>determined eligible for listing, potential impacts to the resources shall be analyzed and if impacts are significant and cannot be avoided, mitigation measures shall be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Cultural Resources Assessments shall be implemented. Phase III assessments can include, but are not limited to: additional subsurface archaeological excavations (i.e., data recovery) and/or archaeological monitoring during ground-disturbing activities. For projects on National Forest lands, coordination and concurrence with the Inyo National Forest and State Historic Preservation Officer regarding treatment or mitigation shall be required. The performance standard for this mitigation measure is to reduce potential impacts to archaeological resources to a less than significant level.</p> <p>4.D-6: If archaeological resources are encountered during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find. The Town shall</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>immediately notify a qualified archaeologist of the find. The archaeologist should coordinate with the Town as to the immediate treatment of the find until a proper site visit and evaluation is made by the archaeologist. Treatment may include the implementation of an archaeological testing or salvage program. All archaeological resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the CHRIS-EIC. The archaeologist shall prepare a final report about the find to be filed with the Town and the CHRIS-EIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California and National Registers. The Town, in consultation with the archaeologist, shall designate repositories to curate any material in the event that resources are recovered on Town property. If the resources are encountered on private land, the landowner shall determine appropriate curation in consultation with the archaeologist</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>and Lead Agency. The archaeologist shall also determine the need for archaeological monitoring for any ground-disturbing activities in the area of the find thereafter. If archaeological resources are encountered on federal lands, ground-disturbing activities shall cease in the immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. In such cases, the Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.</p> <p>4.D-7: If human remains are encountered unexpectedly during construction excavation and grading activities, pursuant to California Health and Safety Code Section 7050.5, the Applicant shall halt ground-disturbing activities within the area of the human remains and notify the County Coroner. If the remains are determined to be of Native American descent, the coroner shall have 24 hours to notify the California Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>Descendant of the deceased Native American, who shall have 48 hours from notification by the NAHC to inspect the site of the discovery of Native American remains and to recommend to the Applicant or landowner means for treating and disposition, with appropriate dignity, the human remains and any associated grave goods. The Applicant or landowner shall reinter the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance. If the remains are determined to be of Native American descent and are located on federal lands, the coroner has 24 hours to notify the NAHC and the Inyo National Forest of the discovery. The Inyo National Forest shall take the appropriate steps to comply with the federal Native American Graves Protection and Repatriation Act (NAGPRA). NAGPRA stipulates that Native American remains and associated funerary objects belong to lineal descendants. If the descendants cannot be identified, then those remains and objects, along with unassociated funerary or sacred object and objects of cultural patrimony belong to the tribe on</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		whose lands the remains were found or the tribe having the closest relationship to them.	
Paleontological Resources	4.D-3: Project implementation would potentially impact paleontological resources in the Project Area. However, analysis has concluded that impacts to paleontological resources would be reduced to a less than significant level with implementation of the prescribed mitigation measure.	Mitigation Measure 4.D-8: If paleontological resources are encountered during implementation of the Project, ground-disturbing activities shall temporarily be redirected from the vicinity of the find. The Town shall immediately notify a qualified paleontologist of the find. The paleontologist shall coordinate with the Town as to the immediate treatment of the find until a proper site visit and evaluation is made by the paleontologist. Treatment may include the implementation of salvage excavations or preservation in place. The paleontologist shall prepare a final report on the find that shall include appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Town and an appropriate paleontological institution, and shall accompany any curated fossils. The paleontologist shall also determine the need for paleontological monitoring for any ground-disturbing activities in the area of the find thereafter. If paleontological resources are	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		encountered on federal lands, ground-disturbing activities shall cease in the immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. In such cases, the Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.	
Human Remains	4.D-4: The Project could impacts older burial sites or human remains associated with archaeological sites. However, impacts would be reduced to less than significant levels with the implementation of mitigation measures related to archaeological resources.	Refer to Mitigation Measures 4.D-1 through 4.D-7	Less Than Significant
<i>E. Geology and Soils</i>			
Seismic Ground Shaking	4.E-1: Project implementation would result in less than significant seismic-related ground shaking and liquefaction impacts, as well as volcanic and carbon monoxide impacts, based on the Project's compliance with applicable regulatory requirements. Potentially significant landsliding impacts would be reduced to a less than significant level with implementation of the prescribed	4.E-1.A: Trail development on slopes greater than 20 percent shall be avoided where feasible alternative alignments exist. 4.E-1.B: Prior to trail development on slopes 20 percent or greater, a soils and geotechnical study shall be conducted to determine the potential for landsliding and soil instability and to ensure that design measures are incorporated to avoid landslide and soils	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	mitigation measures.	instability hazards. 4.E-1.C: Trails development on slopes greater than 20 percent shall be regularly monitored and evaluated at least annually by the Town and/or USFS to ensure that unstable soil conditions do not develop. Should unstable soil conditions develop, the trail shall be temporarily closed until conditions are improved.	
Soil Erosion/Loss of Topsoil	4.E-2: Project implementation could result in substantial soil erosion or loss of topsoil impacts. Potentially significant impacts would be reduced to a less than significant level with implementation of the prescribed mitigation measure.	Refer to Mitigation Measures 4.H-4, 4.H-9, 4.H-10, 4.H-11, 4.H-12, 4.H-14, 4.H-15, 4.H-16, and 4.H-17 in Section 4.H, <i>Hydrology and Water Quality</i> , of this EIR.	Less Than Significant
Soil Stability	4.E-3: While the geologic units and soils within the Town are generally considered to be adequate and would support the Project, there would be potentially significant impacts regarding landslides. Potentially significant impacts regarding landslides would be reduced to a less than significant level with implementation of the prescribed mitigation measures.	Refer to Mitigation Measures 4.E-1.A to 4.E-1.C	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Soil and Alternative Waste Disposal Systems	4.E-4: Project implementation would result in less than significant impacts regarding septic and other wastewater disposal systems based on the Project's compliance with applicable regulatory requirements.	No mitigation measures are required	Less Than Significant
<i>F. Greenhouse Gas Emissions</i>			
GHG Emissions	4.F-1: Based on the applicable threshold of significance, Project implementation would not cause significant GHG emissions. Potentially significant construction impacts would be reduced to a less than significant impact with implementation of the prescribed mitigation measure.	Refer to Mitigation Measures 4.B-1.A through 4.B-1.F and 4.B-3	Less Than Significant
Plan Consistency	4.F-2: Project implementation would result in less than significant impacts regarding GHG emissions based on the Project's compliance with applicable regulatory requirements and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	No mitigation measures are required	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
G. Wildland Fires/Fire Protection			
Wildland Fires	4.G-1: Implementation of the TSMP could incrementally increase exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	4.G-1.A: As individual projects are implemented under the TSMP, the Town shall undertake actions when applicable to reduce the risk of wildfires. On National forest lands, these actions shall be coordinated with the USFS to ensure consistency with that agency’s standards and guidelines. Specific actions may include but are not limited to : 1) maintain and incorporate design features to facilitate use of MUPs and other facilities, where feasible and appropriate to accommodate emergency vehicles ; 2) provide signage at trail heads and along trails relating to fire prevention (i.e., No Smoking signs, fire danger level signs); 3) provide fuel modification and other fuel treatment applications within Project Areas where appropriate; 4) ensure the maintenance and patrol of trails in the Project Area; and, 5) enforce curfews or other rules to limit unwanted activity in Project Areas during daylight hours and after-hours.	Less Than Significant
Fire Protection Services	4.G-2: Implementation of the TSMP would not result in substantial adverse physical impacts associated with the	No mitigation measures are required	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.		
H. Hydrology and Water Quality			
Water Quality	4.H-1: Project construction and operation may result in water quality impacts due to sheet erosion of exposed soils and subsequent deposition of particles and pollutants in the area's water bodies. Analysis has concluded that potentially significant water quality impacts would be reduced to a less than significant level with compliance to applicable regulatory requirements and implementation of the prescribed mitigation measures.	4.H-1: Development and siting of individual projects shall avoid to the extent feasible modification of hydrologic conditions, including alteration of flow regimes and disruption of watershed levels. 4.H-4:: Measures to reduce erosion shall be implemented in the design of all trails. Measures shall include but not be limited to any of the following, as appropriate: <ul style="list-style-type: none"> a. Diversion and dissipation of standing water to adjacent landscape b. Directing of concentrated flows to velocity dissipaters to control erosion or limit flows to overland sheet flow c. Aligning paths to avoid 	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>concentration of runoff</p> <p>d. Maintaining natural depressions to allow natural storm attenuation</p> <p>4.H-5:: Where projects are not required to file a SWPPP on the Storm Water Multiple Application and Report Tracking System (SMARTS), each project shall install and maintain appropriate BMP's in conformance to the methods identified in the California Stormwater Quality Association (CASQA) handbook of Best Management Practices. The BMP's used shall relate to the type of work required for each project. All BMP's shall be considered for each project following the BMP checklist. A note shall be made as to the reason for not incorporating any specific BMP.</p> <p>4.H-6: Trail alignments shall be designed to the extent feasible to avoid wet areas, springs, wetlands, and the lower portions of slopes, especially those that are north facing. Where such features cannot be avoided, improvements such as boardwalks, turnpikes, puncheons, or other effective means of elevating the trail tread above sensitive resources, as determined</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>appropriate by the Town and/or USFS, shall be implemented. Replacement, restoration or other suitable measures as required by CDFG, ACOE and the Basin Plan may also be required if avoidance of wetland areas is not feasible.</p> <p>4.H-7: Crossing structures shall be provided at year-round stream crossings to protect wetland areas. Necessary streams and wetlands crossings shall minimize channel crossing dimension by selecting narrow areas where root support is adequate for bridge footings, and spans are outside of flood waters or subject to floodplain dynamics, whenever possible.</p> <p>4.H-8: Prior to construction of trails facilities, engineering analysis shall be completed to determine the presence of water resources, including wetlands, streams, and riparian areas (i.e., areas along the banks of a stream or river). Any such resources located within 200 feet of any proposed trail or facility, shall be identified as “receiving resources” and mapped. Such mapping shall be consulted regarding potential for sediments deposits, placement of trail drainage structures, maneuvering of maintenance</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>equipment, season of work, interception and infiltration of trail drainage, and disposal of earth materials generated during construction or maintenance activities. Design considerations such as placement of trail alignments away and down-gradient from sensitive resources, as well as erosion-minimizing features such as retaining walls, vegetation buffers, grade reversals, knicks, puddle drains, rolling grade dips, water bars, and pavers shall also be implemented, as appropriate, to protect water quality in such "receiving resources."</p> <p>4.H-9: Throughout trail construction and maintenance activities, operation of heavy equipment on soft surface trails and unpaved areas shall be avoided when they are wet. During periods that trails are wet, alternative routes for heavy equipment shall be selected.</p> <p>4.H-10: Establish minimum 5 foot vegetation buffers between trails, streams and wetlands prior to trail construction activities, and provide ongoing maintenance of these buffer areas throughout the operational life of the trails. Create</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>these buffers between trails and water resources by establishing riparian and streamside management zones, within which trail influences such as drainage, disturbance and trail width are minimized.</p> <p>4.H-11: In accordance with the trail design guidelines presented in Chapter 6 of the TSMP, avoid steep trail grades in excess of 10 percent where less steep alternative alignments are available and feasible. Where steep trail grades cannot be avoided, trail design features such as climbing turns, stairs/steps, and switchbacks shall be employed to minimize stormwater runoff velocities to appropriate levels of non-erosive flow for the soil type.</p> <p>4.H-12: Runoff control measures shall be implemented in the design of trails as follows:</p> <ul style="list-style-type: none"> a. Maintain minimum trail gradients. Maintain positive surface drainage by means of out-sloped, in-sloped, or crowned sections having cross slopes of 3 percent to 5 percent for soft surfaced trails and 2 percent for hard surfaced trails. The trail 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>surface should be graded to shed water before it can run very far down the trail. MUPs with significant cut-slopes shall be designed to eliminate drainage down or across fill slopes to prevent erosion.</p> <p>b. Maintain the minimum trail width suitable for uses specified. Maintain only the width of trail necessary to support the designated uses.</p> <p>c. Avoid long sustained grades that concentrate flows by providing drainage at frequencies appropriate for soils and gradients. Roll grades or undulate the trail profile frequently to disperse water from the trail. Features such as rolling dips and water bars to provide essential drainage relief shall be incorporated into soft surface trail design.</p> <p>d. Prevent erosion at outlets of rolling dips and culverts through incorporation of measures that include but are not limited to: armoring of drainage outlets with rock to prevent erosion; spreading of brush or native organic</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>debris in lead-off ditches to slow the velocity of the runoff and facilitate the deposition of sediments.</p> <p>e. Install pipes and ditches, including road and trail under-drains (culverts) and associated ditches, when other measures would not be effective, and only when maintenance funds are available to maintain them.</p> <p>f. Avoid discharging trail runoff onto fill slopes and unprotected slopes. Fill slopes should be armored where runoff is discharged onto them or the runoff should be conveyed in a down drain to a location where sediments can be deposited and flow infiltrated.</p> <p>g. Avoid concentrated runoff from flowing on to trails and paths.</p> <p>4.H-13:: Prior to construction of trails and trails related facilities, complete more detailed engineering study to determine the appropriate design and sizing of storm drain facilities, based on hydrologic data. All culvert sizes</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>shall be prescribed by a qualified engineer based on the size of the contributing watershed and best hydrologic data available.</p> <p>4.H-14:: A Maintenance Plan for proposed trails shall be developed in conjunction with design that specifies the type and frequency of maintenance activities to be employed for the soil types and terrain of the trail or MUP. Trails and MUPS shall be designed to minimize the need for regarding. The following provisions shall also apply to trail maintenance activities per the Maintenance Plan:</p> <ul style="list-style-type: none"> • Season of work. Maintenance work that results in disturbed earth should be conducted outside the wet season (typically October 15 to May 1). If necessary, blading shall be done when the trail surface materials are moist, but not dry, to the extent possible. • Disposal/storage of excess earth materials. Areas for disposal of excess earth materials generated during maintenance activities shall be designated in the Maintenance Plan. Excess 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>earth materials that must be stored shall be covered with plastic or a thick layer of wood chips.</p> <p>4.H-15: : Areas of disturbed earth shall be seeded with native plant materials and mulched as soon as possible after disturbance. Also refer to Mitigation Measure 4.A-3, in Section 4.A, <i>Aesthetics and Visual Resources</i>, of this EIR. Wood chips shall not be used where improved drainage facilities are located, that could become clogged.</p> <p>4.H-16:: In parking areas, avoid grades in excess of 5 percent where possible. Design of all parking areas shall adhere to the following:</p> <ul style="list-style-type: none"> a. Design Parking areas to minimize concentration of runoff. b. Maintain the smallest paved area feasible to meet parking requirements. c. Install sand/oil separators to collect and contain pollutants from runoff from parking areas. d. Install infiltrators and oil/water separators to collect initial runoff from parking 	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		<p>lots.</p> <p>e. Connect parking areas to existing storm drainage systems or install level spreaders. If necessary drainage outlets shall be armored with rock to prevent erosion. Brush or native organic debris can be spread in lead-off ditches to slow the velocity of the runoff and facilitate the deposition of sediments.</p> <p>f. Avoid discharging runoff onto fill slopes and unprotected slopes. Fill slopes receiving discharge shall be armored, or runoff shall be conveyed in a down drain to a location where sediments can be deposited and flow infiltrated.</p> <p>g. Parking areas shall be designed in accordance with the Town's drainage design manual, and sited so as to avoid water courses and adverse effects wetlands or water quality.</p> <p>4.H-17:: At bathroom/restroom sites, areas that collect roof drainage shall be designed to be erosion resistant. Avoid conditions</p>	

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		that allow runoff from roof to cause initiation of erosion. Runoff from roofs shall be directed to non erodible surfaces. Avoid discharging runoff onto fill slopes and unprotected slopes.	
Drainage patterns	I4.H.2: The Project would cause a minor increase in impermeable surfaces and the construction of some trails may change drainage patterns by creating potential channels for surface water runoff. However, with the implementation of the requirements of the Town of Mammoth Lakes 2005 Storm Drain Master Plan; the 2008 Erosion, Drainage, and Flooding Project; applicable standards and guidelines set forth by the USFS, and applicable SWPPP and SUSMP (intended to protect the water quality) the Project would not substantially increase runoff or alter the existing drainage patterns of the area. Therefore, the impact of the Project with respect to storm water and other drainage patterns would be less than significant.	No mitigation measures are required	Less Than Significant
Flooding	4.H-3 : The Project would locate trails and amenities within FEMA-designated 100-year flood zones	4.H-2: No structures, such as foundation berms, shall be designed or constructed in FEMA	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	and expose users to potential flood conditions. Any bridges placed across waterways could potentially exacerbate flood conditions. With trail design consistent with existing regulatory design manuals, location of facilities outside areas of flooding in excess of one foot and/or cautionary signage (mitigation measure), the risk of loss, injury or death involving flooding would be reduced to a less than significant level.	designated 100-year flood zones in such as way as to retain, divert or, otherwise exacerbate flooding conditions for adjacent properties. All bridges shall maintain a clear span of one foot, vertically and horizontally, from the high water mark of a 100-year storm or flood, whichever is greater. 4.H-3: Placement of trails and trails-related facilities in areas subject to flooding depths in excess of one foot shall be avoided to the extent feasible. Where designated areas of flooding in excess of one foot cannot be avoided, signage shall be provided to warn of potential flood hazard.	
<i>I. Land Use and Planning</i>			
Plan Consistency	4.I-1: The Project would be substantially consistent with applicable adopted plans, including the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan. Land use impacts with respect to adopted plans would be less than significant.	No mitigation measures are required	Less Than Significant
<i>J. Noise</i>			
Construction-Related Noise	4.J-1: Construction activities associated with Project implementation would be	4.J-1.A: Engine idling from construction equipment such as bulldozers and haul trucks shall be	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	conducted within the daytime hours specified in the Town's noise ordinance. Construction noise impacts would be less than significant for the Priority Projects but would be potentially significant for the Recreation Nodes and Trail Enhancements.	limited, to the extent feasible. 4.J-1.B: The construction staging areas shall be located as far as feasible from sensitive receptors. 4.J.1.C: All construction activities shall comply with the Town's noise Ordinance.	
Construction Vibration	4.J-2: Construction activities would have a minimal effect on the existing vibration environment within and adjacent to the Project Area. Thus, construction vibration impacts would be less than significant.	No mitigation measures are required	Less Than Significant
Operational Noise	4.J-3: Project implementation would have a minimal effect on the existing noise environment within and adjacent to the Project Area. Thus, long-term noise impacts would be less than significant.	No mitigation measures are required	Less Than Significant
Operational Vibration	4.J-4: Project implementation would not generate excessive vibration levels to nearby sensitive receptors. Thus, long-term vibration impacts would be less than significant.	No mitigation measures are required	Less Than Significant
K. Recreation			
Parks and Recreational Facilities	4.K-1: The Project would not increase the use of existing neighborhood and regional parks	No mitigation measures are required	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or cause the need to construct new or expanded alternative recreational facilities, the construction of which would result in adverse secondary physical effects. Thus, less than significant impacts to recreational facilities would occur with Project implementation.		
Consistency with Recreation Plans	4.K-2: The Project would be consistent with the recreational policies of applicable adopted plans, including the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan. Recreational impacts with respect to adopted plans would be less than significant.	No mitigation measures are required	Less Than Significant
<i>L. Transportation/Traffic</i>			
Traffic Impacts	4.L-1: Implementation of the proposed TSMP and SHARP could conservatively generate an increase of approximately 100 one-way vehicle trips throughout Town during the busiest hour of trail use during the summer and approximately 46 one-way vehicle trips throughout Town during the busiest hour of trail use during the	No mitigation measures are required	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	winter. These increases are not expected to cause intersection or roadway conditions to exceed adopted standards during the summer and winter seasons.		
Vehicle-Miles Traveled	4.L-2: The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area, improved neighborhood access, and improved multi-modal infrastructure. Therefore, the Project would not cause a significant increase in VMT during the summer or winter seasons. No mitigation measures would be required.	No mitigation measures are required	Less Than Significant
Traffic-Related Hazards	4.L-3: The Project has the potential to increase hazards associated with sight distance at the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road and with the proposed increase in pedestrian crossings. Mitigation Measures 4.L-2 and 4.L-3 are recommended to reduce these impacts to less than significant levels.	4.L-1: Modifications shall be made to provide at least 150 feet of stopping sight distance for northbound drivers approaching the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment.	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
Consistency with Applicable Plans	4.L-4: The Project would not conflict with the policies or preclude the implementation of proposed and adopted transportation improvement plans and projects. Impacts would be less than significant and no mitigation measures would be required.	No mitigation measures are required	Less Than Significant
Parking	4.D-5: The Project is expected to generate demand for approximately 52 additional parking spaces throughout the Town during the summer season and 46 parking spaces throughout the town during the winter season. Because the Project would provide approximately 60 new spaces at four TSMP locations and additional parking at SHARP sites, it would not exceed anticipated parking demand. Impacts with respect to parking would be less than significant.	No mitigation measures are required	Less Than Significant
Transit	4.D-6: Provision of transit services to trailheads under the TSMP would increase demand for transit. However, the ESTA has the flexibility to make adjustments in services, which are funded by occupancy taxes and other revenues. Revenue would increase with growth in transient	No mitigation measures are required	Less Than Significant

Table ES-1 (Continued)

Summary of Project Impacts and Mitigation Measures

Description of Impact	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
	development and respective increased demand. Because provisions are available for transit growth, increased demand for trailhead services would not significantly impact the performance or safety of transit facilities.		

1.0 INTRODUCTION

1.0 INTRODUCTION

This document is a Draft Environmental Impact Report (Draft EIR) that has been prepared at the direction and under the supervision of the Town of Mammoth Lakes (the "Town") in accordance with the California Environmental Quality Act (CEQA) and the Guidelines for California Environmental Quality Act (CEQA Guidelines), as amended.^{1,2} The TSMP is a comprehensive trails and public access plan that updates the Town's 1991 Trails System Plan. The TSMP will integrate and adopt the Sherwins Area Recreation Plan (SHARP) as a component of the TSMP, which includes proposals for trails, public access, and recreation facilities within the Sherwins area, south of the Town's urbanized area.

1. PROJECT BACKGROUND

The Town adopted a Trails System Plan in 1991 which includes the Town's "Main Path," a hard surface trail which loops around and through the town, including some sections on National forest land, and a series of "future/alternative" connector trails. Since 1991, a number of major sections of the Main Path and some connectors have been completed, with others remaining to be built. The TSMP will update and supersede the 1991 Trails System Plan. The proposed TSMP was developed through a collaborative effort between the Mammoth Lakes Trails and Public Access Foundation (MLTPA) which is a local non-profit organization, the Town of Mammoth Lakes, Mammoth Mountain Ski Area (MMSA), and the United States Forest Service (USFS). Development of the TSMP included extensive outreach efforts in the community to determine and identify the trail needs of the community. Upon completion of the Draft TSMP in February 2009, a diverse coalition of volunteer citizens in collaboration with and technical assistance from the Town of Mammoth Lakes, USFS and MLTPA, known as the Sherwins Working Group (SWG), worked to prepare the SHARP.

2. PURPOSE OF THE EIR

The Town of Mammoth Lakes is the Lead Agency under CEQA responsible for preparing the EIR for the proposed TSMP Project (State Clearinghouse No. 2010111013). This EIR has been prepared in conformance with CEQA (California Public Resources Code Section 21000 et seq.), and the *CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq.). The principal *CEQA Guidelines* sections governing content of this document are Sections 15120 through 15132 (Content of an EIR).

In accordance with Section 15121 of the *CEQA Guidelines*, a primary purpose of this EIR is to provide decision-makers and the public with specific information regarding the environmental effects associated with the Project, identify ways to minimize the significant effects and describe reasonable alternatives to the project. Mitigation measures are provided in order to reduce the significance of impacts resulting from the project. In addition, this EIR is the primary reference document in the formulation and implementation of a mitigation monitoring program for the proposed Project.

The Town, which has the principal responsibility of processing and approving the project, will use and consider information in this EIR, along with other information that may be presented during the CEQA

¹ *Public Resources Code Section 21000-21178.*

² *California Code of Regulations Title 14, Chapter 3, Section 15000-15387.*

process, during the decision to approve, disapprove, or modify the proposed Project. Significant environmental impacts cannot always be mitigated to a level considered less than significant; in those cases, impacts are considered significant and unavoidable. In accordance with Section 15093(b) of the *CEQA Guidelines*, if a public agency approves a project that has significant impacts that are not substantially mitigated (i.e., significant unavoidable impacts), the agency shall state in writing the specific reasons for approving the project, based on the Final EIR and any other information in the public record for the project. This is termed, per Section 15093(b) of the *CEQA Guidelines*, a “statement of overriding considerations.”

This document analyzes the environmental effects of the Project to the degree of specificity appropriate to the current proposed actions, as required by Section 15146 of the *CEQA Guidelines*. This analysis considers the actions associated with the Project, to determine the short-term and long-term effects associated with their implementation. This EIR discusses both the direct and indirect impacts of this Project, as well as the cumulative impacts associated with other past, present, and reasonably foreseeable future projects. CEQA requires the preparation of an objective, full disclosure document to inform agency decision makers and the general public of the direct and indirect environmental effects of the proposed action; provide mitigation measures to reduce or eliminate significant adverse effects; and identify and evaluate reasonable alternatives to the proposed project.

3. APPROACH OF THE EIR

The Project is subject to a program EIR because the TSMP constitutes a series of actions that can be characterized as one large project that is related: “...a) geographically; b) as logical parts in a chain of contemplated actions; and c) in connection with the issuance of...plans...to govern the conduct of a continuing program...” (CEQA Guidelines 15168[a]). A program EIR generally establishes a foundation for “tiered” or project-level environmental documents that may be subsequently prepared in accordance with the overall program. According to CEQA Guidelines Section 15168(b), a program EIR can provide the following advantages:

1. Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
2. Ensure consideration of cumulative impacts that might be slighted in a project-level analysis;
3. Avoid duplicative reconsideration of basic policy considerations;
4. Allow the lead agency to consider broad policy alternatives and program-wide mitigation measures at the earliest possible time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and
5. Allow a reduction in paperwork.

The Program EIR analyzes, at a general level, a broad range of proposed trails facilities, policies and management actions. In this way, decision-makers and the public can get a sense of the overall physical effects of the whole Project. The purpose of the Program EIR is to focus attention to those aspects of a future project (often a long-range plan) that could bring about adverse physical impacts. A Program EIR in this way serves as a foundation for subsequent environmental documentation and/or clearance. CEQA Guidelines Section 15146 indicates that “the degree of specificity required in an EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR...”

The Program EIR identifies and analyzes the potential environmental impacts of the program-wide policies and management actions presented in the TSMP, and proposes mitigation measures that would reduce those impacts determined to be significant. With the Program EIR, the Town and the public will be able to consider the Project in its entirety and the impacts of associated with policies and management actions in the TSMP, some of which might be overlooked if considered on a case-by-case basis. The Program EIR also allows for consideration of broad policy alternatives and their possible environmental effects in a more exhaustive manner than would otherwise be possible. Optimally, this process allows for development of program-wide mitigation measures at a stage when the Town has greater flexibility to deal with basic problems or cumulative environmental impacts, and provides an opportunity to reduce paperwork. Program-level analysis differs from project-level analysis, which benefits from detailed, specific plans of a project (i.e., grading, footprint) and usually applies more directly to actual construction.

Implementation of the majority of the management actions or policies and anticipated future trail-related components (such as new trails or facilities) included in the TSMP may require further project-level environmental analysis. In addition, some Town activities that require approval from other agencies may be subject to subsequent CEQA or NEPA review. In addition, if new information becomes known prior to implementation of an action that could lead to significant impacts, further environmental analysis would be required.

Pursuant to CEQA Guidelines Section 15161, this document has also been prepared as a “Project EIR” and is “focused primarily on the changes in the environment that would result from the development” (i.e., the construction and operation of the Priority Projects). Project-level analysis of the Priority Projects is provided where feasible in instances where site-specific information is sufficient to support a detailed analysis of environmental impacts.

In addition, alternatives to the Project are presented to evaluate whether there are alternative development scenarios that can further minimize or avoid significant impacts associated with the project.

4. COMPLIANCE WITH CEQA

The Draft EIR is subject to a 45-day review period by responsible and trustee agencies and interested parties. In accordance with the provision of Sections 15085(a) and 15087(a)(1) of the *CEQA Guidelines*, the Town, serving as the Lead Agency will: 1) publish a Notice of Availability of a Draft EIR in The Sheet a newspaper of general circulation, which states that the Draft EIR will be available for review at: Town of Mammoth Lakes, Community Development Department, 437 Old Mammoth Road, Suite R, Mammoth Lakes, California 93546; and at the Mammoth Lakes Library located at 400 Sierra Park Road, Mammoth Lakes, CA, 93546; 2) prepare and transmit a Notice of Completion (NOC) to the State Clearinghouse; and 3) send notices to the last known name and address of all organizations and individuals who have previously requested such notice in writing. Proof of publication is available at the Town. All comments on the Draft EIR should be addressed to:

Ellen Clark, Senior Planner
Town of Mammoth Lakes
Community Development Department
P.O. Box 1609
Mammoth Lakes, California 93546
Or via email at: eclark@ci.mammoth-lakes.ca.us

Any public agency or members of the public desiring to comment on the Draft EIR must submit their comments in writing to the individual identified on the document's NOC prior to the end of the public review period. Upon the close of the public review period, the Lead Agency will then proceed to evaluate and prepare responses to all relevant written comments received from both citizens and public agencies during the public review period.

The Final EIR will consist of the Draft EIR, and revisions to the Draft EIR and responses to comments addressing concerns raised by responsible agencies or reviewing parties. After the Final EIR is completed and at least 10 days prior to its certification, a copy of the response to comments made by public agencies on the Draft EIR will be provided to the respective agency.

5. EIR SCOPING PROCESS

In compliance with the *CEQA Guidelines*, the Town has provided opportunities for the public to participate in the environmental review process. During the preparation of the Draft EIR, an effort was made to contact various Federal, State, regional, and local government agencies and other interested parties to solicit comments and inform the public of the proposed project. This included the distribution of an Initial Study and Notice of Preparation (NOP), and the holding of a public scoping meeting.

a. Initial Study

In accordance with Section 15063(a) of the *CEQA Guidelines*, the Town undertook the preparation of an Initial Study. The Initial Study determined that a number of environmental issue areas may be impacted by project implementation. As a result, the Initial Study determined that this Draft EIR should address the project's potentially significant impacts on a variety of environmental issue areas.

The EIR focuses primarily on changes in the environment that would result from the proposed project. The EIR identifies potentially significant impacts resulting from the construction and operation of the proposed project and provides measures to mitigate potential significant impacts. This EIR addresses impacts in the following areas:

- Aesthetics;
- Air Quality;
- Biological Resources;
- Cultural Resources;
- Geology/Soils;
- Greenhouse Gas Emissions;
- Wildland Fires/Fire Protection;
- Hydrology/Water Quality;
- Land Use and Planning;
- Noise;
- Recreation; and
- Transportation/Traffic.

Based on the Initial Study, issues for which no significant impacts are anticipated to occur are addressed in Chapter 6, *Other Environmental Considerations*, contained in this EIR.

b. Notice of Preparation

Pursuant to the provision of Section 15082 of the *CEQA Guidelines*, the Town circulated a NOP to public agencies, special districts, and members of the public for a 30-day period commencing November 3, 2010 and ending December 6, 2010 (an extra four days (4) days were added to the review period to account for the Thanksgiving Holidays). The purpose of the NOP was to formally convey that the Town is preparing a Draft EIR for the Project, and to solicit input regarding the scope and content of the environmental information to be included in the EIR. The Initial Study was circulated with the NOP. The NOP, Initial Study, and responses to the NOP are provided in Appendix A, *Initial Study/Notice of Preparation/NOP Comment Letters*.

c. NOP and Scoping Results

The Town advertised a notice of public scoping meeting for the Project. The meeting was held during the regularly scheduled Planning Commission Meeting on Wednesday, November 17, 2010, in the Town's Council Chambers located within the Minaret Village Shopping Center at 437 Old Mammoth Road, Mammoth Lakes, California 93546. The meeting was held with the specific intent of affording interested individuals/groups and public agencies to assist the lead agency in determining the scope and focus of the EIR as described in the NOP and Initial Study.

The NOP/Initial Study was distributed for 34 days to various public agencies in order to receive input as to the scope and content of the environmental information to be provided in this EIR. Comments were received from Caltrans, the Mammoth Community Water District, the California Department of Fish and Game, and the Lahontan Regional Water Quality Control Board. The NOP comments are contained in Appendix A and summarized in the Executive Summary under the "Areas of Controversy and Issues to be Resolved" subheading.

6. FORMAT OF THE EIR

The EIR includes eight sections as well as appendices, which are organized as follows:

Executive Summary. This section presents a summary of the proposed Project and alternatives, potential impacts and mitigation measures, and impact conclusions regarding significant unavoidable adverse impacts and effects not found to be significant.

- 1. Introduction.** This section provides: background information on the Project; describes the purpose of the EIR; approach of the EIR; provides CEQA compliance information relative to the proposed Project and the EIR; provides a brief overview of the environmental review process; identifies areas of controversy and issues to be resolved in the EIR; and outlines the organization of the EIR.
- 2. Project Description.** Describes the project location, project details and the Town's overall objectives for the Project.
- 3. Basis for Cumulative Analysis.** This section contains a list of related projects anticipated to be built within the project vicinity.

4. **Environmental Impact Analysis.** This section contains the environmental setting, Project and cumulative impact analyses, mitigation measures, and conclusions regarding the level of significance after mitigation for each of the following environmental issues: (A) Aesthetics; (B) Air Quality; (C) Biological Resources; (D) Cultural Resources; (E) Geology/Soils; (F) Greenhouse Gas Emissions; (G) (H) Wildland Fires/Fire Protection; (I) Hydrology/Water Quality; (J) Land Use/Planning; (K) Noise; (L) Recreation, and (M) Transportation/Traffic.
5. **Alternatives.** This section evaluates the environmental effects of the project alternatives, including the No Project Alternative. It also identifies the environmentally superior project.
6. **Other Environmental Considerations.** This section includes a discussion of issues required by CEQA that are not covered in other chapters. This includes unavoidable adverse impacts, impacts found not to be significant, irreversible environmental changes, potential secondary effects caused by the implementation of the mitigation measures for the Project, and growth inducing impacts.
7. **Document Preparation and References.** This section lists all of the persons, public agencies, and organizations that were consulted or contributed to the preparation of this EIR, as well as all the references and sources used in the preparation of the document.

This EIR includes the environmental analysis prepared for the project and appendices as follows:

- Appendix A – Initial Study/Notice of Preparation/NOP Comment Letters
- Appendix B – SHARP Area Priority Projects
- Appendix C – Trail System Master Plan Errata
- Appendix D – Air Quality/Global Climate Change Technical Appendix
- Appendix E – Biological Resources Assessment
- Appendix F – Cultural Resources Assessment
- Appendix G – Hydrology and Water Quality Report
- Appendix H – Noise Technical Appendix
- Appendix I – Traffic Study

2.0 PROJECT DESCRIPTION

2.0 PROJECT DESCRIPTION

INTRODUCTION

The Project involves adoption and implementation of the Town of Mammoth Lakes (Town) Trails System Master Plan (TSMP).¹ A primary goal of the TSMP is to create an integrated year-round trail network, within the Town's Municipal Boundary that provides a seamless transition between the Town's urbanized area, the Mammoth Mountain Ski Area (MMSA), and National Forest lands within and beyond the Municipal Boundary managed by the United States Forest Service (USFS). An additional goal of the plan is to enhance year-round mobility in a manner that is consistent with the Town's "Feet First" strategy. The TSMP includes proposals for trails, paved Multi-Use Paths (MUPs), and Recreational Nodes, as well as goals, objectives, guidelines and various other recommendations that direct implementation and management of the plan. A component of the TSMP is the "Sherwin Area Recreation Plan," (SHARP) which includes more detailed concepts for the Sherwin Area, in the southern part of the Town's municipal area. SHARP reflects the first of several more focused planning efforts that are anticipated for the area addressed by the "Soft-Surface Trails Concept" (SSTC), included as Appendix to the February 2009 Draft TSMP Plan. Among the individual projects presented within the TSMP and the SHARP, the Town has also identified a number of "Priority Projects" that are well defined and intended for near-term implementation. The Priority Projects identified within the SHARP reflect more in-depth analysis and study completed by the SHARP Trails Technical Committee (SHARP TTC), to develop refined proposals from those described in the November 2009 SHARP document.

For purposes of this EIR, the TSMP, SHARP, and Priority Projects are collectively referred to as the "Project," and are the focus of the environmental analysis. With the exception of the Priority Projects, the recommendations and projects included in TSMP and SHARP are conceptual in nature and are therefore evaluated at a program-level, recognizing that subsequent more focused environmental review would occur as future project-specific development proposals are initiated under the TSMP. Also, the area encompassing trail components and/or facilities as part of the TSMP and the SHARP is collectively referred to as the "Project Area" in this Initial Study, unless stated otherwise.

Since the publication of the February 2009 Draft TSMP, the Town made progress to further refine and allow for implementation of selected components of the trails system. These components include advancing the trails signage and wayfinding program for the existing system, and refinement of concepts for an integrated design, management and maintenance approach to a broader Mammoth Lakes Trail System (MLTS) that includes the project components outlined in the TSMP. An "Errata" document was developed in June 2011 reflecting the recommended text changes to the February 2009 Draft TSMP; this is included as Appendix C of this EIR for reference, and is hereby incorporated into the project analyzed in this EIR.

¹ *The focus of the environmental analyses included in this Initial Study and the pending Draft EIR are based on the Draft TSMP. The Final TSMP, which may be refined based on public input during the CEQA process, is expected to be adopted following certification of the Final EIR for the TSMP.*

1. BACKGROUND

The Town adopted a Trails System Plan in 1991 which includes the Town's "Main Path," a hard surface trail which loops around and through the town, including some sections on National forest land, and a series of "future/alternative" connector trails. Since 1991, a number of major sections of the Main Path and some connectors have been completed, with others remaining to be built. The TSMP would update and supersede the 1991 Trails System Plan.

2. PROJECT OBJECTIVES

Section 15124(b) of the CEQA *Guidelines* states that the Project Description shall contain "a statement of the objectives sought by the proposed project." As set forth by the *CEQA Guidelines*, the list of objectives that the Town seeks to achieve for the Project is provided below. The TSMP includes Goals and Objectives (refer to Section 1.2 in the TSMP), and the SHARP includes a series of goals, which are stated below.

Trails System Master Plan Goals and Objectives

Goal 1: Develop a plan for an integrated year-round trail network that provides for a seamless transition between the Town of Mammoth Lakes, the Mammoth Mountain Ski Area, and the surrounding federal lands (USFS).

Objective 1.1: Identify improvements for signage, wayfinding and amenities throughout the existing network.

Objective 1.2: Close gaps in the existing network.

Objective 1.3: Expand the network within the Urban Growth Boundary to provide access to new destinations, activities and experiences from both public and private property.

Objective 1.4: Identify locations for potential recreation nodes and public access easements that will enhance connections between Town and surrounding public lands for summer and winter recreation.

Objective 1.5: Identify preferred summer and winter uses for each segment in the network.

Objective 1.6: Provide design guidelines that will minimize user conflicts, provide for sustainability, and reduce maintenance needs.

Objective 1.7: Provide uniform signage and wayfinding along the network and at all recreation nodes.

Goal 2: Develop a plan that enhances mobility in a way that is consistent with the Town's "Feet First" strategy.

Objective 2.1: Identify necessary improvements to improve pedestrian safety, convenience and comfort.

Objective 2.2: Update the General Bikeway Plan and develop an on-street bikeway network that enhances bicyclist safety, convenience and comfort.

Objective 2.3: Ensure that pedestrians and bicyclists can access the public transit system safely, conveniently and comfortably; and that public transit serves all key recreation nodes.

Objective 2.4: Provide the information necessary for residents and visitors to navigate around town on foot, bicycle and transit.

Goal 3: Create a plan that clearly identifies the projects and programs necessary for implementation.

Objective 3.1: Provide specific lists of projects that the Town of Mammoth Lakes can incorporate into the Capital Improvement Program. Complete the near-term projects identified in the Trail System Master Plan in the next two years.

The SHARP also includes the following goals:

SHARP Goal 1: Avoid potential user conflicts while locating recreation facilities appropriately.

SHARP Goal 2: Achieve low overall impact by improving or better defining what is already present.

SHARP Goal 3: Provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding.

SHARP Goal 4: Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other.

SHARP Goal 5: Identify opportunities to enhance connectivity and public safety.

SHARP Goal 6: Further wildlife and resource protection, sustainability, and stewardship.

SHARP Goal 7: Achieve practical solutions.

SHARP Goal 8: Maintain opportunities for wildlife observation and interaction.

3. PROJECT LOCATION AND SURROUNDING USES

a. Trails System Master Plan

Mammoth Lakes is a resort community of approximately 7,500, located in Mono County in California's Eastern Sierra region. The Town's Municipal Boundary encompasses over 25 square miles; however, the urbanized area of the town is contained within a much smaller area of about 4.5 square miles, defined by the Urban Growth Boundary (UGB). The UGB was adopted in 1993, as a growth management tool to ensure the Town retained its compact urban form, and to prevent sprawl that would threaten surrounding natural and recreational resources. Land outside of the UGB is primarily in public ownership managed by the USFS. Beyond the Town's Municipal Boundary is the Town's Planning Area. **Figure 2-1, Mammoth Lakes Area Jurisdictional Boundaries**, illustrates the jurisdictional boundaries of the Town.

The TSMP addresses the entire area within the Town's Municipal Boundary. This includes trail components within the Town's UGB, which is comprised of a mix of urbanized uses, as well as system components that extend beyond the Town's UGB into mostly undeveloped National forest lands. There are a number of existing facilities that are located mainly north of the Town's UGB within the Shady Rest Park area. As described below, the Soft Surface Trail Concept and related Sherwin Area Trails Special Study (SATSS), both included as appendices to the TSMP, anticipate future trails system components in the Sherwin Area; the SSTC also anticipates future trails within Shady Rest and Mammoth Knolls areas to the north, and the Lakes Basin to the west of the Town's urbanized area.

The SSTC planning area includes a number of trail components. The SSTC provides initial concepts, planning and design guidance for a system of trails for the "donut" of land that is outside of the Town's UGB but within the Town Limits, and which for the most part, is managed by the US Forest Service. The SSTC covers lands within an approximately one mile radius of the Town's UGB, which are easily accessible from these more developed areas. The SSTC serves as a starting point for additional, more detailed trails planning for these areas, to be conducted in partnership with the US Forest Service, and other partner organizations.

b. Sherwin Area Recreation Plan

The SHARP was developed in 2009 as a follow-on planning effort from the Draft TSMP and the concepts outlined in the SSTC and SATTS. The SHARP process to date reflects a collaborative process among diverse groups to discuss recreation priorities, resolve potential conflicts and planning issues. It has resulted in the development of a broad program of trails and related facilities, and, through the work of the SHARP TTC, the refinement and more detailed articulation of certain proposals.

SHARP addresses an area within the southern part of the Town limits, generally bounded to the north by the UGB, by the Town Municipal boundary to the east, and Lake Mary Road to the west. While virtually all of the area included in the SHARP area is within the Town's Municipal Boundary, it entirely comprises National forest lands administered by the USFS, including businesses operating under special-use permit. Generally, land to the east, south and west of the Sherwins area is undeveloped federal public land administered by the USFS. To the north is a mix of open space, rural residential uses, and resort uses, including the existing Snowcreek V subdivision and proposed Snowcreek VIII resort area.

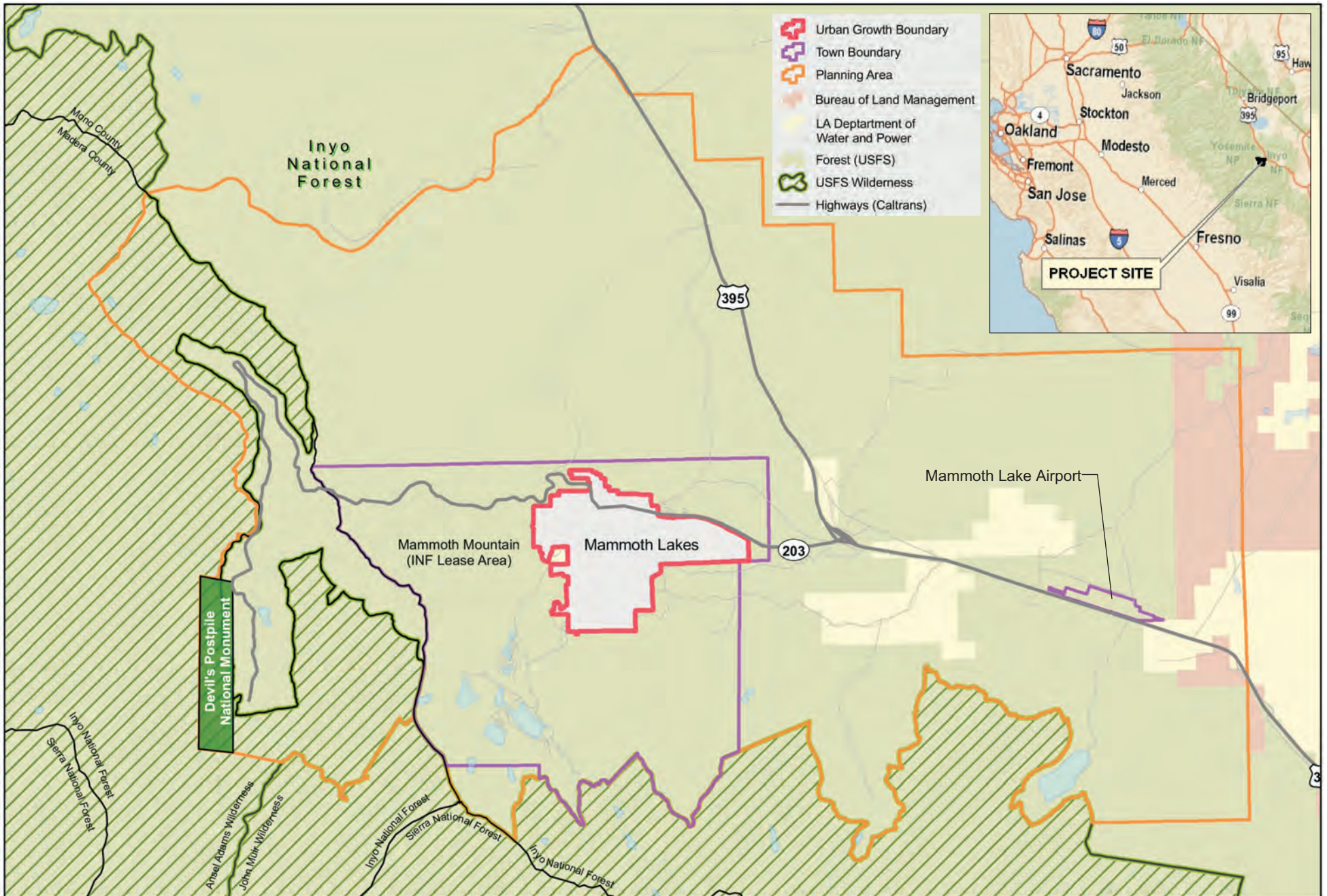
4. EXISTING CONDITIONS

a. Trails System Master Plan

Consistent with the Town's 1991 Trail System Plan, the nucleus of the existing trail system within the UGB consists of a system of paved multi use paths, on-street bicycle facilities, and sidewalks. The trails network also includes very limited soft-surface trails within the UGB, including a private foot trail through the Snowcreek Meadow. The following discusses the primary components of the Town's trails network.

(1) Paved Multi-Use Paths (Class I)

Often referred to as a "bike path", a multi-use path (MUP) provides for bicycle and pedestrian travel on a paved right-of-way completely separated from any street or highway. The California Highway Design Manual (HDM) refers to these facilities as "Class I Bike Paths." The Town's Main Path and other paved paths have generally been built in conformance with the 1991 Trail System Plan and the 2008 General Bikeway



Mammoth Lakes Jurisdictional Boundaries

Trails System Master Plan Project
 Source: Trail System Master Plan, February 2009.

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Plan. Some alignments have changed slightly, but the general concept of a Main Path loop with connections to other paths extending inward or toward the center of town (i.e. Meridian Trail) and outward or away from town (i.e. Shady Rest Park Trail) has been maintained. Some MUPs are located within National forest lands, and were built and are managed under a Special Use Permit with the Inyo National Forest. The “Main Path” envisioned in the 1991 Trail System Plan is incomplete, but its existing segments still serve as the backbone of the current off-street bikeway network. **Figure 2-2, Existing and Future Trails System - Summer**, and **Figure 2-3, Lakes Basin: Existing and Future Trails System - Summer**, illustrate the existing paved MUPs within the Town during non-snowfall conditions.

Winter snow cover creates an entirely different system and set of recreational opportunities along the paved multi-use path system. The Town’s paved MUP facilities may be cleared for winter mobility and recreation, groomed for cross-country skiing, or unmaintained (snow-covered) during the winter months. At the present time, most existing MUPs are not cleared or groomed during the winter. However, the Safe Routes to School Program allows students to use MUP facilities to commute to schools from the Trail’s End neighborhood and via Chateau Road. Other segments near the Welcome Center and along Old Mammoth Road are also cleared. **Figure 2-4, Existing and Future Trails System - Winter**, and **Figure 2-5, Lakes Basin: Existing and Future Trails System - Winter**, illustrate the existing paved MUPs within the Town during snowfall conditions.

(a) MUP Crossings: At Grade and Grade Separated

The Town currently has 16 at-grade crossings along existing paved MUPs. There is significant variation in the treatments used at these crossings. Some at-grade crossings use abundant treatment to enhance safety while others have very limited safety features. The only grade-separated crossings currently in the Town consist of under crossings or tunnels. The Town’s tunnels vary in width and height. Currently, many of the existing tunnels do not accommodate full-sized grooming equipment for cross-country skiing.

(2) On-Street Bikeways

Bicycle facilities play a much larger recreational role in the summer season. The weather is favorable, the MMSA Mountain Bike Park is open, and the roadways, bike paths, and trails are generally clear of snow and debris. The following discussion focuses on the Town’s existing paved on-street bikeways, which are illustrated in Figures 2-2 to 2-5. Mammoth’s existing summer and winter bicycle networks consist of both on- and off-street facilities. Currently, all on-street bike lanes and bike routes are cleared of snow along with the roadways, but conditions caused by snow and ice accumulation in the bike lanes or shoulders can be hazardous. In addition, winter conditions and snow removal operations cause damage to road surfaces and make maintenance of clear bike lane marking and signage difficult.

(a) Bike Lanes (Class II)

Referred to in the California Highway Design Manual (HDM) as “Class II” bikeways, bike lanes provide a striped and stenciled lane for one-way travel on both sides of a typical street or highway. The Town has bike lanes on Minaret Road between Main Street and Old Mammoth Road; on Meridian Boulevard between Sierra Park Road and Majestic Pines Drive; on Canyon Boulevard from Hillside Drive to the Canyon Lodge parking lot; and along the length of the Mammoth Scenic Loop Road. Shorter segments are in place on Old Mammoth Road between Mammoth Creek Park and Minaret Road.

(b) Bike Lanes (Class III)

Referred to in the HDM as “Class III” bikeways, bike routes provide for shared use with bicyclists and motor vehicle traffic and are typically identified only by signing. Bike routes exist on Main Street/Hwy 203, portions of Canyon Boulevard, Forest Trail, and Lakeview Boulevard, and along the length of Majestic Pines Drive and Kelley Road.

(3) Soft-Surface Trails

Most opportunities for soft-surface trail development within the Municipal Boundary are on National forest lands outside the UGB. The only existing (summer) soft-surface trail that falls completely within UGB is the walking trail through Snowcreek Meadow (see “private dirt trail” in Figure 2-2). The trail extends from Waterford Avenue near Majestic Pines and follows Mammoth Creek on the North side to Minaret Road. The trail is on private property and is currently maintained by the Snowcreek Meadow Committee. The Town currently has an easement in the area and could potentially construct a low-impact wooden boardwalk and take over responsibility for maintaining a trail segment within the easement.

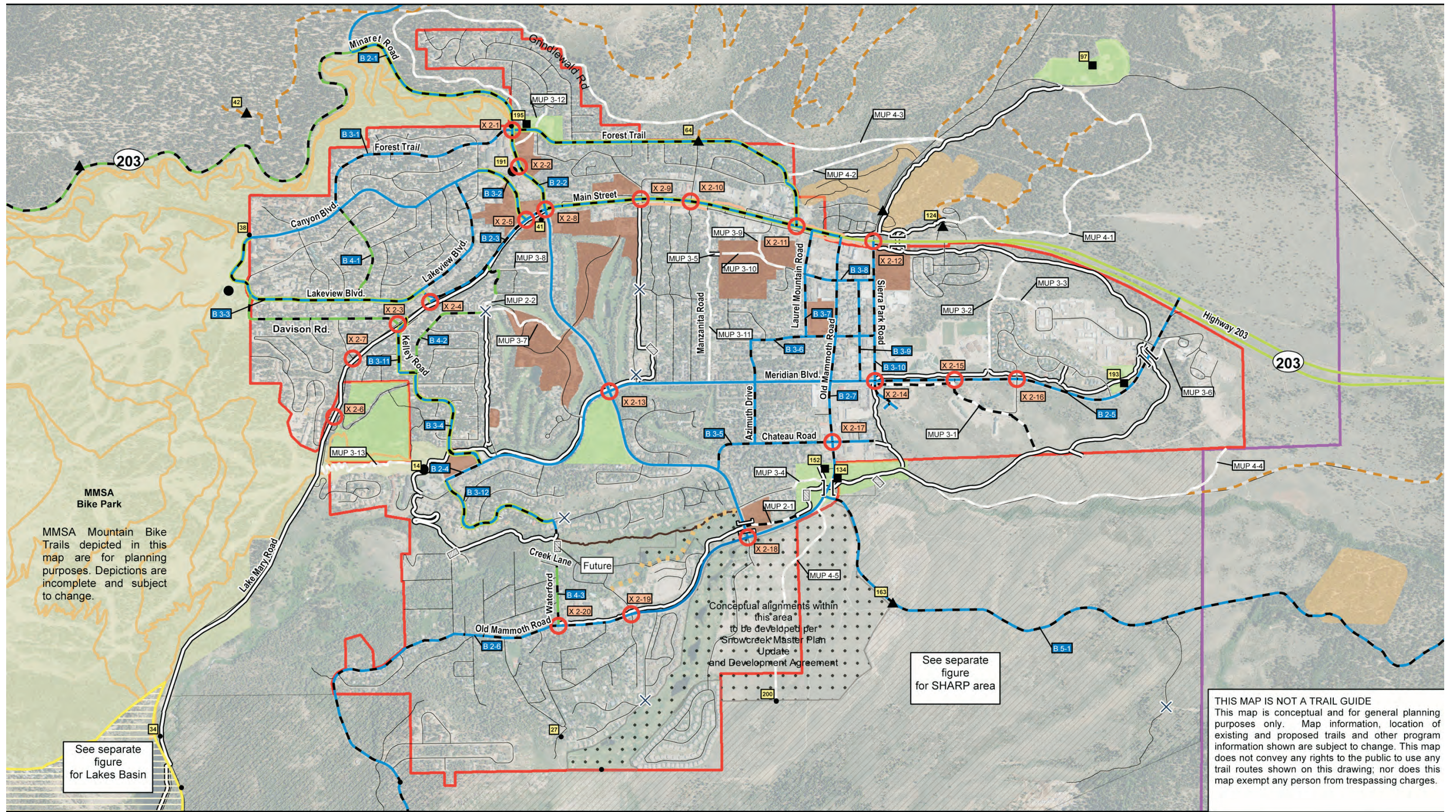
The transition between backcountry mountain bike (MTB) trails and the urbanized areas of Town currently present safety hazards to the bicyclists, pedestrians and vehicular travelers due to the lack of designated biking facilities and signage or wayfinding for the mountain bikers. The most common areas of transition are at the North Village, Canyon Lodge and Eagle Lodge.

Most facilities currently used for winter recreation activities such as snowmobiling and backcountry skiing are located outside the UGB. Groomed, non-motorized trails are concentrated in the Lakes Basin and Shady Rest areas. Tamarack Resort in the Lakes Basin has the most extensive network of groomed cross-country trails near Town and charges a fee for use. Lake Mary Road is groomed and provides public access to the Lakes Basin without a fee. The Shady Rest area is open to the public and consists of motorized and non-motorized trails. The Shady Rest Area provides a snowmobile staging area and trailhead. Sawmill Cutoff Road in the Shady rest Area is groomed and designated for motorized and non-motorized use and provides access to an extensive network of over-snow vehicle (OSV) trails. Groomed cross-country ski trails exist to the east and west of Sawmill Cutoff Road in the Shady Rest Area primarily using the blue diamond system. Figures 2-4 and 2-5 illustrate the existing winter soft-surface trails within the Town and Lakes Basin, respectively. **Figure 2-6, *Shady Rest Existing Winter Use***, illustrates the existing winter uses in the Shady Rest Area.

(4) Recreation Nodes and Activity Centers

In addition to trail-related facilities described above, the TSMP identifies key areas where the trails network should facilitate access for in-town, short-distance recreation, linked recreational/utilitarian trip-making, and provide points of connection, access, egress and dispersion to the broader network of formal and informal recreational trails. Such locations are described in the TSMP as “recreational nodes” for which, in many cases, the TSMP identifies specific desired improvements and facilities. The TSMP also considers “activity centers,” which are existing, established locations that form a point of origin or destination for trails system users.

Recreation nodes throughout the TSMP planning area were identified early in the process through an extensive data gathering effort. They are locations with existing or potential significance for outdoor



MMSA Mountain Bike Trails depicted in this map are for planning purposes. Depictions are incomplete and subject to change.

See separate figure for Lakes Basin

Conceptual alignments within this area to be developed per Snowcreek 8 Master Plan Update and Development Agreement

See separate figure for SHARP area

THIS MAP IS NOT A TRAIL GUIDE
 This map is conceptual and for general planning purposes only. Map information, location of existing and proposed trails and other program information shown are subject to change. This map does not convey any rights to the public to use any trail routes shown on this drawing; nor does this map exempt any person from trespassing charges.

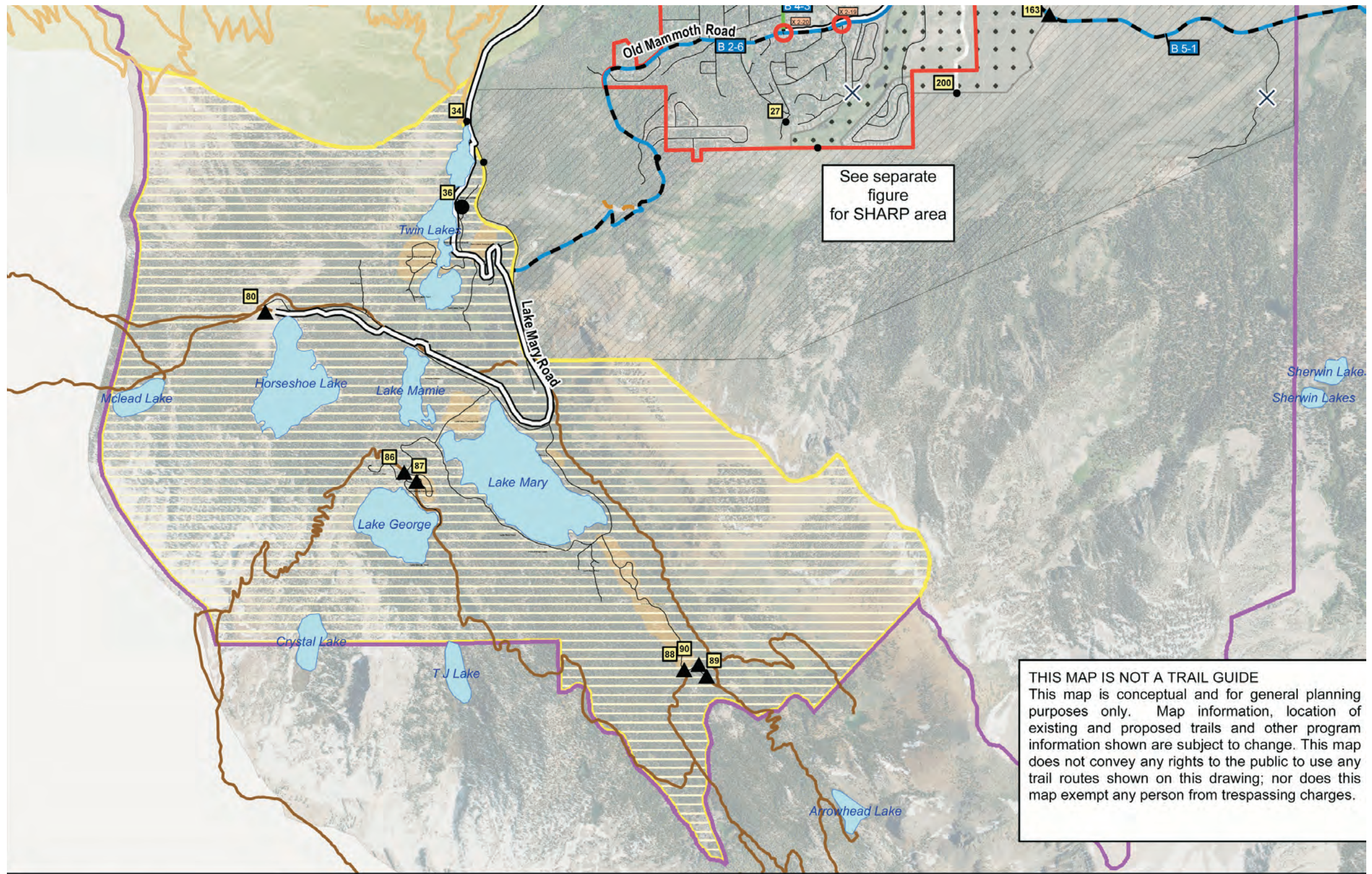
Summer Recreation Nodes	Intersection Improvements	Existing Paved Multi-Use Paths (Class I)	Soft-Surface Trails	Bicycle Facilities	Other Features
● PORTAL	○ Intersection Improvements	— Existing Paved Multi-Use Paths (Class I)	— Existing MMSA Mountain Bike Trails	— Existing Class II	■ Campgrounds
■ PARK	⌋ Tunnel Proposed	— Planned MUP	— Existing USFS System Trails	— Existing Class III	■ Parks & Open Space
▲ TRAILHEAD	⌋ Tunnel Existing	— Planned MUPS - Long Term (Conceptual Alignment)	— Potential Trails	— Existing Class III, Planned Class II	■ Planned Development
● ACCESS/EGRESS	⌋ Tunnel Existing	— Existing Promenade (10' Sidewalk)	— Private Dirt Trail	— Planned Class II	■ Snowcreek 8 Master Plan
○ GIC POINT	⌋ Tunnel Existing	— Near-Term Promenade (10' Sidewalk)	— Recommended Boardwalk	— Planned Class III	■ Urban Limit
	⌋ Tunnel Existing	— Planned Paved Pedestrian Path (6')			■ Town Boundary
	⌋ Tunnel Existing				■ SHARP Study Area
	⌋ Tunnel Existing				■ Lakes Basin Study Area



Existing and Future Trail System - Summer

Trails System Master Plan Project
 Source: Town of Mammoth Lakes, 2010.

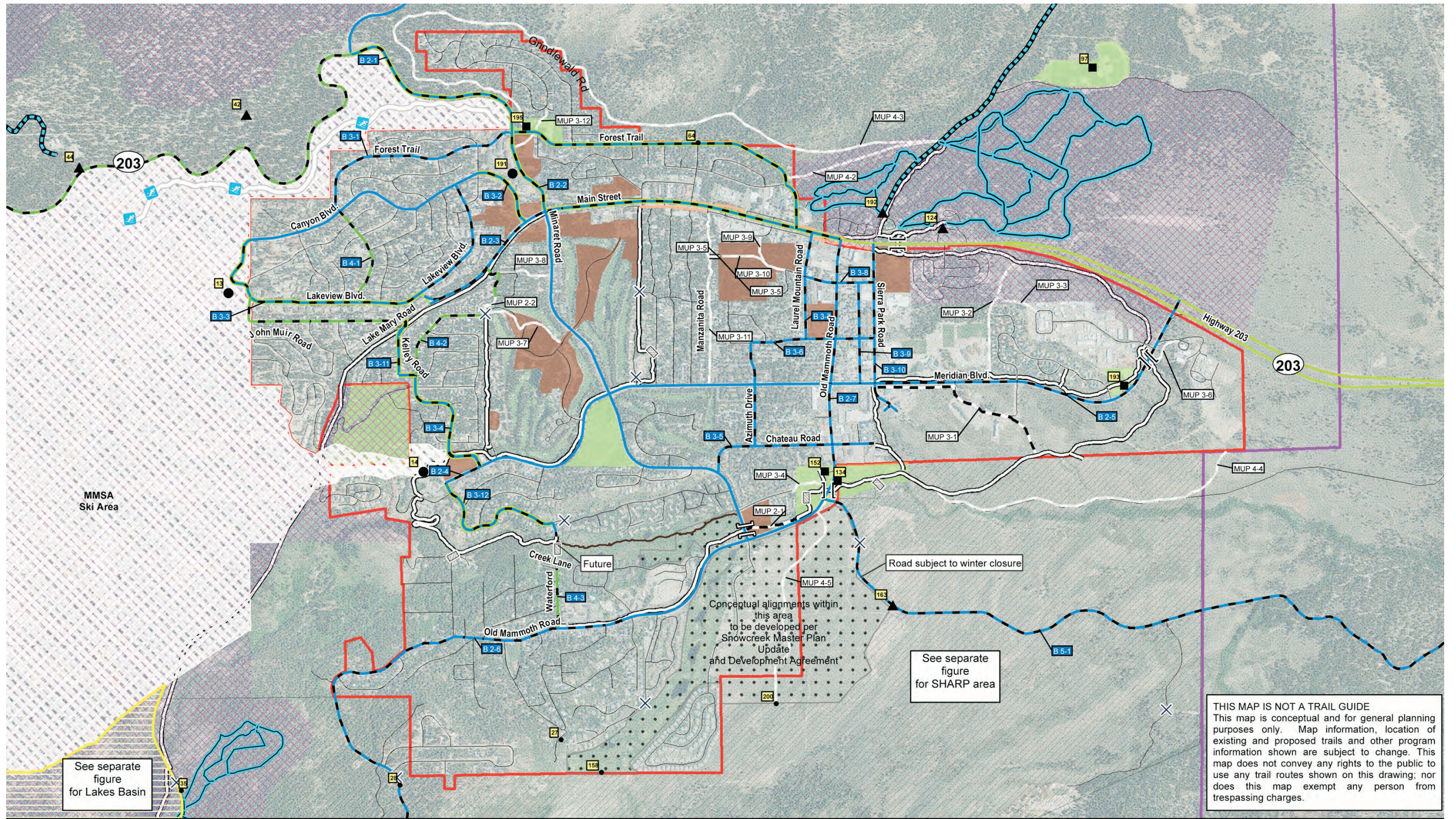




- | | | | |
|--|--|---|--|
| <p>Summer Recreation Nodes</p> <ul style="list-style-type: none"> ● PORTAL ■ PARK ▲ TRAILHEAD ● ACCESS/EGRESS ○ GIC POINT ✕ Gates/Barriers/Closures | <ul style="list-style-type: none"> — Existing Paved Multi-Use Paths (Class I) — Planned MUP — Planned MUPS - Long Term (Conceptual Alignment) <p>Soft-Surface Trails</p> <ul style="list-style-type: none"> — Existing MMSA Mountain Bike Trails — Existing USFS System Trails — Potential Trails | <p>Bicycle Facilities</p> <ul style="list-style-type: none"> — Existing Class II — Existing Class III — Existing Class III, Planned Class II — Planned Class II — Planned Class III | <ul style="list-style-type: none"> ■ Campgrounds ■ Planned Developments ■ Urban Limit ■ SHARP Study Area ■ Lakes Basin Study Area |
|--|--|---|--|

Lakes Basin: Existing and Future Trails System - Summer





See separate figure for Lakes Basin

Conceptual alignments within this area to be developed per Snowcreek Master Plan Update and Development Agreement

See separate figure for SHARP area

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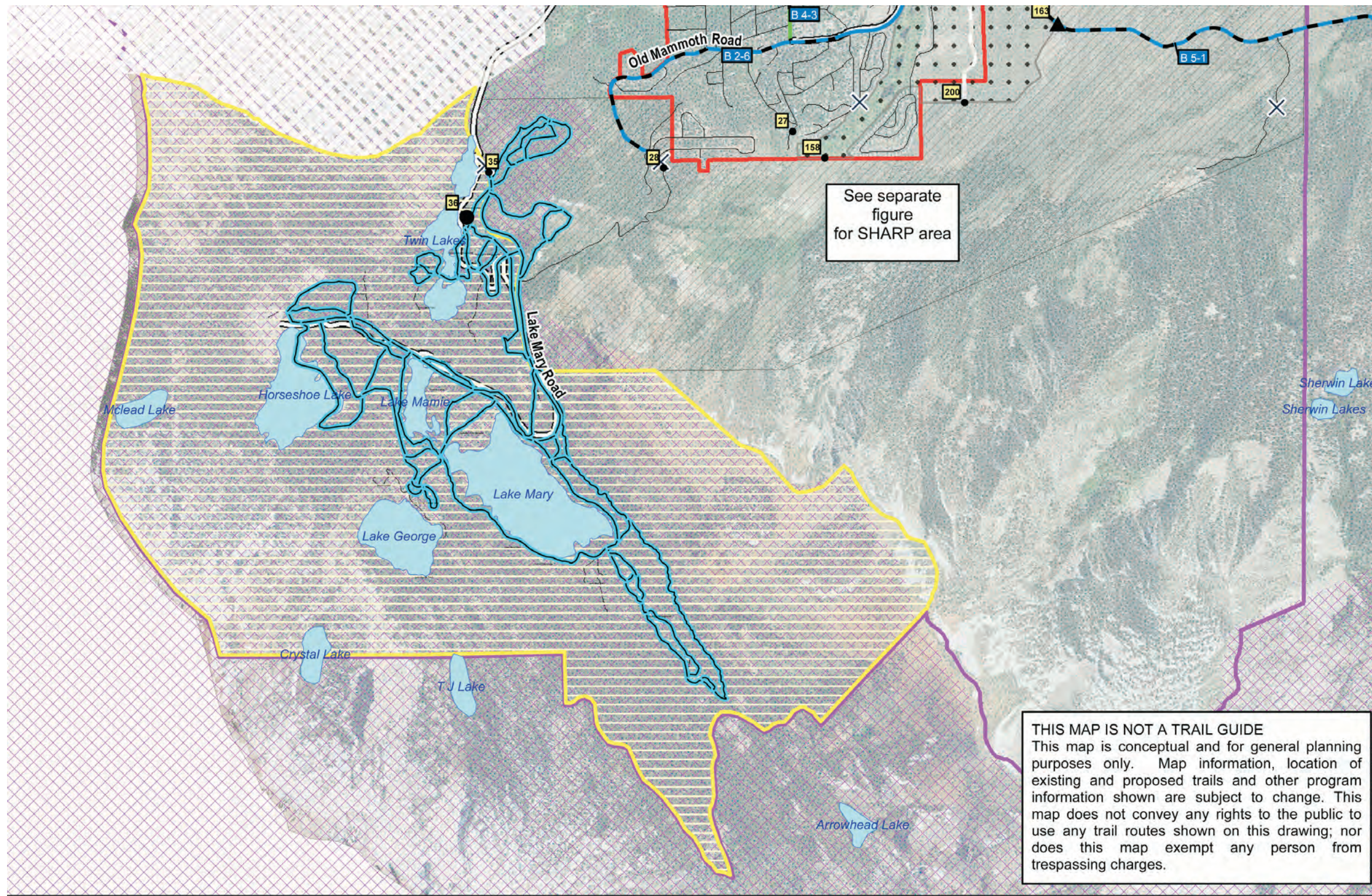
Winter Recreation Nodes	Bicycle Facilities	Paved Off-Road Facilities	Winter Use_Rebuild	Parks & Open Space
● Portal	Existing Class II	Existing Paved Multi-Use Paths (Class I)	Groomed: Non-Motorized	Planned Development
■ Park	Existing Class III	Planned MUP	Snowmobile / Ski	Snowcreek 8 Master Plan
▲ Trailhead	Existing Class II	Planned MUPs - Long Term (Conceptual Alignment)	Ski Back Trail	Urban Limit
● Access/Egress Point	Existing Class III, Planned Class II	Existing Promenade (10' Sidewalk)	Closed to Motorized	Town Boundary
○ Key GIC Point	Planned Class II	Near-Term Promenade (10' Sidewalk)		SHARP Study Area
	Planned Class III			Lakes Basin Study Area



Existing and Future Trail System - Winter

Trails System Master Plan Project
 Source: Town of Mammoth Lakes, 2010.



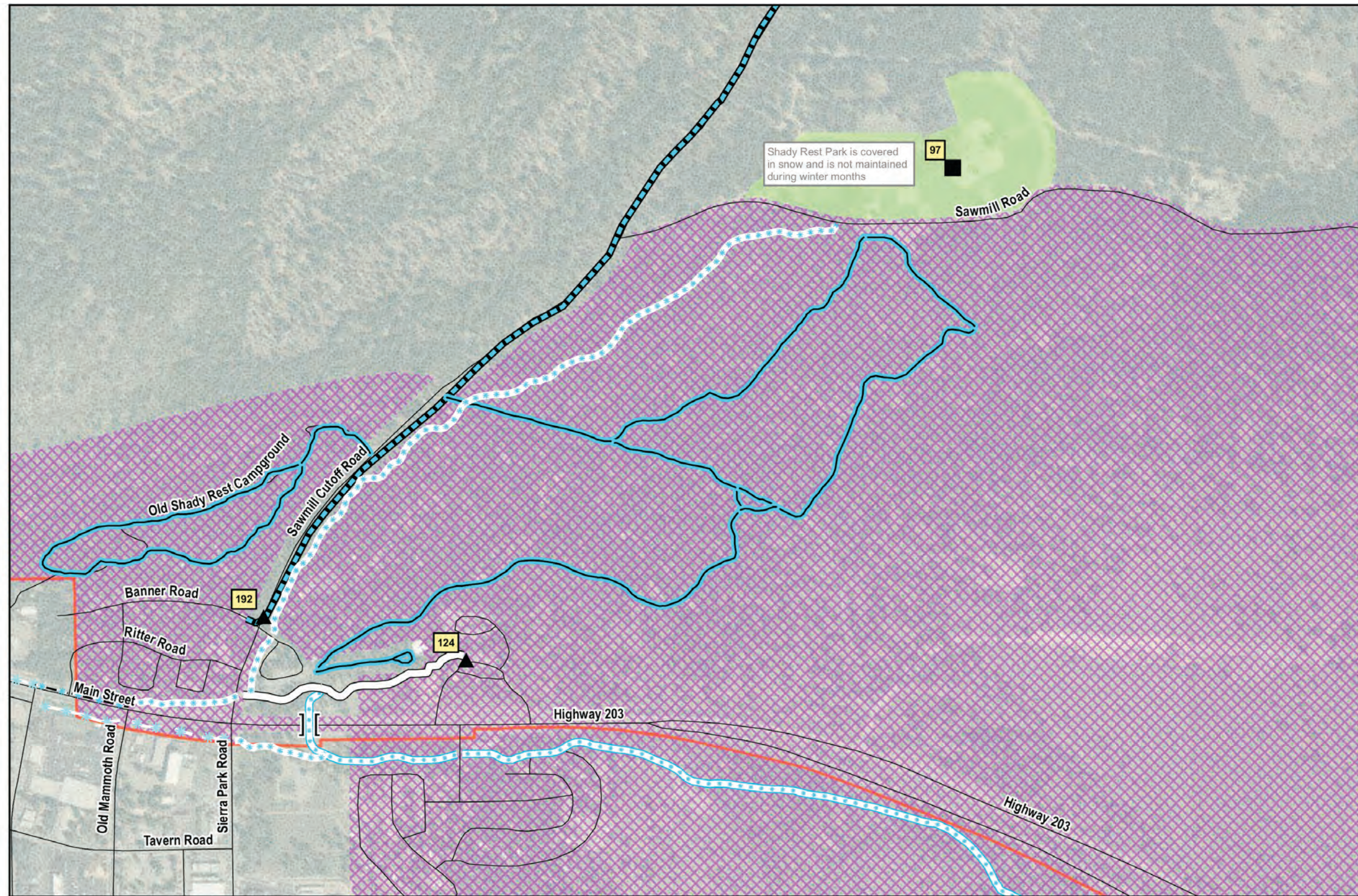


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Winter Recreation Nodes	Bicycle Facilities	Paved Off-Road Facilities	Winter Use	
● Portal	— Existing Class II	— Existing Paved Multi-Use Paths (Class I)	— Groomed: Non-Motorized	■ Parks & Open Space
■ Park	— Existing Class III	— Planned MUP	— Snowmobile / Ski	■ Planned Development
▲ Trailhead	— Existing Class II	— Planned MUPS - Long Term (Conceptual Alignment)	— Ski Back Trail	— Snowcreek 8 Master Plan
● Access/Egress Point	— Existing Class III, Planned Class II	— Existing Promenade (10' Sidewalk)	— Closed to Motorized	— Urban Limit
○ Key GIC Point	— Planned Class II	— Near-Term Promenade (10' Sidewalk)		— Town Boundary
9 GIC Numbers	— Planned Class III			— SHARP Study Area
				— Lakes Basin Study Area



Lakes Basin: Existing and Future Trails System - Winter



Shady Rest Existing Winter Use

Trails System Master Plan Project
 Source: Town of Mammoth Lakes Trail System Master Plan, February 2009.

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recreation, which can facilitate recreational experiences. At many of these locations, residents and visitors already congregate (and disperse) in pursuit of recreational opportunities both within and beyond the Town's UGB. In some cases a node may represent a point where a recreational experience starts (i.e. where you get off the bus or park your car). In other cases, the node may represent a point of transition in an ongoing recreational experience (i.e. from a paved MUP to narrow foot path). Seasonality and time of day heavily impact the type and level of activity at recreational nodes. Recreation nodes may be very active in one season and dormant in another. The TSMP identifies and categorizes recreation nodes based on the level of amenities provided. The categories are GIC points, access/egress points, trailheads, parks and portals. Further, the TSMP characterizes recreation nodes as winter or summer nodes, and for each, specifies recommended facilities and improvements (see Section 5.a.(5), below). The following describes the categories of recreation nodes.

- GIC points may include any official or unofficial locations where a recreational transition occurs. This transition can include parking a car or disembarking from another mode of transportation in order to engage a recreational activity. The transition may also be between jurisdictional boundaries or between types of experiences (i.e. urban and rural, paved to unpaved). All recreation nodes have at least one associated GIC point, but not all GIC points are recreation nodes. Examples of GIC points include: Summer – Canyon Lodge (MMSA), Austria Hof, Path along Snowcreek V fencline, and Sierra Boulevard at Forest Trail; and Winter – Sherwins Ridge Access at Lake Mary Road, Sierra Boulevard at Forest Trail, Sledz (snowplay), and Winter terminus of Snow Creek Road.
- Access/egress points are locations that have the same characteristics as a GIC point, but have been formalized so that access there is legal and/or regularly maintained by a public or private entity. The basic elements of an access/egress point should include signage and a clear passageway sufficient to accommodate the intended users. These locations may or may not include low-impact amenities such as a source of drinking water or limited parking. Examples of access/egrees points include: Summer - Eagle Lodge - temporary (MMSA), Lake Mary Bike Path NE terminus, and Twin Lakes Parking; and Winter - Lake Mary Bike Path NE terminus and Mill City.
- Trailheads should provide at a minimum automobile and/or bicycle parking facilities, trash/recycling, restrooms and signage. Trailheads within the UGB should be served by public transportation during the seasons in which they are open. Examples of trailheads include: Summer - Horseshoe Lake, Lake George, and the Welcome Center; and Winter – Shady Rest/ Saw Mill Cutoff Road and parking lot, and Welcome Center.
- Parks are self-contained recreation facilities that generally include the same amenities (parking, restrooms, trash/recycling) as a trailhead. Since all parks operated by the Town, except Whitmore Park, currently provide access to existing trails, parks essentially serve as trailheads with the additional amenities unique to each individual park. Whitmore Park is currently used as a staging area for road bicycling. Other examples of parks include: Summer and Winter - Community Center Park, Mammoth Creek Park (East and West), Shady Rest Park and Trail's End Park. Of particular note, Shady Rest Park contains 12.5 acres and is the main active sports municipal park in the Town. It includes a soccer field, softball field, restrooms, two sand volleyball courts, picnic areas, a play area, and paved parking. This park is located on USFS-administered lands.
- Portals are the most developed form of recreation node and include all the amenities of trailheads plus lodging and restaurants. Because portals tend to generate significant activity, all portals should be served by frequent public transportation in order to discourage traffic congestion, mitigate greenhouse gas emissions and reduce other forms of transportation-related pollution. Examples of

portals include: Summer and Winter - Main Lodge (MMSA), North Village (MMSA) and Tamarack Lodge; and Winter (only) - Canyon Lodge (MMSA) and Eagle Lodge -temporary (MMSA).

Activity centers are locations that attract significant levels of human activity or trips (civic buildings, schools, shopping centers, areas of high employment, etc). The “human activity” taking place at these locations is generally economic or civic in nature. While the activity at these locations may be subject to seasonal fluctuation, their significance does not change and—with the exception of schools—they are unlikely to go dormant at any time of the year. Major activity centers in the Town include places such as North Village (MMSA Portal), the Main Street Retail Area, Minaret Village Mall, Gateway Center Mall, Industrial Park, and the Welcome Center, in addition to public schools, the hospital and medical center, post office, hotels, etc. Current access to activity centers varies greatly from one activity center to another and is also influenced by mode of transportation.

Both nodes and activity centers are a key consideration in the related development of a signage and wayfinding program that currently includes signage and wayfinding for trails, but may be expanded to include municipal facilities.

b. Sherwins Area Recreation Plan

The Sherwins Area is a diverse high-desert landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. Topography varies from flat meadowlands to glacial moraines to the chutes and cirque of the Sherwin Range. The landscape includes areas of evergreens, sage, aspens, and other native plants rooted primarily in till and talus. While recreation use in the Sherwins has traditionally been high, no formal trailheads or facilities exist at this time and the area receives no maintenance. The area has a mix of trails, some of which are part of the Inyo National Forest trail system, others that have been user created, and some that are remnants of historical use. Facilities in this area include USFS recognized trails (such as the Mammoth Rock Trail), USFS and TOML roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails.

5. DESCRIPTION OF THE PROPOSED PROJECT

a. Trails System Master Plan

The proposed TSMP includes various recommendations intended to enhance the in-town network of multi-use paths, trails and bikeways and improved access to trails and backcountry experiences beyond the Town’s UGB. The recommendations are intended to guide development of a comprehensive trail system within the Town. As previously noted, the February 2009 Draft TSMP incorporates the Soft Surface Trails Concept and Sherwin Area Trails Special Study: elements of both of these components of the Draft TSMP have since been the subject of additional planning through the SHARP process, and are described separately below.

(1) General Recommendations

The TSMP includes a number of “general” trail system recommendations that cover a variety of topics which are not location specific. Examples of “general” recommendations include providing or identifying:

consistent naming conventions; updated trail maps; uniform trail signage; interpretive signage; trail-oriented development; pedestrian-oriented development; data management; design guidelines; trails and mobility needs; and future access easements.

(2) Paved Multi-Use Path Recommendations

The TSMP includes recommendations that would enhance the in-town environment for recreational and transportation purposes on paved multi-use paths during all seasons. A key recommendation is to complete the Main Path Loop by suggesting gap closure projects along the Main Path that would close all existing gaps. In addition to completing the Main Path Loop the TSMP recommends numerous in-Town and outside the UGB MUPs that would reduce the distance of trips while improving mobility and providing enjoyment for non-motorized users. The TSMP also considers issues of winter maintenance of MUPs, including possible future grooming (for cross-country ski use), or snow clearing to enable use by pedestrians and bikes. **Table 2-1, *TSMP Multi-Use Paths Projects***, identifies the MUPs proposed by the TSMP, which are also identified on Figures 2-2 to 2-5.

(3) Crossing Improvement Recommendations

The TSMP includes recommendations for crossings intended to ensure the safety of MUP users and enhance access to the trail system as a whole. The recommendations focus on the design of crossings along existing and future MUPs and providing crossing improvements that would enhance access to the trail system from residential areas and activity centers. **Table 2-2, *TSMP Crossing Improvement Projects***, identifies the crossing improvement locations proposed by the TSMP, which are also identified on Figures 2-2 and/or 2-3.

(4) On-Street Bikeways Recommendations

The TSMP identifies a number of bike lane projects on arterial, collector and local streets to be included as part of the trail system network. **Table 2-3, *TSMP On-Street Bike Lane Projects***, identifies the on-street bike lane projects proposed by the TSMP, which are also identified on Figures 2-2 to 2-5.

(5) Recreational Node Recommendations

Many of the trail and bikeway projects listed above would have a direct impact on access to the Town's activity centers and recreation nodes. Thus, the TSMP recommends improvements and projects that are specific to individual recreation nodes. Improvements at specific recreation nodes include amenities such as signage, parking, and restroom facilities. In addition, the TSMP recommends that bus/trolley stops be provided, where feasible, at or near all active summer and winter recreation nodes in order to improve mobility, alleviate congestion, and reduce demand for parking. **Table 2-4, *Recommended Amenities at Summer Recreation Nodes***, identifies the summer recreation node projects and proposed amenities at each node location. **Table 2-5, *Recommended Amenities at Winter Recreation Nodes***, identifies the winter recreation node projects and proposed amenities at each node location. The locations of the recreation nodes are also identified on Figures 2-2 to 2-5.

(6) Soft-Surface Trails Recommendations

The TSMP incorporates a Soft Surface Trails Concept (SSTC) as Attachment 1. The SSTC presents a series of conceptual alignments (also shown in the body of the TSMP) for trails outside of the UGB. Some of these

Table 2-1

TSMP Multi-Use Path Projects

Project No. ^a	Name	From	To	Length
MUP 2-1	Main Path (4a) – Town Loop	Mammoth Creek Park	Minaret Road	921 LF ^b
MUP 2-2	Lodestar Connector	Majestic Pines Drive	Hidden Valley Road	441 LF
MUP 3-1	College Connector	Sierra Park Road	Main Path	3,769 LF
MUP 3-2	Elementary School Connector	Meridian Boulevard	Main Path	426 LF
MUP 3-3	Industrial Park Connector	Elementary School Connector	Commerce Circle	2,275 LF
MUP 3-4	Mammoth Creek Park Connector	Meadow Lane	Main Path	602 LF
MUP 3-5	Manzanita Connector	Manzanita Road	Hidden Creek Development	480 LF
MUP 3-6	MCWD Access	Main Path	MCWD Facility	677 LF
MUP 3-7	Lodestar to Bear Lake Connector	Lodestar Connector	West Bear Lake Drive	1,601 LF
MUP 3-8	Hidden Valley to Minaret Connector	Hidden Valley Road	Minaret Road	589 LF
MUP 3-9	Center Street to Hidden Creek Connector	Center Street	Hidden Creek Connector	430 LF
MUP 3-10	Manzanita to Tavern Connector	Manzanita	Tavern Road	1,140 LF
MUP 3-11	Manzanita Path	Main Street	Meridian Boulevard	3,044 LF
MUP 3-12	North Village to St. Anton Connector	East of Minaret	St. Anton Circle	872 LF
MUP3-13	Eagle Path	Eagle Lodge	Lake Mary Road	2,845 LF
MUP 4-1	Shady Rest Park path Extension	N. Terminus of Shady Rest Path	Main Path at Hwy 203/Meridian Blvd.	6,769 LF
MUP 4-2	Forest Trail to Shady Rest Connector	Forest Trail	Shady Rest Park Path	2,792 LF
MUP 4-3	Knolls Path (south route)	Community Center park	Shady Rest Path at Sawmill Cutoff Road	14,098 LF
MUP 4-4	Mammoth Creek Path	Main Path	MCWD Facility	5,596 LF
MUP 4-5	Sherwin/Snowcreek Connector	Old Mammoth Road	Snowcreek VIII Access/Egress Point	3,964 LF
			Total Length	53,331 LF (10.1 miles)

^a Project Nos. correspond to numbers on Figure 2-2 and/or Figure 2-3.

^b LF = Linear Feet

Source: Draft Town of Mammoth Lakes Trails System Master Plan, Table 8-3, February 2009; and Town of Mammoth Lakes, September 2010.

Table 2-2

TSMP Crossing Improvement Projects

Project No. ^a	Street	Location	Description
X 2-1	Minaret Road	Forest Trail	Existing unsignalized intersection. Proposed by Town as roundabout. Connects future bike lanes on Forest Trail and Minaret Road and provides access to the North Village area.
X 2-2	Minaret Road	North Village (Mid Block)	Existing mid-block crossing with flashing beacons. Needs lighting improvements to illuminate pedestrians in the crosswalk. Potentially convert to HAWK signal.
X 2-3	Lake Mary Road	Davison Road	No existing crossing. Provides access to Lake Mary Path from high and low-density residential areas.
X 2-4	Lake Mary Road	Lakeview Road	No existing crossing. Provides access to Lake Mary Path from future bike route/lanes on Lakeview Boulevard.
X 2-5	Lake Mary Road	Canyon Boulevard	Existing signalized intersection. Provides access to Lake Mary Path from future bike lanes on Canyon.
X 2-6	Lake Mary Road	Bridges Lane	No existing crossing. Provides access to Lake Mary Path from a residential and resort area.
X 2-7	Lake Mary Road	Lee Road	No existing crossing. Provides access to Lake Mary Path from a high and low-density residential area.
X 2-8	Main Street	Minaret Road	Existing signalized crossing. Terminus of Lake Mary Path. High pedestrian volumes expected with new development. Bicycle signal head should be considered to allow for diagonal crossing.
X 2-9	Main Street	Mountain Blvd./Callahan Way	No existing crossing. Connects Mammoth View and Mammoth Heights to Main Path on Callahan Way.
X 2-10	Main Street	Sierra Blvd./Mono Street	No existing crossing. Provides pedestrian access from high-density Sierra Valley district to proposed Recreation Node on Forest Trail.
X 2-11	Main Street	Forest Trail	No existing crossing. Connects Forest Trail bike lanes with Main Street bike lanes. Full traffic signal may be required, especially with new roadway construction in Hidden Creek.

Table 2-2 (Continued)

TSMP Crossing Improvement Projects

Project No. ^a	Street	Location	Description
X 2-12	Main Street (Hwy 203)	Sierra Park Road	No existing crossing. Connects future Sierra Park bike lanes and school zone with Shady Rest. Will be especially important in winter after storm events when tunnel has not been cleared/groomed.
X 2-13	Meridian Boulevard	Minaret Road	Proposed by TOML as roundabout. Connects existing/future bike lanes on Minaret and Meridian.
X 2-14	Meridian Boulevard	Sierra Park Road	Existing 4-way stop with crosswalks and School Zone.
X 2-15	Meridian Boulevard	College Parkway	No existing crossing. Provides connection between college and schools.
X 2-16	Meridian Boulevard	Wagon Wheel Road	No existing crossing. Provides connection between college, residential area and Meridian Path.
X 2-17	Old Mammoth Road	Chateau Road	No existing crossing. Connects future Sierra Park bike lanes and school zone with Shady Rest. Will be especially important in winter after storm events when tunnel has not been cleared/groomed.
X 2-18	Old Mammoth Road	Minaret Road	Proposed by TOML as roundabout. Connects existing/future bike lanes on Minaret and Meridian.
X 2-19	Old Mammoth Road	Ski Trail	No existing crossing. Connects residential area on south side of Old Mammoth Road to Main Path and Athletic Club.
X 2-20	Old Mammoth Road	Waterford Avenue	No existing crossing residential area on south side of Old Mammoth Road to Main Path and Eagle Lodge via Waterford.

^a Project Nos. correspond to numbers on Figure 2-2 and/or Figure 2-3.

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 4-8, February 2009; and Town of Mammoth Lakes, September 2010.*

Table 2-3

TSMP On-Street Bike Lane Projects

Project No. ^a	Street	From	To	Length
B 2-1	Minaret Road	Mammoth Scenic Loop	Mammoth Knolls Drive	3,096 LF
B 2-2	Minaret Road	Mammoth Knolls Drive	Main Street	2,058 LF
B 2-3	Lake Mary Road	Davison Road	Minaret Road	2,713 LF
B 2-4	Meridian Boulevard	S. Majestic Pines Drive	N. Majestic Pines Drive	649 LF
B 2-5	Meridian Boulevard	Sierra Park Road	Highway 203	6,936 LF
B 2-6	Old Mammoth Road	Red Fir Road	Minaret Road	7,419 LF
B 2-7	Old Mammoth Road	Main Street	Mammoth Creek Park	4,396 LF
B 3-1	Forest Trail	Minaret Road	Canyon Blvd.	5,599 LF
B 3-2	Canyon Blvd.	Lake Mary Road	Hillside Drive	5,624 LF
B 3-3	Lakeview Bld.	Rainbow Lane	Canyon Blvd.	2,635 LF
B 3-4	Majestic Pines Drive	Silver Tip Lane	Lodestar Drive	2,459 LF
B 3-5	Chateau Road	Minaret Road	End	2,991 LF
B 3-6	Sierra Nevada Road	Azimuth Drive	Sierra Park Road	764 LF
B 3-7	Laurel Mountain Road	Main Street	Sierra Nevada Road	1,826 LF
B 3-8	Tavern Road	Laurel Mountain Road	Sierra Park Road	1,183 LF
B 3-9	Sierra Manor Road	Tavern Road	Meridian Blvd.	1,716 LF
B 3-10	Sierra Park Road	Main Street	End	3,190 LF
B 3-11	Kelley Road	Lake Mary Road	Majestic Pines	1,254 LF
B 3-12	S. Majestic Pines	Meridian Boulevard	Waterford Street	2,622 LF
B 4-1	Forest Trail	Canyon Boulevard	Lakeview Blvd.	3,115 LF
B 4-2	Majestic Pines Drive	Silver Tip Lane	Lodestar Drive	1,903 LF
B 4-3	North Waterford Avenue	Majestic Pines Drive	Old Mammoth Road	1,268 LF
B 4-5	Davison Road	Lake Mary Road	Lakeview Boulevard	3,130 LF
B 5-1	Sherwin Creek Road	Borrow Pit	Highway 395	26,177 LF
			Total Length	94,723 LF
				(17.9 miles)

^a Project Nos. correspond to numbers on Figures 2-2 to 2-5.

^b LF = Linear Feet

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 8-5, February 2009; and Town of Mammoth Lakes, September 2010.*

Table 2-4

Recommended Amenities at Summer Recreation Nodes

GIC ^a	Name/Description	Season	Node Type	Amenities ^b								
				Lodging	Restaurant	Parking ^c	Restroom	Lift	Bus	Trail Access	Signage	
46	Main Lodge (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	X	F
191	North Village (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	X	F
36	Tamarack Lodge (MMSA)	Year-Round	Portal	X	X	X	X		X	X	X	F
195	Community Center	Year-Round	Park			X	X		F	F	F	F
134	Mammoth Creek Park, East	Year-Round	Park			X,F	X		X	X	X	F
152	Mammoth Creek Park, West	Year-Round	Park			X	X		X	X	X	F
97	Shady Rest Park	Year Round	Park			X	X		F	X	X	F
193	Trails End Park	Year-Round	Park			X	X		F	X	X	F
88-90	Coldwater Campground	Summer	Trailhead			X	X		F	X	X	F
42	Earthquake Fault	Year-Round	Trailhead			X	X		F	X	X	F
80	Horseshoe Lake	Summer	Trailhead			X	X		X	X	X	F
86-87	Lake George	Summer	Trailhead			X	X		F	X	X	F
163	Sherwin Creek Road, USFS gravel borrow pit	Year-Round	Trailhead			F	F		F	X	X	F
64	Sierra Blvd at Forest Trail	Year-Round	Trailhead			F	F		F	X	X	F
67	Highway 203 Motorized Access	Year-Round	Trailhead			F	F					
124	Welcome Center	Year-Round	Trailhead			X	X		F	X	X	F
38	MMSA at Austria Hof parking lot	Summer	Access/Egress							X	X	F
14	Eagle Lodge – temp (MMSA)	Year-Round	Access/Egress	X	F	X	F	F	X	X	X	F
41	Lake Mary Bike Path NE Terminus	Summer	Access/Egress				F		F	F	X	F
27	Tamarack Street	Year-Round	Access/Egress							X	X	F
34	Twin Lakes Parking	Summer	Access/Egress			X			F	X	X	F
21	Uptown/Downtown	Summer	Access/Egress						X	X	X	F
200 ^d	Snowcreek 8 Access/Egress Point	Year Round	Access/Egress							F	X	F

^a Project Nos. correspond to numbers on Figures 2-2 to Figure 2-5.

^b "X" indicates an existing amenity. "F" indicates future (recommended) amenity.

^c Future parking spaces are Recreation Node Nos. 64 134, and 163 are anticipated to include up to approximately 15 new parking spaces.

^d To be developed per Snowcreek Master Plan Update and Development Agreement.

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 4-2, February 2009; and Town of Mammoth Lakes, September 2010.*

Table 2-5

Recommended Amenities at Winter Recreation Nodes

GIC ^a	Name/Description	Season	Node Type	Amenities ^b								
				Lodging	Restaurant	Parking ^c	Restroom	Lift	Bus	Trail Access	Signage	
13	Canyon Lodge (MMSA)	Winter	Portal	X	X	X	X	X	X	X	X	F
14	Eagle Lodge – temp (MMSA)	Year-Round	Access/Egress	X	F	X	F	F	X	X	X	F
46	Main Lodge (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	X	F
36	Tamarack Lodge (MMSA)	Year-Round	Portal	X	X	X	X		X	X	X	F
191	North Village (MMSA)	Year-Round	Portal	X	X	X	X	X	X	X	X	F
195	Community Center	Year-Round	Park			X	X		F	F	F	F
134	Mammoth Creek Park, East	Year-Round	Park			X,F	X		X	X	X	F
152	Mammoth Creek Park, West	Year-Round	Park			X	X		X	X	X	F
97	Shady Rest Park	Year Round	Park			X	X		F	X	X	F
193	Trails End Park	Year-Round	Park			X	X		F	X	X	F
42	Earthquake Fault	Year-Round	Trailhead			X	X		F	X	X	F
44	Power Plant	Winter	Trailhead			F	F		F	F	F	F
192	Shady Rest Sawmill Cutoff Road	Winter	Trailhead			X	F		F	X	X	F
163	Sherwin Creek Road, USFS gravel borrow pit	Year-Round	Trailhead			F	F		F	X	X	F
124	Welcome Center	Year-Round	Trailhead			X	X		F	X	X	F
35	Lake Mary Winter Terminus	Winter	Access/Egress			X			F	X	X	F
158	Path along Snowcreek V Fenceline	Winter	Access/Egress							F	X	F
28	Mill City	Winter	Access/Egress			X			F	X	X	F
64	Sierra Blvd at Forest Trail	Year-Round	Trailhead			F	F		F	X	X	F
67	Highway 203 Motorized Access	Year-Round	Trailhead			F	F					
27	Tamarack Street	Year-Round	Access/Egress							X	X	F
52	Sledz	Winter	GIC Point			X	X	X	X			
200 ^d	Snowcreek 8 Access/Egress Point	Year Round	Access/Egress							F	X	F

^a Project Nos. correspond to numbers on Figures 2-2 to Figure 2-5.

^b “X” indicates an existing amenity. “F” indicates future (recommended) amenity.

^c Future parking spaces at Recreation Node Nos. 44, 64, 134 and 163 are anticipated to include up to approximately 15 new parking spaces.

^d To be developed per Snowcreek Master Plan Update and Development Agreement.

Source: *Draft Town of Mammoth Lakes Trails System Master Plan, Table 4-3, February 2009; and Town of Mammoth Lakes, September 2010.*

alignments have been carried forward from the 1991 Trails Plan, and some are newly proposed. The SSTC also looks at various options for a winter trails and staging system in the Shady Rest campground area, and at potential guidelines for soft surface trail design and construction. It is anticipated that more detailed collaborative planning and analysis, similar to the SHARP process, would be completed for various planning areas within the SSTC study area, including Shady Rest, Mammoth Knolls, and the Lakes Basin, to develop refined trails and facilities concepts. The conceptual trail alignments presented in the SSTC are presented in

Figures 2-2 and 2-4. **Figure 2-7, *Shady Rest Recommended Winter Use***, illustrates the recommended winter trails system in the Shady Rest Area.

As indicated in the Existing Conditions section above, interface locations between soft-surface trails and urbanized areas of the Town, particularly between MMSA mountain bike trails at locations such as North Village, Canyon Lodge and Eagle Lodge, present safety hazards to bicyclists, pedestrians and vehicular travelers. In recognition of these safety issues, the TSMP recommends that partnerships between the Town, USFS and MMSA be developed to address safety issues at interface areas through a combination of rerouting, signage, education, alternative facilities and other methods, as necessary.

(7) Other TSMP Components

The TSMP includes a series of components that would help implement the Project recommendations described above. The TSMP includes recommendations for education, encouragement and enforcement programs. The TSMP includes a chapter describing a variety of recommendations for signage and wayfinding associated with the trails system. The TSMP also includes Design Guidelines for various trails system components, guidance for operations and maintenance, and recommendations for implementation, including planning level cost estimates and potential funding sources.

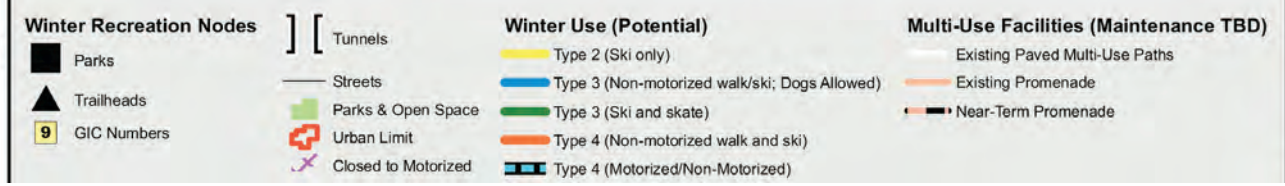
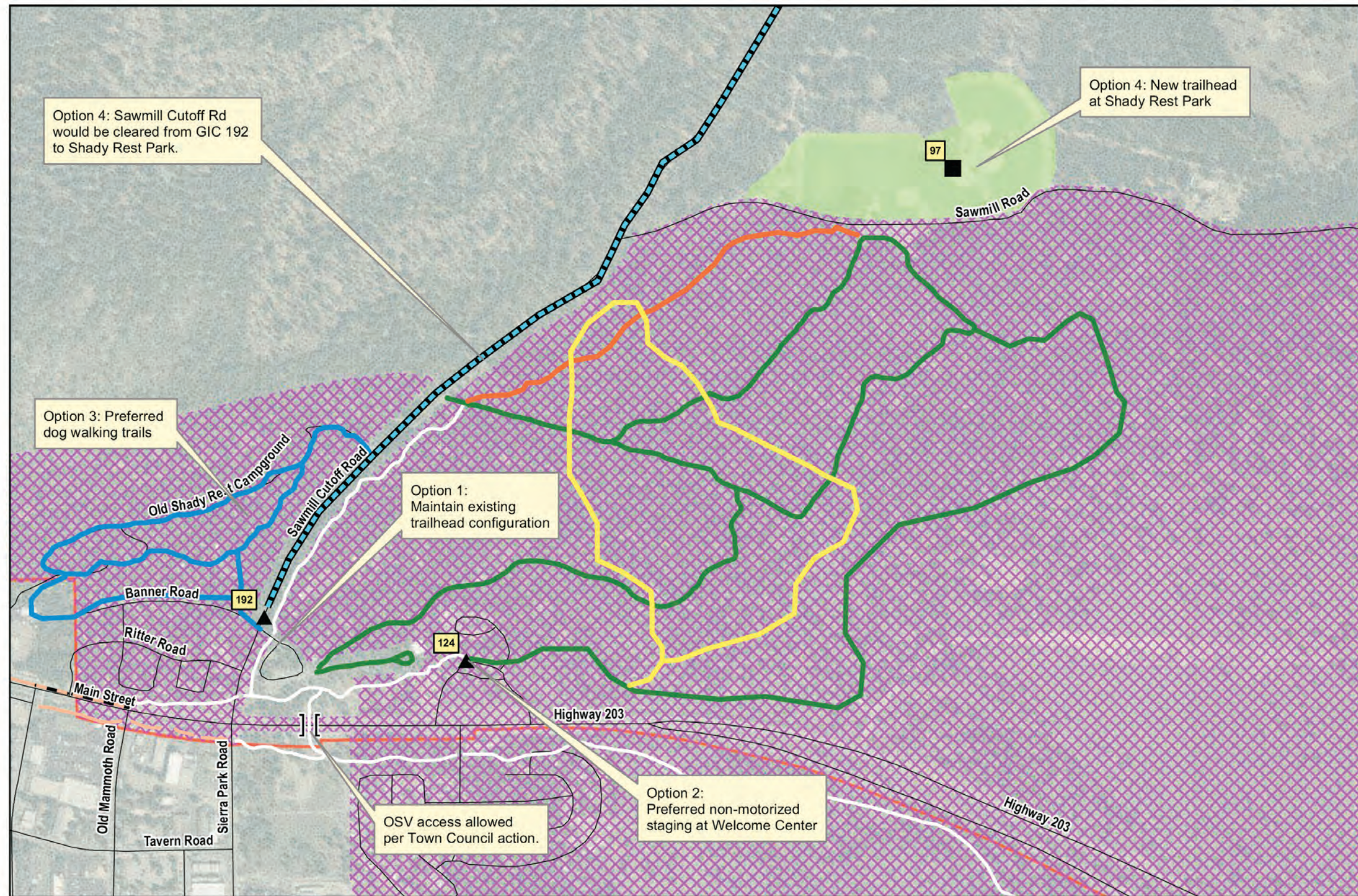
(8) Existing Infrastructure and TSMP Improvements

The Mammoth Community Water District operates and maintains the water and wastewater infrastructure serving the community of Mammoth Lakes, and has in some instances used existing or proposed trail easements (such as that at the end of Tamarack Street) to access its production and monitoring wells. For many years, District personnel have been accessing one of its groundwater production wells and several monitoring wells in the Mammoth Meadows from the southern end of Tamarack Street. Such access to these wells would not be restricted by implementation of the trail system envisioned by the TSMP, which may, in fact, provide additional opportunities for access, as agreed to by the Town and private property owners from whom easements are secured.

b. Sherwin Area Recreation Plan

The SHARP recommends winter and summer projects regarding trails, public access, and recreation facilities for implementation in the Sherwin area. The SHARP identifies 31 summer and 19 winter projects. All of the trails identified within SHARP are located on National forest lands; some or all of the existing and proposed trails and facilities may remain or become official USFS system trails, others may be constructed, operated and maintained by the Town under Special Use Permit from Inyo National Forest, or under collaborative programs developed between the two agencies. Examples of existing trails include, but are not limited to, Mammoth Rock Trail, Panorama Dome Trail, and the Sherwin Lakes Trail. All trails and facilities proposed in this plan are subject to review under the National Environmental Policy Act and would require approval by the US Forest Service to move forward. At this time, only a select number of the proposals have been accepted by the US Forest Service for further environmental review and consideration. Additional proposals included in the SHARP document may or may not be considered by the US Forest Service as future projects.

Please refer to Appendix A, *SHARP Plan: Summer and Winter Projects*, in the Initial Study for a description and location of the proposed summer and winter projects included in the SHARP. (The Initial Study is included in Appendix A of this EIR). Please note that these descriptions are drawn from the November 2009



Shady Rest Recommended Winter Use

FIGURE
2-7

Trails System Master Plan Project

Source: Town of Mammoth Lakes Trail System Master Plan, February 2009.

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SHARP Summer and Winter Narratives. In the case of facilities identified as Priority Projects which reflect refinements developed through the work of the SHARP TTC, descriptions have been updated and slightly differ from those included in Appendix A of the Initial Study. The current descriptions and detailed illustrations of the Priority Projects within the SHARP area are included in Appendix B, *SHARP Area Priority Projects*, of this EIR and summarized in subsection 5.C, *Priority Projects*, immediately below.

c. Priority Projects

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town.

The Priority Projects are summarized below. The Priority Projects included within the TSMP are illustrated on Figure 2-2 (Project Nos. 1 and 2, below). **Figure 2-8, SHARP Area Priority Projects**, illustrates the locations of the Priority Projects in the SHARP area (Project Nos. 3-9, below).

- No. 1. **MUP 2-1 - Main Path (4a) - Town Loop.** This MUP would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road (921 linear feet).
- No. 2. **MUP 3-1 - College Connector.** This MUP, partially located along Meridian Boulevard and College Parkway, would connect Sierra Park Road to the Main Path (3,769 linear feet).
- No. 3. **SHARP No. 1 (Summer and Winter) - Major Multi-Use Staging Area at the Borrow Pit.** This would be the primary staging area for the Sherwins area and therefore the most developed. Facilities would include parking, bathrooms, an education/interpretive area, and signage. Additionally, the USFS Maintenance Level on Sherwin Creek Road would need to be changed to allow off-highway vehicles (OHVs) to travel eastbound along the entire length of Sherwin Creek Road to Highway 395 (across both USFS and Department of Water and Power [DWP] land) to access appropriate OHV routes. This staging area would be open year-round to all users and would be served by public transit.

This area has traditionally been, and continues to be, a popular staging area for recreationists. The tankfarm facility to be built by Turner Propane at the borrow pit would provide several opportunities to create a major staging area in this location: Sherwin Creek Road would require conversion to a hardened surface from its intersection with Old Mammoth Road to the borrow pit, which would provide for improved vehicular travel; construction of the tank farm would allow the staging area to be situated in an already-disturbed location; and future water infrastructure for the tank farm may be usable for bathrooms at the staging area. The education/interpretive area would be considered due to the expected high volume of users. OHV use is currently prohibited in open areas and on some routes within the Sherwins area, including much of Sherwin Creek Road. Changing the USFS Maintenance Level on Sherwin Creek Road would allow OHV users to ride directly from the borrow pit staging area and then along Sherwin Creek Road to routes open to them in the east without needing to stage farther down the road.

During the winter, this area would allow for a separate parking area for over-snow vehicle (OSV). The staging area would allow for separation of motorized and non-motorized staging, which is intended to reduce potential safety hazards and/or conflicts between snowmobiles and children, dogs, or others, and provide an easy loading/unloading area for those with trailers. The non-motorized parking area located farther to the south would allow for better access to the proposed snowplay area (see Winter Map ID #2 in the SHARP Plan) for families with children too small to walk a long distance as well as for proximity to non-motorized recreation opportunities to the west.

No. 4. **SHARP No. 5B (Summer)**

5b North Trail

Name: “Mammoth City Trail”

Trail Type: Type 2 (preferred Mountain Bike)

Users: Non-Motorized users

Endpoints: Safe crossing for Map ID# S05c/Start of Map ID #S15 on the Panorama Mountain Bike Trail

5b South Trail

Name: To Be Determined

Trail Type: Hybrid of Type 2 (preferred equestrian) and Type 2 (preferred hike)

Users: Non-Motorized users

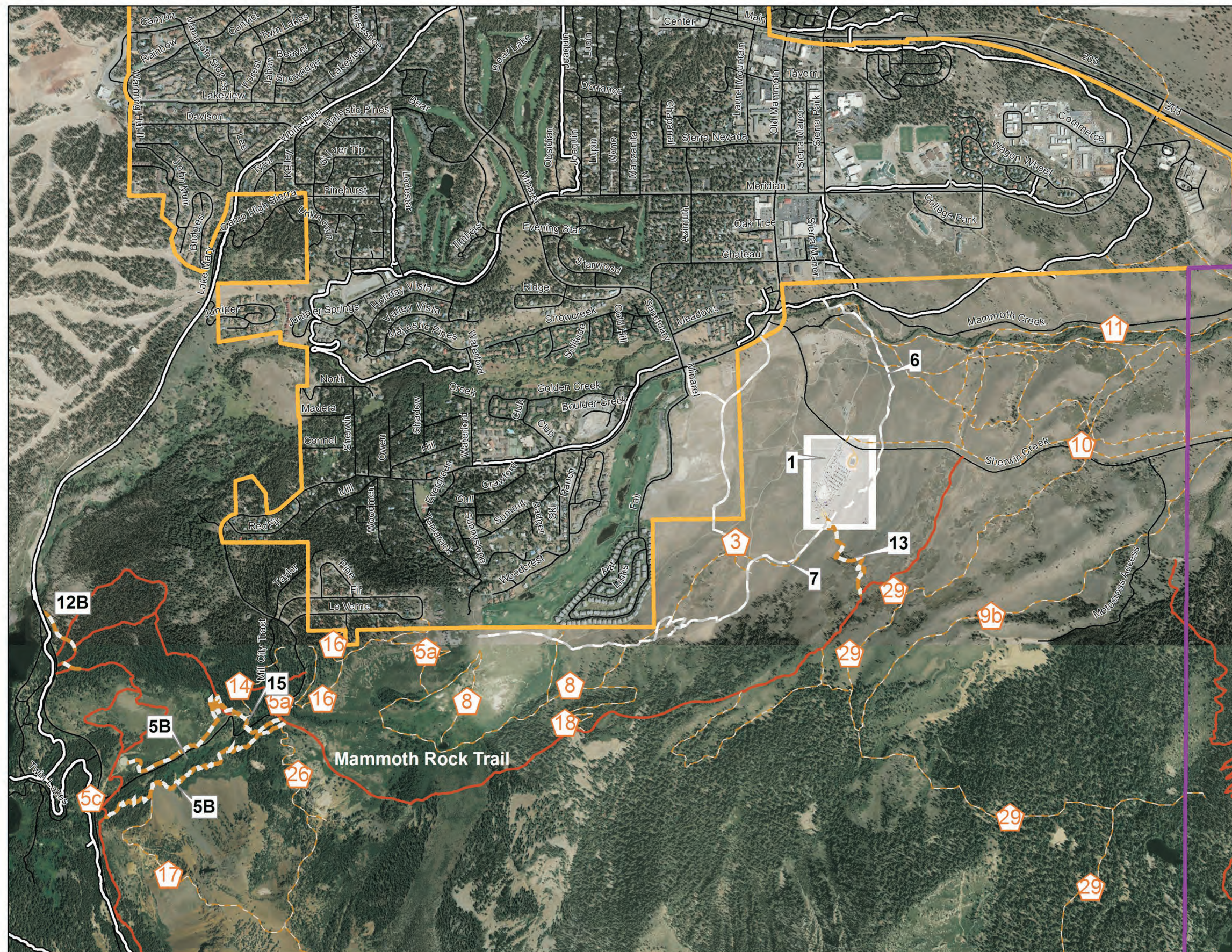
Endpoints: Mammoth Rock Trail/Existing USFS system pack trail

Parallel soft-surface non-motorized connections—one on the north side of Old Mammoth Road, one on the south side—from the Old Mammoth Road safe crossing (refer to Summer Map ID #15 in the SHARP) to the intersection of Old Mammoth Road and Lake Mary Road. This Priority Project would include a set of parallel soft-surface non-motorized trail connections between the Old Mammoth Road safe crossing and the road’s intersection with Lake Mary Road. Facilities would be limited to signage. One connection would be open to all non-motorized use, and its complement would be open to non-mechanized use only. Creation of parallel trails would reduce potential user conflict between equestrians, hikers, and mountain bikers as well as trail deterioration from heavy multiple use. The north trail would be approximately 2,800 linear feet and the south trail would be approximately 4,295 linear feet.

The trail on the north side of Old Mammoth Road would connect users to the Lake Mary Road Bike Path, crossing Lake Mary Road and encouraging use of that path and the Mammoth Lakes Trail System as a continuous system. The connection to the trail at Summer Map ID #26 in the SHARP encourages and makes accessible recreation and vista opportunities at and near Mammoth Rock. Facilities would be limited to signage, and the Lake Mary Road Bike Path connector would be closed to equestrians.

Legend

-  Trail Alignments (SHARP TTC)
-  Multi-Path Alignments (SHARPTTC & SnowcreekMP)
-  SHARP Proposed Trails
-  INF Trails
-  Existing Paved Multi-Use Path
-  Roads
-  TOML Urban Growth Boundary
-  TOML Municipal Boundary
-  12B SHARP TTC Project
-  2 SHARP Proposals



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No. 5. SHARP No. 6 (Summer)**Name:** Hayden Cabin Path**Trail Type:** Paved-Multi-Use Path preferred or Type 4 (shared multi-use trail; alternative)**Users:** Non-Motorized and ADA accessible; equestrians prohibited**Trailhead and Destination:** Borrow Pit Staging Area/Town Loop

Hard-surface or paved non-motorized connector from the borrow pit staging area to the Town Loop at Hayden Cabin Museum within Mammoth Creek Park East at the bridge. This Priority Project would include a hard-surface or paved ADA-compliant MUP from the borrow pit staging area (see SHARP No. 1 above) to the bridge at Mammoth Creek Park East. Specific routing would take users from the borrow pit staging area, east of the USFS stables, and deliver them to a connection with the existing MUP at Mammoth Creek Park East. This connector could route beneath the winter alignment (refer to Winter Map ID #10 in the SHARP) and would be open to non-motorized use only. The exact surface of this trail is to be determined. The trail could be up to approximately 4,642 linear feet.

This trail is intended to facilitate use of Mammoth Creek Park East as an alternate staging area and provide connectivity between the park, the borrow pit staging area, the stacked-loop trail system, and formal access/egress points along the meadow's northern boundary. The trail route would increase user safety by keeping users separated from Sherwin Creek Road and Old Mammoth Road traffic and minimize potential conflict with the two stock operations in the area (primarily Sierra Meadows Equestrian Center). The trail would provide a direct connection to an existing portion of the Mammoth Lakes Trail System that leads to the Mammoth Lakes Library, Cerro Coso Community College, and other destinations. The park-side endpoint of this connection also would facilitate easier access to the Hayden Cabin (see Summer Map ID #25), which presents historical opportunities and can increase visitor traffic to this amenity.

No. 6. SHARP No. 7 (Summer)**Name:** Meadow Trail; Meadow Path; and Sherwins Meadow Path**Trail Type:** Paved-Multi-Use Path preferred or Type 4 (shared multi-use trail; alternative)**Users:** Non-Motorized and ADA accessible; equestrians prohibited**Trailhead and Destination:** Borrow Pit Staging Area/Tamarack Street Trailhead

Non-motorized "backbone" trail connections from the borrow pit staging area to the Tamarack Street trailhead. This Priority Project would articulate two separate non-motorized routes that connect the borrow pit staging area (see SHARP NO. 1 above) to the Tamarack Street trailhead (see Summer Map ID #2 in the SHARP) and also connect into the summertime stacked-loop trail system (see Summer Map ID #8 in the SHARP). The hard-surface or paved trail would be ADA-accessible and would be aligned over the existing USFS 4S100 road, which would require closure to motorized use. Construction should accommodate service- and maintenance-vehicle access to Kerry Meadow for special events such as weddings. The complementary trail would be soft surface and aligned over the existing trail to the south, near the base of the Sherwins. Accommodation of equestrian use would be included in the design process, which may include an

equestrian-only bridle path. These trails would be open to non-motorized use only, with specific use dependent on trail surface. The trail would be approximately 6,800 linear feet.

Routing of the trail as described above would increase user safety by keeping users separated from Sherwin Creek Road and Old Mammoth Road traffic, minimize potential conflict with the two stock operations in the area (primarily Sierra Meadows Equestrian Center), and provide a direct connection to an existing portion of the Mammoth Lakes Trail System that leads to the Mammoth Lakes Library, Cerro Coso Community College, and other destinations. The parkside endpoint of this connection also would facilitate easier access to the Hayden Cabin (see Summer Map ID #25 in the SHARP plan). The exact alignment of the backbone trails has not yet been determined, but would be positioned to avoid possible conflict with golf balls hit from the nearby Snowcreek fairway.

No. 7. SHARP No. 12b (Summer)

Name: Panorama Connection, Tunnel Trail

Trail Type: Type 3 (shared, non-motorized) and Type 2 (preferred hike)

Users: Type 3 area: non-motorized, non-equestrian; Type 2 area: pedestrians only.

Trailhead and Destination: Lakes Basin Path south of Mammoth Creek at existing use trail to Panorama Dome Hiking Trail.

Soft-surface non-motorized trail connecting the Lake Mary Road staging area to the Panorama Vista Trail, Panorama Dome Trail, and the Lake Mary Road Bike Path. This Priority Project would include a soft-surface non-motorized trail that connects from the end of the Lake Mary Road Bike Path at the bridge and continues on the east side of the road to connect to Panorama Dome Trail. The northern end of Panorama Vista Trail would be realigned to parallel the road, with a connection to the Lake Mary Road winter closure staging area (see Summer Map ID #12a in the SHARP) and the south end of the trail. A bridge would be built that connects the Lake Mary Road Bike Path to the soft-surface trail described here. This would be constructed on the east side of the existing bridge where the Lake Mary Road Bike Path currently ends. The trail would be approximately 1,074 linear feet.

This trail would increase user safety by keeping users off of Old Mammoth Road. The Panorama Vista Trail realignment would eliminate use of the dangerous southern end of the trail at its intersection with Lake Mary Road. The bridge would allow bike-path users to utilize the safe crossing to the Lake Mary Road winter closure staging area (see Summer Map ID #12a in the SHARP). The trail connection would connect users in the lower Sherwins area and Panorama Dome with the Lake Mary Road Bike Path as well as provide safe and accessible connectivity between the Lakes Basin, the Mammoth Mountain Ski Area (MMSA) Bike Park, and Panorama Dome.

No. 8. SHARP No. 13 (Summer)

Name: Sherwin Gateway Trail; Rock Trail Express

Trail Type: Type 2 (preferred mountain bike)

Users: Non-Motorized

Trailhead and Destination: Borrow Pit Staging Area/Mammoth Rock Trail

Soft-surface non-motorized connector from the borrow pit staging area (see Summer Map ID #1 in SHARP) to Mammoth Rock Trail. This Priority Project would include a soft-surface non-motorized connector trail from the Mammoth Rock Trail to the south side of the borrow pit staging area. Design concerns may necessitate rehabilitation of the two existing use-trails into one system trail that connects to the existing road on the south side of the borrow pit. The trail would be approximately 2,000 linear feet.

This connection would enable users, particularly mountain bikers, to exit the Mammoth Rock Trail and make a direct connection to the Mammoth Creek Park East connector trail (see Summer Map ID #6 in the SHARP) and the larger Mammoth Lakes Trail System, or to one of the two “backbone” trails connecting the borrow pit staging area to the Tamarack Street trailhead (see Summer Map ID #2 and #7 in the SHARP). This connection would deliver users from Mammoth Rock Trail directly into the borrow pit staging area.

No. 9. **SHARP No. 15 (Summer)**

Name: To be determined

Trail Type: Type 2 (preferred mountain bike)

Users: Non-Motorized

Trailhead and Destination: Intersection of Map ID# S05b in SHARP North and Panorama Mountain Bike Trail/Mammoth Rock Trail

Old Mammoth Road soft-surface non-motorized safe crossing. This Priority Project would include a soft-surface non-motorized safe crossing of Old Mammoth Road. A trail would be built roughly from the western entrance of Mammoth Rock Trail and stay on the uphill (south) side of Old Mammoth Road, utilizing a portion of the existing use trail/mine road, then turn parallel to the road and continue to the uppermost hairpin turn of Old Mammoth Road. Here the trail would cross just uphill (west) of the turn. The crossing would be open to non-motorized use only. The trail would be approximately 1,506 linear feet.

This crossing would provide continuity of the soft-surface system described in Summer Map ID #14 and elsewhere in the SHARP Plan. It avoids having bikers cross Old Mammoth Road in a blind hairpin, as is the current configuration, thereby increasing public safety both for trail users and drivers. This is a safe crossing point because uphill traffic has a 180-degree turn to negotiate; therefore, traffic is slow and downhill traffic has a long straightaway on which to see oncoming cars or pedestrians. Cars are naturally slowing here in anticipation of the hairpin turn. Additionally, this crossing would minimize use of unsafe and over-utilized vehicular turnouts along Old Mammoth Road. The exact alignment of the safe crossing is yet to be determined but could include a below-grade crossing.

d. Management and Maintenance

Management and maintenance activities may include activities such as vegetation clearing, surface repair, and winter grooming or clearing of existing and proposed trails. It is generally assumed that trails, bike facilities and MUPs located within the Urban Growth Boundary, and within Town rights-of-way on easements within private property would be managed and maintained by the Town of Mammoth Lakes, as would facilities operated by the Town under Special Use Permit from the Inyo National Forest. Details of

which system components within National forest lands would be operated or managed by the Town, US Forest Service, or some other entity would be developed as specific projects move forward.

e. Construction Activities

Since the construction season typically lasts approximately six months (May to October), it would be likely that most Priority Projects would take at least two years to complete, although short sections (e.g., MUPs 2-1 and 3-1) may be completed in a single season. Construction on at least some projects could begin as early as Spring 2012, though ultimately would be contingent on funding. It is anticipated all of the Priority Projects would be built within 5-7 years, with some degree of overlap in terms of projects under concurrent construction. The first priority projects to be constructed are likely to include the two projects located within the UGB (MUP 2-1 and 3-1), the Borrow Pit (SHARP #1), and trails connecting to it (SHARP #6, #7, #13), as well as SHARP #12B.

For other trail components of the TSMP and SHARP plans, construction of individual projects would occur as funding and resources become available over time with the duration of construction dependent on individual project types.

f. Jurisdictional Agencies/Approvals

The Town of Mammoth Lakes is the lead agency under CEQA for the TSMP and would adopt the TSMP. The agencies with the most direct jurisdiction over the facilities discussed in the plans are the Town of Mammoth Lakes, the USFS, and Caltrans. Other agencies with jurisdiction over individual components of the plans may include, but are not limited to: California Department of Fish and Game, United States Army Corps of Engineers, United States Fish and Wildlife Service, Lahontan Regional Water Quality Control Board, and the Great Basin Unified Air Pollution Control District. Approvals from agencies with jurisdiction over trail-related components would be obtained on a project-by-project basis.

As previously described, a number of components of the TSMP are proposed on lands under the jurisdiction of the USFS. Although a large number of such projects are included in the TSMP and SHARP to be adopted by the Town, the USFS, at its discretion, may determine that individual projects located on National forest lands may or may not move forward. All such projects would be subject to USFS review and approval, including conformance with Forest Service procedures, protocols and design standards. NEPA review would also be required of any and all proposals for which USFS approval or action is required. Since the USFS does not propose to adopt the TSMP itself, the agency has determined that NEPA review of the TSMP is not required at this time, but would be completed as and when specific project proposals are brought forward for lands under its jurisdiction.

3.0 BASIS FOR CUMULATIVE ANALYSIS

3.0 BASIS FOR CUMULATIVE ANALYSIS

The California Environmental Quality Act (CEQA) requires that EIRs analyze cumulative impacts. As defined in *CEQA Guidelines* Section 15355, a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. *CEQA Guidelines* Section 15130(a) states that an EIR must discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(c)(a)(3). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable. However, an EIR should not discuss impacts which do not result in part from the project evaluated in the EIR. Furthermore, when the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR must briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency must identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.

In addition, *CEQA Guidelines* Section 15130(b) indicates that the analysis of cumulative impacts shall reflect the severity of the impacts and the likelihood of occurrence, but the discussion need not provide as great detailed as is provided for the effects attributable to the project alone. Instead, the discussion should be guided by the standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of the other projects which do not contribute to the cumulative impact.

A project has "cumulatively considerable" impacts when its incremental effects "are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." Cal. Pub. Res. Code § 21083(b); see also *CEQA Guidelines* § 15355(b).

For an adequate discussion of significant cumulative impacts, the *CEQA Guidelines* (Section 15130(b)(1)(A) and (B)) allow an environmental impact report to determine cumulative impacts and reasonably foreseeable growth based on either of the following methods:

- A list of past, present, and probable future projects producing related or cumulative impacts; or
- A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental planning document which has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

For the purposes of the cumulative impacts analysis for the Project, the Town has opted to use the list approach for evaluating cumulative effects. Based on review of applications and Town records, as well as U.S. Forest Service records, the Town developed a list of past, present and probable future projects. The list of identified related projects is provided in **Table 3-1, Related Projects List**, with the locations of each of the related projects listed in **Figure 3-1, Related Projects**. Although the projects listed in Table 3-1 serve as the primary bases for evaluation of cumulative impacts, the approach to these analyses vary for certain environmental issues. The cumulative analysis of each environmental issue, are identified in the applicable environmental issue section in Chapter 4, *Environmental Impact Analysis*, of this EIR.

Table 3-1
Related Projects List

Related Project No.	Project Name/Description	Address/Location	Acres	Residential Units	Hotel Units	Commercial square feet	Parking	Other amenities
1	Student Housing, Mammoth Lakes Foundation (UPA 2006-02)	1500 College Parkway	1.48	74	N/A	N/A	112	Lounge, reception area, exercise room, storage
2	Altis	880 Bridges Lane	3.21	24	N/A	N/A	TBD	Amenity building
3	Eagle Lodge (DZA 2005-03, ZCA 2005-01)	3256 Meridian Blvd.	8.67	106 (dwelling unit equivalents)	N/A	TBD	TBD	Ski lodge
4	Holiday Haus (VTM 36-237, UPA 2005-15)	3863 and 3905 Main Street	1.55	14 Workforce	77	N/A	138	2,605-square-foot conference space, 4,380-square-foot outdoor patio, snow play area, indoor pool, exercise area, hot tubs
5	Mammoth View (TTM 10-001)	41 Alpine Circle 11 Alpine Circle 3704 Main Street 3730 Viewpoint Road 3752 Viewpoint Road 3776 Viewpoint Road 3814 Viewpoint Road	5.51	52	54		173	Spa building, pool, picnic areas, lobby, restaurant
6	Old Mammoth Place (VTM 09-003)	164, 202 and 248 Old Mammoth Road	6.1	N/A	340	36,500 square feet, including retail and restaurant	619	Public plazas, 9,500-square-foot conference space, spa, pool
7	8050 C (TTM 36-229, UPA 2005-01)	50 Canyon Boulevard		21	N/A	None	76	None
8	Mammoth Crossing (DZA 2007-01, GPA 2009-02)	Northwest, southwest, and southeast corners Main Street/Lake Mary Road and Minaret Road	9.27	66 WH (bedrooms)	742	40,500 square feet commercial	720	9,000-square-foot conference and meeting space, pool, spa; restaurants/bars; public plaza, 100 public parking spaces in addition to those required for project

Table 3-1 (Continued)

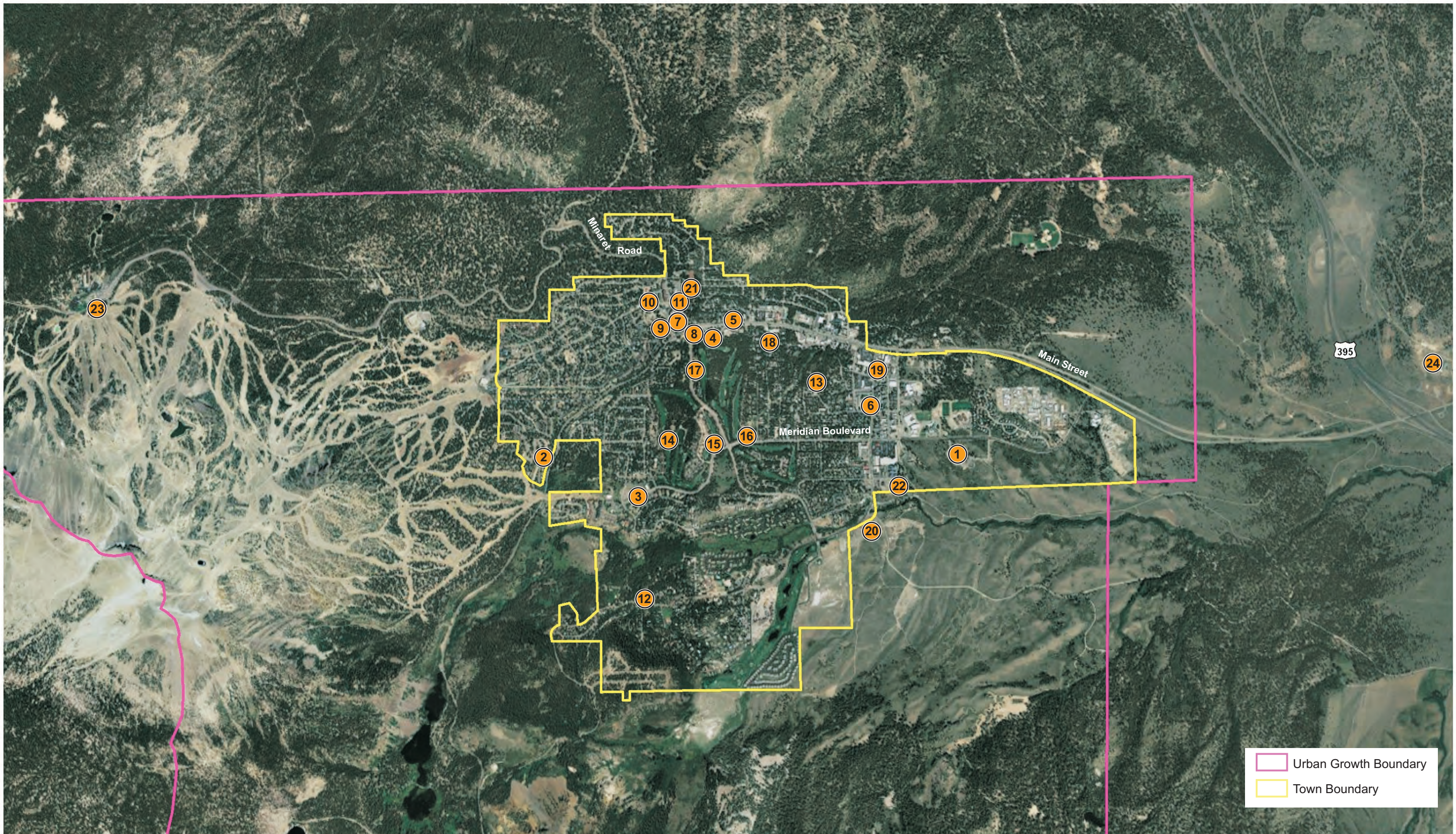
Related Projects List

Related Project No.	Project Name/Description	Address/Location	Acres	Residential Units	Hotel Units	Commercial square feet	Parking	Other amenities
9	Mammoth Hillside Phase I (TTM 36-235)	107 Lakeview Boulevard 106 Lake Mary Road 80 Lake Mary Road 17 Canyon Boulevard 49 Canyon Boulevard	4.6	24 WH	225	5,000-square-foot restaurant	259	Spa/fitness area, 6,300-square-foot conference space, pool
10	Parking Structure NVSP (UPA 2007-02, TPM 36-226)	99 Canyon Boulevard		N/A	N/A	N/A	300	None
11	South Hotel (TTM 36-234)	6180 Minaret Road	2.53	N/A	251	5,300-square-foot restaurant, 1,000 square feet of commercial	292	4,100-square-foot conference space, spa, lobby bar
12	Ettinger Condominiums (TTM 244, UPA 2006-15)	2144 Old Mammoth Road	1.09	10	N/A	N/A	25	None
13	Hidden Creek Crossing (Shady Rest Tract)	no address assigned yet.	24.5	172	N/A	N/A		None
14	Bungalows (TTM 36-242, UPA 2006-12)		1.37	10	N/A	N/A	20	None
15	Solstice (TTM 36-212, UPA 2004-07)	2004 Sierra Star Parkway	4.6	58	N/A	None	135	None
16	Tallus (TTM 36-216)	525 Obsidian Place	7.67	19	N/A	N/A	TBD	Clubhouse
17	Tanavista (TTM 36-240, UPA 2006-08)	5208 Minaret Road	1.36	45	N/A	N/A	TBD	None
18	Tihana Townhomes (TTM 36-243, UPA 2006-13)	48 Lupin Street	0.54	9	N/A	N/A	TBD	None
19	Snowcreek VII (TTM 36-236, UPA 2005-11)	85 Old Mammoth Road 1254 Old Mammoth Road		118	N/A	N/A	TBD	Recreation room
20	Snowcreek VIII	Various	237	790	200	10,000 square feet hotel associated retail, 10,000 square feet restaurants, bars/lounges	TBD	25,000-square-foot conference and meeting space, 12,900-square-foot spa/wellness center, 3,500-square-foot market
21	Vista Point (VTTM 09-001)	94 and 151 Berner Street	2.1	N/A	28	N/A	60	Owners' lounge, a rooftop pool and terrace, locker rooms, and a pedestrian plaza

Table 3-1 (Continued)

Related Projects List

Related Project No.	Project Name/Description	Address/Location	Acres	Residential Units	Hotel Units	Commercial square feet	Parking	Other amenities
22	Mammoth Rock N' Bowl	3029 Chateau Road		N/A	N/A	25,000	37	12 lane bowling center, with restaurant/bar
23	Mammoth Mountain Base Area Land Exchange	Mammoth Mountain Ski Area (MMSA) Main Lodge	21	N/A	N/A	N/A	TBD	None
24	Casa Diablo IV Geothermal Project	Near the intersection of CA State Route 203 and U.S. Highway 395, approximately 3 miles east of Mammoth Lakes, CA.	100	N/A	N/A	N/A	N/A	33 net MegaWatt (MW) geothermal power plant that includes 2 energy converters, underground transmission line, water treatment plant, and recycled water pipeline. Up to 16 new wells, each including fenced enclosure and wellhead/control building.
25	USFS Travel Management Program	Various trails throughout Planning Area	N/A	N/A	N/A	N/A	N/A	None
<p><i>Notes:</i></p> <p>a) The USFS Travel Management Program applies to various trails and other facilities within USFS jurisdiction, and therefore no specific location is associated with this related project. As such, Related Project No. 25 is not indicated in Figure 3-1.</p>								



Urban Growth Boundary
 Town Boundary



Related Projects

Trails System Master Plan Project
 Source: Esri, 2011; PCR Services Corporation, 2011.

FIGURE
3-1

4.0 ENVIRONMENTAL IMPACT ANALYSIS

4.0 ENVIRONMENTAL IMPACT ANALYSIS

A. AESTHETICS AND VISUAL RESOURCES

INTRODUCTION

The purpose of this section is to provide an analysis of the impacts of trail and recreational development with regards to scenic views, visual quality, and light and glare. This section also provides an evaluation of the Project's consistency with adopted plans and policies. Visual quality refers to the overall appearance of an area as influenced by the singular or combined contribution of different scenic resources or features. Aesthetic features often consist of natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing. Adverse effects on visual quality can include the removal of, or change in, aesthetic features, or the introduction of contrasting features that could contribute to a decline in overall visual quality.

Scenic views are valued vistas or panoramic settings that can be seen along a travel corridor or from a particular vantage point. Generally, public views, protected scenic views, and scenic views from public gathering areas or along roadway and trail corridors have heightened importance.

Regulations and plan policies pertaining to visual resources are also taken into consideration in the visual resources analysis. Applicable federal or state legislation and statutes, general plan policies, and other regulations recognize the importance of the preservation or enhancement of the natural environment for residents and visitors to a region. This analysis evaluates the effects of the Project and its consistency with regulations and adopted plans and policies related to visual resources. Inconsistency with such plans, if tied to significant physical impacts on the visual environment, may be an indication of a potentially significant visual resources impact.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Town of Mammoth Lakes General Plan

The goals and policies in the General Plan's Community Design Element describe the relationship between the man-made environment and the natural environment. According to the Community Design Element, development will be planned to visually connect with the natural surroundings by accentuating the existing Jeffrey pine forest and manzanita/sage scrub and meadows. Further, the community strongly supports the retention of major landscape characteristics and unique natural features such as large trees, Mammoth Mountain, Mammoth Rock, Crystal Crag, the Bluffs, the Sherwin Range, Mammoth Knolls, and Mammoth Crest. Public views of these features will be maintained and enhanced. The Resource Management and Conservation Element also includes goal and polices to protect the Town natural resources, which in turn serve to preserve aesthetic resources (i.e., trees and native vegetation). Relevant goal and policies that support and protect the Town's visual resources and scenic vistas include the following:

Community Character

- Goal C.1: Improve and enhance the community's unique character by requiring a high standard of design in all development in Mammoth Lakes.
- Goal C.2: Design the man-made environment to complement, not dominate, the natural environment.

Celebrate the Spectacular Natural Surroundings

- Policy C.2.J: Be stewards in preserving public views of surrounding mountains, ridgelines and knolls.

Community Design and Streetscape

- Goal C.3: Ensure safe and attractive public spaces, including sidewalks, trails, parks and streets.

Natural Environment

- Goal C.4: Be stewards of natural and scenic resources essential to community image and character.
- Policy C.4.A: Development shall be designed to provide stewardship for significant features and natural resources of the site.
- Policy C.4.E: Limited tree thinning; upper story limbing may be permitted where needed to maintain public safety and the health of the forest but not for the enhancement of views.
- Goal C.4: Be stewards of natural and scenic resources essential to community image and character.

Night Sky, Light Pollution, and Glare

- Goal C.5: Eliminate glare to improve public safety. Minimize light pollution to preserve views of stars and the night sky.

Habitat Resources

- Goal R.1: Be stewards of habitat, wildlife, fisheries, forests and vegetation resources of significant biological, ecological, aesthetic and recreational value.
- Action R.1.B.1 Plan development to minimize removal of native vegetation and trees and destruction of wildlife habitat.

(2) Town of Mammoth Lakes Municipal Code

The Town of Mammoth Lakes Municipal Code (MLMC) supports the aesthetic values of the General Plan in the preservation of natural landscape and vegetation. Sections of the MLMC address the effects of

construction on natural form, habitat and trees. These include: Sections 12.08, *Land Clearing, Earthwork, and Drainage Facilities*, and Section 12.04, *Construction and Encroachments into the Public Right-of-Way*. The purpose of MLMC Section 12.08 is to “promote the conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills, trees and vegetation; to protect the public health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding; to prevent damage to property, undermining of tree roots; and to generally preserve the terrain and the flora in their natural state as much as possible.” MLMC Section 12.04 requires re-vegetation of landscaped areas disturbed by construction in the right of way or of areas left exposed as a result of construction.

The Municipal Code also regulates tree removal within the Commercial (17.20.040.H.1.), Residential (17.16.050 B) and Industrial Zones (17.24.050). These sections each require that existing trees and vegetation are to be preserved to the maximum extent possible. No live trees over six inches in diameter are permitted to be removed without prior approval of the planning director, with approval based upon the health of the tree(s), the necessity to remove the tree(s) because of building or driveway construction or snow removal/storage, or potential hazard. Creation of views, lawns or similar amenities shall not be sufficient cause to remove native trees. As mitigation for tree removal, the planning director may require replacement plantings.

The Town of Mammoth Lakes Outdoor Lighting Ordinance (MLMC Section 17.34) regulates nighttime lighting in order to promote a safe and pleasant nighttime environment for residents and visitors; to protect and improve safe travel for all modes of transportation; to prevent nuisances caused by unnecessary light intensity, direct glare, and light trespass; to protect the ability to view the night sky by restricting unnecessary upward projection of light. Under MLMC Section 17.35.050 (Nuisance Prevention), all outdoor lighting fixtures shall be designed, located, installed, aimed downward or toward structures and maintained in order to prevent glare, light trespass, and light pollution. Outdoor lighting installations shall be designed to avoid harsh contrasts in lighting levels between the project site and the adjacent properties.

Section 17.32.120 [Ord. 90-06 and 89-05]) regulates the aesthetic characteristics of development in the Town through Design Review procedures, with the exception of single-family residences, gardening and landscape maintenance, and routine maintenance not resulting in change in color or materials. The purposes of Design Review are as follows:

- To implement the goals, policies and objectives of the General Plan;
- To regulate the design, coloration, materials, illumination and landscaping of new construction, renovations, and signage within the Town in order to maintain and enhance the image, attractiveness and environmental qualities of the Town;
- To ensure that property development or redevelopment and building construction or renovation do not detract from the value or utility of adjoining properties as a result of inappropriate, inharmonious, or inadequate design;
- To prevent indiscriminate destruction of trees and natural vegetation, excessive or unsightly grading, indiscriminate clearing of property, and destruction of natural significant landforms;

- To ensure that the architectural design of structures and their materials and colors are appropriate to the function of the project and are visually harmonious with surrounding development and natural landforms, trees, and vegetation; and
- To ensure that the location, size, design, and illumination of signs, their material, and colors are consistent with the scale and design of the building to which they are attached or which is located on the same site, and to assure that signs are visually harmonious with the surrounding environment.

Design review may be approved administratively, or may require Planning Commission approval depending on the nature of the project. Typically, Planning Commission approval is required for new construction or major renovation of large multifamily residential or commercial projects; minor renovations such as repainting or modifying exterior finishes will only require Planning Director approval.

As part of the Design Review process, the Community Development Department and/or an Advisory Design Panel (ADP) reviews project materials such as drawings, site development plans, landscape plans, building elevations, cross-sections, sample materials/color palettes, and visual simulations to determine compliance with the Design Guidelines (see below). Where Planning Commission design review approval is required, staff and ADP findings and recommendations are forwarded to the Planning Commission, who considers that information in a decision to approve the proposed design.

(3) Design Guidelines for the Town of Mammoth Lakes

The policies and goals presented in the Design Guidelines represent the goals and desires of residents and property owners pertaining to the design of new development in the Town. All new structures and all structures subject to the Municipal Code's design review requirements are subject to compliance with the Design Guidelines. The Design Guidelines provide a greater level of detail regarding the type of development that promotes the Town's Vision Statement, General Plan and Municipal Code. Items addressed in the Design Guidelines include:

- Project Concept
- Site Design
- Building Design
- Landscape Design
- Public Space Furnishings
- Lighting
- Signage
- Outdoor Sales/Storefront Displays

(4) Inyo National Forest Land and Resource Management Plan

The Project Area is located within two Management Areas of the 1988 Inyo National Forest Land and Resource Management Plan (LRMP). These include Management Area #8, the Mammoth Escarpment, and Management Area #9, Mammoth. Management Area #8 includes the Mammoth Lakes Basin, San Joaquin Mountain, Minaret Summit, Bloody Mountain, Mammoth Mountain, Mammoth Rock, and Mammoth Crest. Management Area #9 contains private land within the Town of Mammoth Lakes, National Forest System land

within and to the north, south, and east of the Town of Mammoth Lakes. The LRMP prescribes management direction for the multiple use and sustained yield of public benefits for the Inyo National Forest, and responds to major public issues and management concerns. The LRMP was developed to provide an “integrated, multiple resource management direction for all Forest resources” and thereby contributes to defining the area’s land use and visual policy context.

According to the LRMP, the Inyo National Forest has extraordinary visual resources and a high level of demand for scenic beauty. The LRMP finds that Mammoth is an area of “high sensitivity” (based on the quality of the resource and how much a resource is viewed). The LRMP also recognizes the aesthetic importance of riparian vegetation to the area and states that riparian vegetation provides scenic variety, as its lush green color contrasts with the surrounding grays and browns of the natural hillsides.

The LRMP emphasizes a continued high level of visual quality for its economic and social benefits to local communities and to millions of annual recreation visitors. The visual resources goal of the LRMP is to maintain or enhance the quality of the scenic resource and view opportunities. LRMP visual resources policies are as follows:

- Maintain or enhance the size and diversity of all riparian zones, aspen stands, meadows, and alpine tundra vegetation zones where such zones are visible from Sensitivity Level 1 and 2 roads and trails, or where they receive significant recreational use.
- Rehabilitate and/or enhance the visual resource when implementing projects, where appropriate.
- Maintain foregrounds and middle grounds of the US-395 scenic corridor.

(5) USFS Trails Construction and Maintenance Notebook

One of the priorities of the USFS Trails Construction and Maintenance Notebook (TCMN) is the sustainability in trail design that creates a positive user experience and enhances scenic beauty. Under the TCMN guidelines a trail is planned to appear pleasing to the eye and to have “just happened.” According to the TCMN, an aesthetically functional trail is one that fits the setting. Policies require that well-designed trails take advantage of natural drainage features and reduce maintenance that might be needed, while meeting the needs of the users. Taking advantage of natural land features, such as pitching trails around trees and rocks, and following natural benches is encouraged. Procedures include proper “limbing,” scattering cut vegetation widely, blending backslopes, avoiding drill hole scars, raking leaves back over the scattered dirt, and restoring borrow sites. According to the TCMN, these procedures “pay off” in a more natural-looking trail.

A trail corridor is defined as the trail’s tread (the actual portion of the trail on which users travel) and the area above and to the sides of the tread. Trail standards typically define the edges of the trail corridor as the “clearing limits.” Vegetation is trimmed back and obstacles, such as boulders and fallen trees, are removed from the trail corridor to make it possible to ride or walk on the tread. Standard trail dimension and the construction and maintenance of a clear path are considered important to user enjoyment and contribute to the active use of a trail. The TCMN recommends circumventing trees wherever feasible; however, it recognizes that trees growing within the corridor may need to be removed if no other route to circumvent the tree is available or if the tree would be a hazard to trail users. If necessary, trees are to be cut off at ground level.

The TCMN recommends that a detailed sign plan be prepared for each project to ensure that signs are aesthetically appropriate, located to serve the greatest use, and well-maintained. No more signs than necessary should be installed. Trail signs are described as being constructed of a variety of materials; the most typical of which are carsonite and wood. Signs are usually mounted on posts or trees.

Where obsolete trails are abandoned, or plants and trees have been removed or affected by the construction of new trails, the TCMN requires either active or passive re-vegetation. Re-vegetation has the secondary aesthetic effect of improving user experience. Passive re-vegetation allows surrounding vegetation to colonize the abandoned trail or areas affected by trail construction. This process works when erosion has been stopped, precipitation is adequate, the tread has been scarified, and adjacent vegetation spreads and grows rapidly. Active re-vegetation ranges from transplanting propagated native plants to importing genetically appropriate seed. Successful re-vegetation does not typically happen in a single season.

(6) California Scenic Highway Regulations

United States Highway 395 (US-395), between Benton Crossing Road and the intersection with State Route 203 (SR-203) in the Mammoth Area, is designated by the State of California as a “scenic highway.” Highway 203 is not a designated scenic highway. California’s official Scenic Highway designation was created by the Legislature in 1963 for the purpose of preserving and protecting scenic highway corridors from change that would diminish the aesthetic values of land adjacent to highways. Under Section 260 of the California Streets and Highway Code, the intent of the program is to protect and enhance California’s natural beauty and to protect the social and economic values provided by the state’s scenic resources. A scenic highway designation may also promote tourism that is consistent with the community’s scenic values. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which a potential change affects the traveler’s enjoyment of the view. A scenic corridor is the land generally adjacent to and visible from the highway and is identified using a motorist’s line of vision. A reasonable boundary is selected when the view extends to the distant horizon.

b. Existing Conditions

The Town of Mammoth Lakes is situated in a dramatic mountain valley surrounded by majestic peaks. The surrounding forest weaves through the Town creating a unique, forested, rustic environment. The forests, mountains, and meadows in and around the Town primarily define its character. More specifically, the Town is nestled against a backdrop of snowcapped 11,000-foot peaks that dominate the visual field. The urbanized portions of the Town are generally located between 7,800 and 8,600 feet above mean sea level (amsl). Surface waters, in the form of streams, lakes, seeps, and snow, are contributing elements to the visual aesthetics of the landscape. Native vegetation includes pine forest and meadow, with riparian growth along the banks of Mammoth Creek, Sherwin Creek, and occasional springs and seeps. Barren rock outcroppings, talus slopes, chaparral, and pine forests all add texture and color.

The Sierra Nevada Mountain Range forms the backdrop of views to the west, north, and south of the Town. Scenic views to the east include the Sherwin Range, White Mountains, the high desert, and the westerly edge of the Great Basin. A viewshed (or viewpoint) is an area that can be seen from a particular position (i.e., viewed from various locations in the Town and along roadways to and within the community). The rugged terrain in portions of the community provides excellent viewpoints and also restricts views, depending upon the viewer’s location. Included among the important viewpoints within the area are Mammoth Crest, Crystal

Crag, Lake Mary Road, the ski slopes on Mammoth Mountain, Lincoln Mountain, Sherwin Mountain, SR-203 east of Old Mammoth Road, US-395 along its entire length in the Mammoth Lakes area, the White Mountains, Old Mammoth Road south of Mammoth Creek, and many other striking features. Mammoth Mountain and portions of the Sierra Nevada mountain range and White Mountains can be seen from nearly all points within the Town. The southeast portion of the Town, including portions of the Sherwins Area is open meadow and sagebrush. **Figure 4.A-1, Major View Corridors and Vistas**, illustrates the various viewpoints and vistas in the Project area.

Against the backdrop of the area's dramatic natural landscapes, urban development in the Town provides a visual contrast. Roads, buildings, utility poles, and other man-made structures provide forms, textures, and colors that contrast with the natural environment and are often visible from distant vantage points (for example, the paved expanses of shopping center parking lots along Main Street and Old Mammoth Road are readily discernable from Mammoth Mountain, and the Town as a whole can be seen from long stretches of US-395 (particularly at night). In addition, as discussed in Section 2.0, *Project Description*, and illustrated in Figures 2-2 to 2-6, there is currently a network of trail facilities throughout the Town. Further, recreational facilities as part of "activity centers" and "recreational nodes" are located throughout the Town.

The Sherwins Area is a diverse high-desert landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. Topography varies from flat meadowlands to glacial moraines to the chutes and cirque of the Sherwin Range. The landscape includes areas of evergreens, sage, aspens, and other native plants rooted primarily in till and talus. Recreation use in the Sherwins has traditionally been high and complex; the area is currently enjoyed year-round by backcountry skiers and snowboarders, world-class athletes in training, those seeking motorized play, and others via a loose, primarily unsigned, organically developed system of USFS recognized trails (such as Mammoth Rock Trail), USFS and Town roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails. No formal trailheads or facilities exist at this time and the area receives no maintenance; nonetheless, the Sherwins remains a popular recreational area for residents and visitors to the Town. Also, the borrow pit site has been traditionally used, and will continue to be used, as a staging area for recreationists.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to aesthetics. The Initial Study Environmental Checklist questions relating to aesthetics have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

Threshold 1: Have a substantial adverse effect on a scenic vista (refer to Impact Statement 4.A-1);

Threshold 2: Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway (refer to Impact Statement 4.A-2);

Threshold 3: Substantially degrade the existing visual character or quality of the site and its surroundings (refer to Impact Statement 4.A-3), and;

Threshold 4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area (refer to Impact Statement 4.A-4).

b. Methodology

The analysis of aesthetic impacts is based on a comparison of the policies and physical characteristics of the Project to the significance thresholds as set forth in Appendix G of the CEQA Guidelines. Significant impacts associated with aesthetics are generally defined as impacts that directly or indirectly reduce the public's enjoyment of a visual resource or degrade the visual character of a scenic resource. Inconsistencies with design or visual resources policies of adopted plans, such as the Town of Mammoth Lakes General Plan, the USFS Land and Resource Management Plan, the USFS Trails Construction and Maintenance Notebook, and California Scenic Highway Regulations that would result in physical changes in aesthetic character are also evaluated for significance.

c. Project Features

(1) TSMP Recommendations and Policies

(a) Guiding Principles

Two of the guiding principles of the TSMP are related to aesthetics. These include:

- The trails network must be developed in a way that maintains or enhances the small-town character of Mammoth Lakes.
- Providing access to the natural environment will be balanced with a respect for the natural environment. Sustainable design principles will guide the development of all recommended projects.

(b) TSMP Recommendations

Chapter 4 of the TSMP provides recommendations that are applicable to aesthetic issues. These include the following:

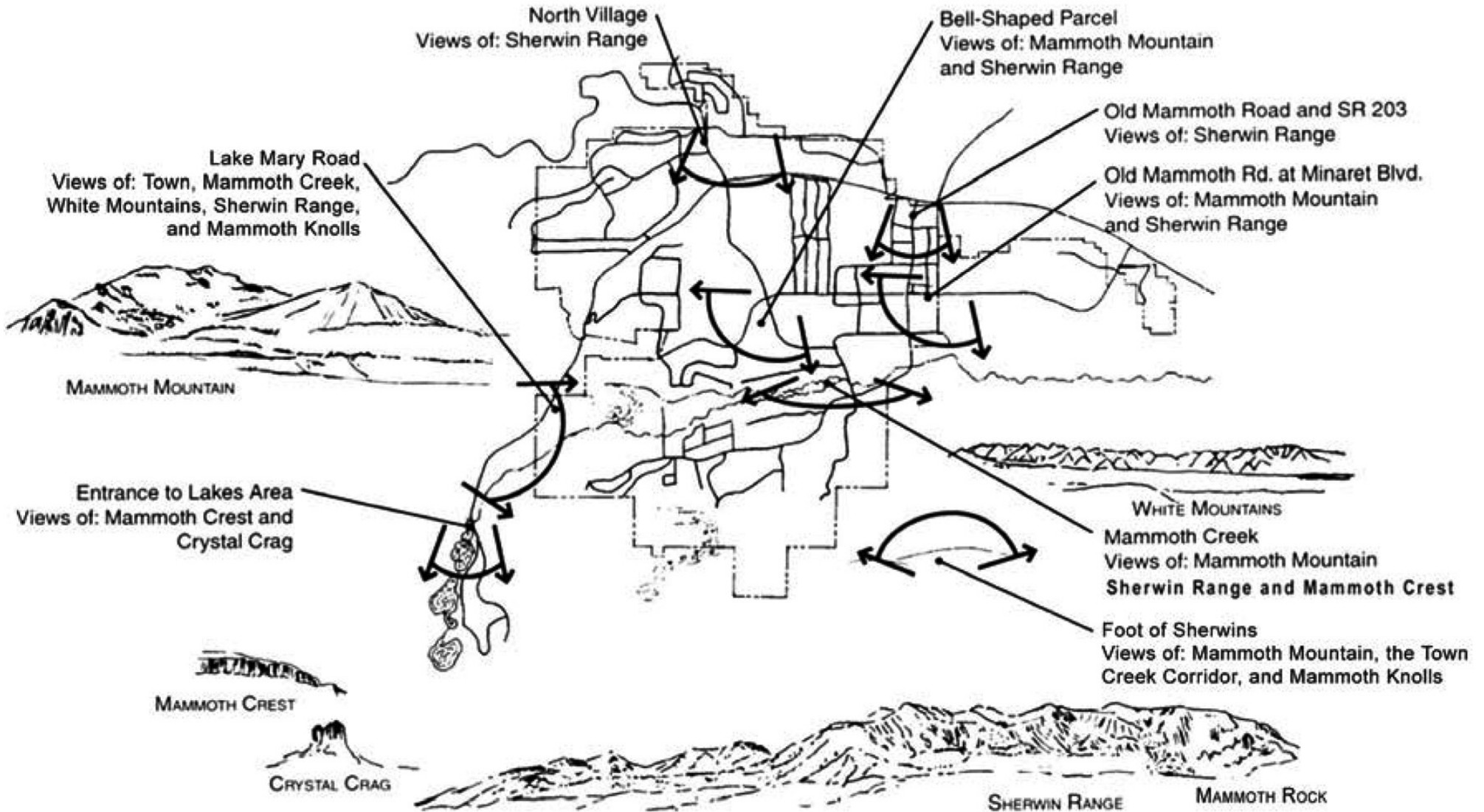
Recommendation MUP5: Lighting on Multi-Use Paths: Lighting should be considered for segments of multi-use paths that are not currently illuminated by adjacent street lighting. Due to the cost of installing and maintaining lighting, segments would be prioritized based on their potential demand for nighttime use.

Recommendation B2: Bike Lanes on Major Streets (Arterials) includes painting, stenciling, and striping.

Recommendation BP2: Bicycle Parking Designed by Local Artists.

(d) TSMP Design Guidelines

Among the trail design considerations presented in Chapter 6 is to blend trails with the surrounding area and to protect the natural beauty and environmental integrity of the region. Best Routing Location (BRL) Principals described in Chapter 6 include: (1) Avoid wet meadows and wetlands; (2) Avoid hazardous areas



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such as unstable slopes, cliff edges, faults, crevasses, embankments and undercut streams, and avalanche prone zones (in the winter); (3) Avoid sensitive or fragile historic sites; (4) Avoid trail routing that encourages shortcutting. Use natural topography or features to screen short cuts; (5) Avoid routing trails too close to other trail systems to minimize trail proliferation and user conflict. Hiking trails that are drawn by destinations (e.g. views, peaks, interpretive sites) must focus trail routes on these special landscape features.

(e) Trail Maintenance

Policies provided in Chapter 7 of the TSMP require the long-term maintenance of trails and recreational nodes to ensure that such facilities would not fall into disrepair or visually degrade the environment. Policies applicable to aesthetics include sweeping the entire paved path if necessary; picking up litter, debris, fallen limbs, etc.; checking all signage and repair or replace as needed; removing any graffiti on bridges or under-crossings. Maintenance related to these procedures would be implemented on a routine (weekly, monthly or seasonal) basis during the summer and winter months.

(f) Signage

Signage and wayfinding is identified as a key component of the TMSP. Objective 1.1 of the TMSP is to identify improvements for signage, wayfinding and amenities throughout the existing trails network. As discussed in Chapter 4 of the TMSP, the Plan is meant to enhance the in-town network of multi-use paths, trails and bikeways and improve access to trails and backcountry experiences beyond the Town's urban growth boundary. Some of this purpose is addressed through Recommendations G1, G3, and G4 of the TSMP. Recommendation G1 requires consistent naming conventions be used in the naming of nodes, pathways and trails. Recommendation G3 provides for uniform trail signage and Recommendation G4 provides wayfinding and trail-specific information. The names of nodes are intended to be brief while providing a first-time user with an idea of the geographic features or experiences that can be accessed from that node. Section 5.2.4 of the TSMP states that respect the natural environment by avoiding sign clutter and unnecessary messages it is important to. According to the TSMP, a wayfinding system should be apparent when you need it and transparent when you don't.

Since publication of the Draft TSMP, the Town has proceeded with development and implementation of a signage and wayfinding program for the trails system, based on signage design substantially similar to that proposed in Chapter 5 of the TSMP, and including a range of signage types ranging from free-standing informational kiosks to small milepost markers. A number of signs were installed along the Lake Mary Bike Path in Summer of 2010; similar signage will ultimately be extended to cover the entire trails system.

(2) SHARP Goals

The Goals of the SHARP related to aesthetics include the following:

- Provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding;
- Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other; and

- Further wildlife and resource protection, sustainability, and stewardship. Maintain opportunities for wildlife observation and interaction.

(3) Trail Facility Approval Process

The trails system will reflect a composite of facilities including trails segments themselves, improvements to recreational nodes such as parking lots and restrooms, landscaping, signage and lighting, etc. The TSMP anticipates that standard designs and specifications for all trails system components will be developed and adopted by the Town as part of a comprehensive “Standards Manual;” some or all relevant standards would potentially be incorporated into the Town’s Public Works Manual. Adoption of such standards would involve Planning Commission and Town Council review, which would include evaluation of consistency with Town Design Guidelines. Once adopted, the majority of facilities could be implemented (similar to other public works projects) without additional discretionary design review, although staff would review proposals for consistency with the adopted standards. Although design review is not typically required of most public works projects, staff has frequently sought input from the Planning Commission on larger, unique, or more visually significant projects (e.g. the design of a large retaining wall necessary for construction of the Lake Mary Bike Path); such review would likely continue for major components of the TSMP, such as a major new staging area.

Projects within National Forest lands would be subject to use permit review and approval, including review for consistency with design and aesthetics standards set forth by the US Forest Service.

Future projects to be developed as part of the Project could also be subject to review by the Town’s Planning Division for consistency and conformity with the General Plan, Municipal Code, and other approved plans, policies, and regulations. The Town’s Building Division could review future projects for consistency with local and state laws related to building construction, maintenance, use, repair, and rehabilitation. This includes the enforcement of the zoning and municipal codes, and state-mandated energy conservation and disabled access requirements.

d. Analysis of Project Impacts

The analysis of Project impacts regarding aesthetics and visual resources below applies to all future trail components associated with the Project, including the Priority Projects, unless stated otherwise.

(1) Scenic Vistas

4.A-1 Project implementation would not substantially block, obstruct, or change any scenic vista or other panoramic views that are available from public vantage points. Thus, Project implementation would result in less than significant impacts regarding scenic vistas.

The focus of this analysis is to determine the potential for the Project to obstruct or degrade scenic or panoramic views. A scenic vista is a valued vista or panoramic setting that can be seen along a travel corridor or from a particular vantage point. Generally, public views, protected scenic views, and scenic views from public gathering areas or along roadway and trail corridors have heightened importance.

Implementation of the TSMP would include the potential for trail and recreational facility improvements throughout the Town including approximately 10.1 miles of MUP segments; street crossing improvements;

bike lane improvements; and a variety of facilities such as signage, parking, restrooms, transit service, and enhance trail access at recreational nodes. Implementation of the SHARP would include various projects within the Sherwins Area primarily consisting of soft-surface trails as well as some hard-surface or MUP trail facilities. At the borrow pit site, facilities would include parking, bathrooms, an education/interpretive area, and signage. The trail-related components and/or facilities identified in the TSMP and SHARP, including the Priority Projects, are not anticipated to result in broad or tall built features that could substantially impede scenic vistas or panorama views or other expansive vistas of the natural landscape available from public roads, highways, parks, and other public vantage points in the area. However, should new structures that could impede scenic views be implemented by the Project, they would be subject to the Town's Design Guidelines and Design Review processes, as applicable, which would evaluate projects on an individual basis for consistency and conformity with the General Plan, Zoning Code, and other approved plans, policies, and regulations. As such, individual projects would be required to comply with General Plan Policy C.2.J to "Be stewards in preserving public views of surrounding mountains, ridgelines and knolls." This policy serves to protect views relating to scenic vistas.

Trails within the UGB may be visible from high areas around the Town (such as Mammoth Mountain) . Because the trails would, relative to other urban features such as roads, parking lots and buildings, be small in scale, and would be consistent with the general urban character of the Town, trail development within the UGB would not significantly affect scenic vistas from higher areas around the Town.

Views of natural open areas within National Forest lands contribute to the scenic views available within the town. The USFS TCMN and other federal regulations for parks and open space would apply to the development of trail heads, soft surface trails, signage, and restroom facilities in existing National Forest lands, including trail and trailhead development under the SHARP; such proposed facilities would be subject to USFS use permit requirements, including review for visual compatibility with surrounding Forest lands. As discussed above, the TCMN is intended to provide sustainability in trail design that creates a positive user experience and enhances scenic beauty. Under TCMN guidelines, a trail is planned to appear pleasing to the eye and fit the setting. Policies require that well-designed trails take advantage of natural drainage and natural land features, including such procedures as pitching trails around trees and rocks and following natural benches for a natural-looking trail. Facilities at trail heads, such as restrooms and signage would also be required to comply with Inyo National Forest LRMP standards, including facilities that blend with the natural setting. The implementation of existing federal policies and requirements would ensure that development of trails and trailheads in National Forest lands would maintain the natural setting and would not adversely affect views of existing National Forest lands.

Based on the above, the Project would have less than significant impacts with respect to scenic vistas.

(2) Scenic Resources

4.A-2 Project implementation would not substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Thus, Project implementation would result in less than significant impacts to scenic resources.

Portions of the Project Area are visible from US-395, a designated California Scenic Highway (between Benton Crossing Road and SR-203). This scenic highway is approximately 1.2 miles east of the UGB at its closest point (at intersection of SR-203). Scenic resources within the designated corridor include broad

views of the Sierra Nevada Range, forested hillsides, and expanses of unoccupied ranch land and open space extending to the horizon. Rock outcrops and historic buildings within Town and SHARP area that could be considered as scenic resources would be avoided when implementing individual trail component projects. Thus, no impacts would occur to such scenic resources with Project implementation.

With regards to tree removal, the Town has numerous policies and regulations in place to minimize impacts to trees. For example, per the Town's General Plan (Action R.1.B.1), development should minimize removal of native vegetation and trees and destruction of wildlife habitat. MLMC Section 17.32.120 [Ord. 90-06 and 89-05]) regulates the aesthetic characteristics of development in the Town through Design Review procedures. Requirements set forth in the Municipal Code seek to minimize removal of trees, and may require mitigation in the form of replacement tree plantings. One of the purposes of Design Review is to prevent indiscriminate destruction of trees and natural vegetation, excessive or unsightly grading, indiscriminate clearing of property, and destruction of natural significant landforms.

In addition, one of the guiding principles of the TSMP states, "Providing access to the natural environment will be balanced with a respect for the natural environment. Sustainable design principles will guide the development of all recommended projects." Similarly, the SHARP includes a goal to "Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other." Per the USFS TCMN, trails should take advantage of natural land features, such as pitching trails around trees and rocks, and following natural benches. Further, the TCMN recommends circumventing trees wherever feasible; however, it recognizes that trees growing within the corridor may need to be removed if no other route to circumvent the tree is available or if the tree would be a hazard to trail users.

As indicated above, the Town's and USFS existing policies and regulations, as well as the Project, place a high value on preserving trees to the maximum extent possible. In accordance with the above policies and regulations, individual trail component projects would be sited to avoid trees to the maximum extent possible.

Nonetheless, because of the forested nature of much of the land within the Municipal Boundary, particularly outside the UGB, it is likely that removal of some trees would be necessary to implement certain individual trail component projects. However, given the typical flexibility to adjust trail alignments, limited width of most trails (particularly soft surface trails), the fact that most MUPs would be located adjacent to existing rights of way, and that many of the soft surface trails within existing use paths and/or roadways, the number of trees expected to require removal as part of proposed trail and other project improvements would be minimized. In any circumstance, tree removal would be at a distance of over one mile from the nearest scenic highway. As such, scenic views from US-395 would not be substantially altered with Project implementation from tree removal activities.

In addition, as discussed in Impact Statement 4.A-1 above, Project implementation, including the Priority Projects, would not result in broad or tall structures that could alter or impede scenic vistas or other open space views. Because the facilities to be developed as part of the Project would not block or alter scenic vistas and the Project would not contravene the intent of the California Scenic Highway Regulations to protect and enhance California's natural beauty and to protect the social and economic values provided by the state's scenic resources, the Project would be in compliance with applicable policies of the California Scenic Highway Regulations.

(3) Visual Character and Quality

4.A-3: *Project implementation would be consistent with visual character policies of the Town of Mammoth Lakes General Plan and the USFS Inyo National Forest LRMP. However, construction activities may result in a temporary, visually unappealing quality, particularly when combined with concurrent construction projects. Mitigation measures are prescribed that would reduce construction impacts to a less than significant level. Visual quality impacts associated with long-term operation of the Project would be less than significant.*

(a) Construction Activities

Long-Term Buildout – Program Components

Construction activities generally contrast with the prevailing visual character of a local area. As discussed in Chapter 2, *Project Description*, the long-term buildout of the Project would include MUP segments, street crossing improvements, on-street bike lanes, trails, and the provision of amenities at several recreational nodes (parks, trailheads, and similar facilities), as funding becomes available. Future construction activities could require excavation and the use of heavy machinery. Other aspects of construction could be the generation and hauling of waste materials and debris, temporary stockpiling, possible scrubbing and clearing of vegetation. Construction activities associated with the paving of MUPs could cause temporary degradation of visually quality with effects on views from adjacent roadways or from recreational or wilderness sites. Visual impacts could also be exacerbated if several projects are under construction concurrently. Based on the above, construction-related impacts are considered to be potentially significant. Mitigation measures are prescribed below.

Priority Projects

Individual Priority Projects could take at least two years to complete, although short sections (e.g., MUPS 2-1 and 3-1) may be completed in a single season. Construction on some projects could begin as early as 2011, though construction timing would be contingent on funding. It is anticipated that all of the priority projects would be built within approximately five years, with some degree of overlap with projects under concurrent construction. Development of Priority Projects would require the construction of trail alignments. Example construction activities include bridge foundations for the Panorama Trail and the potential tunnel at the soft trail crossing of Old Mammoth Road. These activities would require excavation and the use of heavy machinery. Other aspects of construction could be the generation and hauling of waste materials and debris, temporary stockpiling, possible scrubbing and clearing of vegetation. Construction activities associated with the paving of MUPs, the development of the parking lot and facilities at the Gravel Borrow Pit site, and the paving of Sherwin Road, for example, would also contribute to temporary disruptions and contrast to the natural character and visual quality of the area. Such activities could cause a temporary, visually unappealing quality as viewed from adjacent roadways or from recreational open space areas and trails having views of the construction sites. Based on the above, construction-related impacts associated with the Priority Projects are considered to be potentially significant. Mitigation measures are prescribed below

Policies and Regulations

Policies of the TSMP and USFS encourage Best Routing Location (BRLs) which would reduce construction impacts to visual resources that contribute to the visual character and value of the region. These principals, described in Chapter 6 of the TSMP include the avoidance of (1) wet meadows and wetlands; (2) hazardous

areas such as unstable slopes, cliff edges, faults, crevasses, embankments and undercut streams, and avalanche prone zones (in the winter); and (3) sensitive or fragile historic sites during project construction.

Construction activities within the Municipal Boundary, outside of National Forest lands, are also controlled by the MLMC. MLMC Section 12.08, *Land Clearing, Earthwork, and Drainage Facilities*, is designed to promote the “conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills, trees and vegetation; to protect the public health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding; to prevent damage to property, undermining of tree roots; and to generally preserve the terrain and the flora in their natural state as much as possible.” In addition, MLMC Section 12.04, *Construction and Encroachment in the Public Right of Way*, requires re-vegetation of areas disturbed by construction activities. Construction activities on Forest Service lands are regulated by the US Forest Service and would require application of best management practices to minimize construction related visual impacts consistent with applicable standards and guidelines.

Because of the extent of the near-term Priority Projects and the broad range of long-term projects, the potential exists for a potentially significant impact with respect to construction activities. Mitigation measures are recommended to ensure a reduction in the scale of impact with regard to the visual quality and character of the area.

(b) Operation and Maintenance

Long-Term Buildout – Program Components

Trails and other components constructed as part of the Project would change the area’s physical environment and appearance. Permanent physical features may include, but are not limited to, the following:

- New MUPs segments;
- Striping for on-road bike paths;
- Signs, striping, or traffic control fixtures at some MUP/street-crossings;
- Wayfinding signs;
- New signs at all recreational nodes;
- Street lamps or other lighting fixtures along some MUP segments;
- Expansion of or new parking at Mammoth Creek Park East, the Borrow Pit site, Sierra Boulevard at Forest Trail, Highway 203 Motorized Access, Eagle Lodge, and Lake Mary Bike Path NE Terminus.
- New restrooms at the Borrow Pit site, Sierra Boulevard at Forest Trail, Highway 203 Motorized Access, and Eagle Lodge;
- Additional facilities such as trash containers, bike racks, and benches along MUPs.

The intention of the Project is that all of the buildout facilities would be developed in accordance with the aesthetics policies of the TSMP and SHARP, which include the following:

- The trails network must be developed in a way that maintains or enhances the small-town character of Mammoth Lakes (TSMP);
- Providing access to the natural environment will be balanced with a respect for the natural environment. Sustainable design principles will guide the development of all recommended projects (TSMP);
- Provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding (SHARP);
- Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other (SHARP); and
- Further wildlife and resource protection, sustainability, and stewardship. Maintain opportunities for wildlife observation and interaction (SHARP).

Implementation of the Project's proposed standards and policies would ensure that new facilities are consistent with the existing visual character and quality of the area. Also, new trail component projects within the Town would be subject to the Town's Design Guidelines and Design Review processes, as applicable, which would evaluate projects for consistency and conformity with the General Plan, Zoning Code, and other approved plans, policies, and regulations. Design standards and development procedures under the USFS TCMN and Inyo National Forest LRMP would also contribute to achieving these objectives in USFS-administered areas.

Visible features and facilities, such as roadway striping (bike lane indicators); narrow lengths of pavement along roadways or easements (MUPs); and separated grades at MUP arterial crossings, would affect the visual character of the area. In developed areas, these elements would be consistent with the urban context of the roadways and setting. Since these features would not strongly contrast with the character and aesthetic value of the existing urban conditions, they would not be aesthetically significant. Future separated grade crossings would be enhanced by landscaping or other design features in accordance with the TSMP and Municipal Code. In natural settings, natural growth adjacent to the trails would be minimally disturbed and trails in National Forest lands would be located at grade and would not meaningfully change horizon views or broad views across open space areas. Because the above-described physical features would not strongly contrast with the existing setting or cause changes in views across open space or other vistas, aesthetic impacts associated with the physical appearance of bike lanes and hard-surface or paved trails would be less than significant.

Signage associated with the buildout of the TMSP (incorporating SHARP) would affect the physical appearance of the area. Under the TMSP, signs are intended for identification and wayfinding and would improve access to trails and backcountry experiences beyond the Town's urban growth boundary. A goal of SHARP is to provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding, as well as signage for educational and interpretive purposes. The latter may include signage for historical and cultural sites, or to describe natural processes (such as the anatomy of a meadow). Design standards for signs would be addressed through TMSP Recommendations G1, G3, and G4, which requires consistent naming conventions and uniform signage. Signage standards (based on the TSMP Chapter 5 design guidelines and signage program that was underway in 2010) will be formalized and adopted as a component of the Trails System Standards Manual, whose adoption will include review for consistency with Town Design Guidelines. The implementation of the TMSP's recommendations would ensure that signs required to identify trails and recreational nodes and to provide wayfinding would be consistent with the

visual character of the area. In addition, such signs would enhance access to scenic areas, and in many cases would replace deteriorated and damaged signage, which would have a beneficial aesthetic affect.

The TSMP also addresses the long-term maintenance of trails and recreational facilities. Policies in Chapter 7 of the TSMP require the maintenance of trails and recreational nodes to ensure that such facilities would not fall into disrepair or visually degrade the environment. Policies applicable to aesthetics include sweeping the entire paved path if necessary; picking up litter, debris, fallen limbs, etc.; checking all signage and repair or replace as needed; removing any graffiti on bridges or under-crossings. Maintenance related to these procedures would be implemented on a routine (weekly, monthly or seasonal) basis during the summer and winter months.

Unpaved trails in National Forest lands may be subject to other conditions over time that may have an adverse impact on visual character. These include erosion in hilly or wet areas, and potential scarification caused by obsolete or abandoned trails. Maintenance procedures to avoid erosion are described in Chapter 4.H, *Hydrology and Water Quality*, of this EIR. As described in Chapter 4.H, erosion control, such as BMPs and recommended mitigation measures would reduce erosion impacts to less than significant levels. Regarding trails in National Forest lands, under the TCMN, when trails are abandoned, or plants and trees have been removed or affected by the construction of new trails, active or passive re-vegetation is required. Passive re-vegetation allows surrounding vegetation to colonize the abandoned trail or areas affected by trail construction. This process works when erosion has been stopped, precipitation is adequate, the tread has been scarified, and adjacent vegetation spreads and grows rapidly. Active re-vegetation ranges from transplanting propagated native plants to importing genetically appropriate seed. Successful re-vegetation does not typically happen in a single season.

With the implementation of the goals and recommendations of the TSMP and the SHARP, recommended erosion control procedures, and enforcement of existing USFS policies, permanent physical components associated with the buildout of the Project would not create high contrasts with or substantially degrade the existing visual character of the area. As such, less than significant impacts regarding visual quality and character would occur with Project implementation.

Priority Projects

The Priority Projects (a component of the SHARP and TSMP buildout) consist of eight trail sections and a major multi-use staging area at the USFS Gravel Borrow Pit. Two of the Priority Projects are MUPs within the Town's urban area. The remaining Priority Projects are a major recreation staging area (the USFS gravel borrow pit) and trails relocated within the Sherwins Area. Signage would be provided along MUP crossings, trail segments or trail heads, and in the borrow site staging area. The borrow pit site, which is a heavily disturbed former gravel pit, has been traditionally used, and will continue to be used, as a staging area for recreationists.

The two Priority Projects within the Town (MUPs 2-1 and 3-1) would be located in areas that are more urbanized and would not strongly contrast with the character and aesthetic value of the existing urban conditions. New trails in the Sherwin areas would be located in a natural setting and would be designed to avoid stands of trees and would replace adjacent vegetation removed during construction (construction mitigation measures). With the replacement of natural growth adjacent to trails, the natural setting would be minimally disturbed. Proposed trails in National Forest lands would also be located at grade in all terrain

areas and would not disrupt horizon views or change broad views across open space areas. The development of restrooms and paved parking and signage in the gravel borrow site would occur in an area that is already currently used as a parking lot and is highly disturbed. Further, per the goals of the SHARP Plan, development of new structures at the borrow pit site would be sited to have minimal visual impact and blend with the natural environment and each other. Thus, development at the borrow site would not create a strong contrast in character or form as compared existing site conditions. The potential tunnel under Old Mammoth Road would be enhanced by landscaping or other design features in accordance with the TSMP. As discussed above, signage would be designed in compliance with TSMP and SHARP requirements and, as such, would not strongly contrast to the respective settings. Because the physical features associated with the Priority Projects would not substantially contrast with the existing settings or cause significant changes in views across open space, aesthetic impacts associated with the Priority Projects would be less than significant.

Policy Consistency

Mammoth Lakes General Plan

Applicable adopted plans and policies include the Town of Mammoth Lakes General Plan and the USFS LRMP, discussed above. As described under Impact Statement 4.A-2, above, the Project would not impede the intent or requirements of the California Scenic Highway Regulations, which is also applicable to the Project Area.

The Town of Mammoth Lakes General Plan includes policies to protect the Town's visual resources and scenic vistas. The Project is compared to the policies of the General Plan in **Table 4.A-1, Consistency of the Project with Applicable Policies of the General Plan**, below.

As discussed in the comparison of the Project to applicable aesthetics policies of the General Plan, the Project would be substantially consistent with the goals of the General Plan. Therefore, visual quality impacts with respect to the General Plan would be less than significant.

Inyo National Forest Land and Resource Management Plan

The Inyo National Forest LRMP includes several policies that would apply to future projects on National Forest lands. The Project is compared to the policies of the LRMP in **Table 4.A-2, Consistency of the Project with Applicable Policies of the Inyo National Forest Land and Resource Management Plan**, below.

Table 4.A-1

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

General Plan Policy	Consistency Analysis
C.1: Improve and enhance the community's unique character by requiring a high standard of design in all development in Mammoth Lakes.	Consistent: A guiding principal of the TSMP is that the trails network must be developed in a way that maintains or enhances the small-town character of Mammoth Lakes. MUPs and other trail-related components in the UGB would be consistent with the character of the existing urban environment and are not expected to contrast with the visual character of the areas in which they are located. Proposed trails and recreational facilities in National Forest lands would be subject to the design guidelines of the USFS TCMN and other USFS policies which require that a recreational facility or trail blend in with the natural setting.
C.2: Design the man-made environment to complement, not dominate, the natural environment.	Consistent: A guiding principal of the TSMP is that access to the natural environment should be balanced with a respect for the natural environment. Construction of trails and improvements at recreational nodes on non-USFS lands would be controlled by MLMC Section 12.08, which promotes, "the conservation of natural resources, including the natural beauties of the land, streams and watersheds, hills, trees and vegetation; to protect the public health and safety, including the reduction or elimination of the hazards of earth slides, mud flows, rock falls, undue settlement, erosion, siltation and flooding; to prevent damage to property, undermining of tree roots; and to generally preserve the terrain and the flora in their natural state as much as possible." Projects on National Forest lands are required to preserve the natural character of the land and appear to be naturally-occurring within the landscape per SHARP and other USFS policy documents, and standards and guidelines for trails development. With the implementation of the TSMP, SHARP and USFS policies and MLMC requirements, the Project would be consistent with this General Plan policy.
C.2.J: Be stewards in preserving public views of surrounding mountains, ridgelines and knolls.	Consistent: Individual Project facilities would not require the development of tall or broad structures or habitable structures that would cause changes in or block public views of surrounding mountains, ridgelines and knolls.
C.3: Ensure safe and attractive public spaces, including sidewalks, trails, parks and streets.	Consistent: The TSMP provides design guidelines and standards for the attractive design of public spaces, including trails and the Main Street Gateway. The TSMP also establishes long-term maintenance procedures to ensure that trails and associated facilities do not fall into disrepair and degrade the environment.
C.4: Be stewards of natural and scenic resources essential to community image and character.	Consistent: The TSMP's trail design objectives are to blends trails with the surrounding area and to protect the natural beauty and environmental integrity of the region. The TSMP would implement BRL principals of sustainability including: (1) Avoid wet meadows and wetlands; (3) Avoid sensitive or fragile historic sites; and (4) Avoid trail routing that encourages shortcutting. A goal of the SHARP to further wildlife and resource protection, sustainability, and stewardship would be implemented through the design of trails and other recreational facilities described in that plan.

General Plan Policy	Consistency Analysis
C.5: Eliminate glare to improve public safety. Minimize light pollution to preserve views of stars and the night sky.	Consistent: The TSMP recommends night lighting of MUPs that receive high evening use. Light and glare impacts are controlled by Town of Mammoth Lakes Outdoor Lighting Ordinance (MLMC Section 17.34), which regulates nighttime lighting. The intent of the ordinance is to promote a safe and pleasant nighttime environment for residents and visitors; to protect and improve safe travel for all modes of transportation; to prevent nuisances caused by unnecessary light intensity, direct glare, and light trespass; to protect the ability to view the night sky by restricting unnecessary upward projection of light. Under MLMC Section 17.35.050 (Nuisance Prevention), all outdoor lighting fixtures shall be designed, located, installed, aimed downward or toward structures and maintained in order to prevent glare, light trespass, and light pollution. With the implementation of this existing regulation, the TSMP would be consistent with this policy.
C.4.C: Limited tree thinning, upper story limbing may be permitted where needed to maintain public safety and the health of the forest but not for the enhancement of views.	Consistent: Construction activities within the Town would be controlled by MLMC regulations related to tree removal, land clearing, earthwork, and drainage. MLMC Sections 12.04 and 12.08 provide for the reduction of tree loss associated with any project. The trail alignments in the SHARP area would be designed to avoid trees, to the maximum extent feasible. Thus, impacts to trees in the SHARP area would be minimal.

Source: PCR Services Corporation, 2011.

As shown in a comparison of the Project to applicable aesthetics policies of the Inyo National Forest LRMP, the Project would be substantially consistent with the goals of the plan.

Based on the above, Project operation impacts in relation to the existing visual character of the area would be less than significant.

Light and Glare

4.A-4: With implementation of the Town of Mammoth Lakes Outdoor Lighting Ordinance, night lighting for MUP segments and other trail component facilities would be directed downward to avoid harsh contrasts or unnecessary light intensity, direct glare, and light trespass and would protect dark skies. Thus, lighting would not substantially adversely affect day or nighttime views in the Project Area.

Recommendation MUP5 of the TSMP states that lighting should be considered for segments of MUPs that are not currently illuminated by adjacent street lighting. Because of the cost of installing and maintaining lighting, the TSMP recommends that segments would be prioritized based on their potential demand for nighttime use. The TSMP uses the example of the path segment connecting the library and student housing. This segment is considered to accommodate students traveling between these facilities after sunset. Other segments that show demand for nighttime use would also be considered.

Table 4.A-2

**Consistency of the Project with Applicable Policies
of the Inyo National Forest Land and Resource Management Plan**

<u>LRMP Policy</u>	<u>Consistency Analysis</u>
Maintain and manage for visual quality	Consistent: The development of projects in National Forest lands would be maintained and managed in accordance with SHARP and TSMP policies, as applicable, to have minimal visual impact and blend with the natural environment and each other.
Resolve conflicts between visual quality and other resources	Consistent: As stated above, the design of trail facilities on National Forest lands would be in accordance with SHARP and/or TSMP policies/design guidelines to ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other.
Maintain or enhance current visual resources and scenic attractions.	Consistent: The policies of the SHARP and TSMP seek to ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other. Specific plan designs and general design policies for individual projects would implement this policy.
Maintain or enhance the size and diversity of all riparian zones, aspen stands, meadows, and alpine tundra vegetation zones where such zones are visible from Sensitivity Level 1 and 2 roads and trails, or where they receive significant recreational use.	Consistent: The TSMP would implement BRL principles of sustainability including avoiding wet meadows and wetlands. Also, the goals of the SHARP seek to further wildlife and resource protection, sustainability, and stewardship.
Rehabilitate and/or enhance the visual resource when implementing projects, where appropriate.	Consistent: The policy of the SHARP to further wildlife and resource protection, sustainability, and stewardship and the TSMP principle to follow sustainable design principles in the development of projects indicate that impacted visual resources would be rehabilitated, where appropriate.

Source: PCR Services Corporation, 2011.

Lighting of MUPs in the UGB or in other areas has the potential to increase ambient light and to create glare. However, the Town of Mammoth Lakes Outdoor Lighting Ordinance (MLMC Section 17.34) regulates nighttime lighting in order to promote a safe and pleasant nighttime environment for residents and visitors; to protect and improve safe travel for all modes of transportation; to prevent nuisances caused by unnecessary light intensity, direct glare, and light trespass; to protect the ability to view the night sky by restricting unnecessary upward projection of light.

Under MLMC Section 17.35.050 (Nuisance Prevention), all outdoor lighting fixtures shall be designed, located, installed, aimed downward or toward structures and maintained in order to prevent glare, light trespass, and light pollution. Outdoor lighting installations shall be designed to avoid harsh contrasts in lighting levels between the project site and the adjacent properties. The Mammoth Lakes Planning Commission may, by resolution, adopt standards for maximum or minimum lighting levels for various zoning districts and for public streets, sidewalks, or trails, as developed by the community development and public

works departments. The type and design of any light fixtures would be specified in the TSMP Standards Manual, which would be subject to Planning Commission and Town Council review prior to its adoption, for consistency with the Town's Outdoor Lighting Ordinance.

In providing lighting for some MUPs, the TSMP would be consistent with the purpose of the MLMC to providing safe travel for all modes of transportation. Furthermore, outdoor lighting associated with the MUPs or any other facility would be required to comply with the existing Outdoor Lighting Ordinance. With implementation of the Town of Mammoth Lakes Outdoor Lighting Ordinance, light and glare from lighting would be directed downward, would not create harsh contrasts or unnecessary light intensity, direct glare, and light trespass and would protect dark skies. As such, impacts with respect to light and glare would be less than significant.

3. MITIGATION MEASURES

The analysis of aesthetic impacts assumes the enforcement of the MLMC Sections 12.08 and 12.04 to promote the conservation of natural resources; MLMC Section 12.04, which requires re-vegetation of disturbed areas within the public right-of-way; and MLMC Section 17.34, which regulates nighttime lighting and sections of the Municipal Code as they apply to tree removal. Existing regulations are not considered Project mitigation.

a. Scenic Vistas

No mitigation measures are necessary.

b. Scenic Resources

No mitigation measures are necessary.

c. Visual Quality and Character

Construction Activities

Mitigation Measure 4.A-3.A Trail development on slopes greater than 20 percent shall be avoided where feasible alternative alignments exist. If a feasible trail alignment does not exist, design features shall be employed to minimize erosion to the maximum extent feasible. Also refer to mitigation measures provided in Section 4.E, *Geology/Soils*, and Section 4.H, *Hydrology and Water Quality*, of this EIR, that also address soil erosion impacts.

Mitigation Measure 4.A-3.B Mature, healthy, native trees shall be circumvented or avoided through the design of trail alignments to the extent feasible. The need for replacement of trees shall be evaluated and implemented based on Healthy Forest and Fire Safe Council principles.

Mitigation Measure 4.A-3.C All disturbed areas, cuts, graded areas, and cleared areas should be stabilized and hydroseeded with an approved seed mix upon completion of the individual construction project, or as seasonally appropriate.

Visually prominent cut areas that are too steep for re-vegetation shall be supported or covered with natural materials or materials that have a natural appearance.

Mitigation Measure 4.A-3.D Retaining walls that are visually prominent shall be composed, to the extent feasible, of natural or natural-appearing materials, or finished or treated to give the appearance of natural materials. Generally, large, above-grade, plain concrete walls shall not be permitted.

Mitigation Measure 4.A-3.E Adverse effects on natural features that stand out or are distinctive in a particular setting shall be avoided through the location and design of trail alignments. Where alignments cannot be avoided, additional screening vegetation shall be planted to obscure the trail relative to the adjacent feature.

Mitigation Measure 4.A-3.F Fill or debris piles and large construction equipment visible from public viewpoints shall be removed from construction sites as soon as practicable or located, covered and/or screened so as to minimize their visual appearance.

Operation

No mitigation measures are necessary.

d. Light and Glare

No mitigation measures are necessary.

4. CUMULATIVE IMPACTS

4.A-5 The build-out of the Project in combination with cumulative development within the Town or surrounding National Forest lands would result in less than significant cumulative aesthetics impacts.

As discussed above, long-term buildout or implementation of the Project, including the Priority Projects, would result in less than significant aesthetics and visual impacts. To the extent that future developments in the vicinity of specific trails or bikeways were to result in extensive grading, vegetation removal, or the introduction of new structures, cumulative visual impacts could result. However, future development would be subject to standards related to grading, exterior lighting, setbacks, vegetation removal, landscaping, etc. as outlined in the Town Development Code and aesthetics policies in the Town's General Plan. In addition, the Project would not include tall or broad structures or habitable structures that would cause changes in or block public views of surrounding mountains, ridgelines and knolls. Thus, it would not have the potential to result in cumulative impacts regarding scenic views. Adherence to the standards and policies referenced above would ensure that cumulative impacts related to long-term visual quality are less-than significant.

As discussed above, the construction of trails and trailhead facilities could result in potentially significant visual quality impacts. These impacts would be mitigated to less than significant levels. Therefore, the

concurrent construction of these components in any time frame or combination is not considered to be cumulatively significant. The construction of any other private or public development projects in the Town or adjacent National Forest lands during the construction of individual projects would be considered related. Related projects in the UGB would be subject to similar Building Code requirements and/or adherence to CEQA-specified Mitigation Measures that would reduce visual impacts during construction and are not likely to result in cumulative aesthetic impacts. Related projects within National Forest lands are less likely to occur within the same area or view field as the development of individual trail components of the Project. Because related projects would be subject to similar regulations to reduce visual impacts or would not occur within the same field of view as the Project, cumulative construction-related impacts are considered less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the recommended mitigation measures would reduce the Project's construction impacts on visual character and quality to a less than significant level. In addition, less than significant impacts would occur with respect to scenic vistas, scenic resources, operational visual quality and quality, and light and glare.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

B. AIR QUALITY

INTRODUCTION

This section addresses air emissions associated with construction and operation of trail and trail related improvements included in the proposed TSMP. The analysis provides an overview of applicable regulations, a description of existing conditions, and analysis of potential impacts on air quality and the consistency of the Project with air quality policies within the Great Basin Unified Air Pollution Control District (GBUAPCD)'s Air Quality Management Plan for the Town of Mammoth Lakes. The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or appropriate significance threshold. Air quality technical data utilized in this section is included as Appendix D of this EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

A number of statutes, regulations, plans, and policies have been adopted that address air quality issues. The Project site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of the Federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies.

(1) Federal Clean Air Act

The CAA was first enacted in 1955 and has been amended numerous times in subsequent years, with the most recent major amendments having been enacted in 1990. The CAA requires national air quality standards, known as National Ambient Air Quality Standards (NAAQS) (see **Table 4.B-1, Ambient Air Quality Standards**, below) and specifies dates for achieving compliance.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_x emissions have lowered substantially and the specification requirements for cleaner burning gasoline are more stringent. Because the Project would generate air emissions during construction and operation of proposed uses, the CAA is applicable to the Project.

Table 4.B-1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m ³)		0.075 ppm (147 µg/m ³)		
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		—		
Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	15 µg/m ³		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		—		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.03 ppm (56 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 µg/m ³)		0.10 ppm	None	
Sulfur Dioxide (SO ₂)	24 Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	0.14 ppm (365 µg/m ³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) ⁹
	3 Hour	—		—	0.5 ppm (1300 µg/m ³)	
	1 Hour	0.25 ppm (655 µg/m ³)		0.075 ppm (196 µg/m ³)	—	
Lead (Pb) ^h	30 Day Average	1.5 µg/m ³	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m ³	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3- Month Average	—		0.15 µg/m ³		

Table 4.B-1 (Continued)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates (SO₄)	24 Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride^h	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

^a California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter (PM₁₀ and PM_{2.5}) and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the USEPA for further clarification and current federal policies.

^c Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

^d Any equivalent procedure which can be shown to the satisfaction of the California Air Resources Board (CARB) to give equivalent results at or near the level of the air quality standard may be used.

^e National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

^f National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

^g Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

^h CARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source: California Air Resources Board (<http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>, updated 09/08/10), and U.S. Environmental Protection Agency (<http://www.epa.gov/air/criteria.html> and http://www.epa.gov/air/lead/pdfs/20081015_pb_anaqs_final.pdf [see “FR Notices” at http://www.epa.gov/ttn/naaqs/standards/pb/s_pb_index.html], accessed April 2011]

(2) California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. Table 4.B-1 shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the State. As shown in Table 4.B-1, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants. In general, the California standards are more health protective than the corresponding NAAQS. In addition, the California Air Resources Board (CARB) has established standards for other pollutants recognized by the State, such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Because the Project would generate air emissions during construction and operation of proposed uses, the CCAA is applicable to the Project.

Table 4.B-2, Great Basin Valleys Air Basin Attainment Status, below, provides a summary of the GBUAPCD's attainment status with respect to federal and state standards. The Great Basin Valley Air Basin (GBVAB) is designated as having attained state standards for all pollutants except ozone and particulates PM₁₀ (24-hour) and having attained all federal standards except 24-hour PM₁₀. Therefore, discussion of impacts for this Project will focus on those pollutants. However, it should be noted that, according to the most recently published reports, although the Mammoth Lakes nonattainment area has not been officially redesignated, ambient levels have not exceeded the national PM₁₀ standards for many years.¹

Table 4.B-2

Great Basin Valley Air Basin Attainment Status

Pollutant	National Standards	California Standards
Ozone (1-hour standard)	No Standard ^a	Non-attainment ^e
Ozone (8-hour standard)	Unclassified or attainment unknown	Non-attainment
PM ₁₀ (24-hour standard)	Non-attainment	Non-attainment
PM ₁₀ (annual standard)	No Standard ^c	Non-attainment
PM _{2.5} (24-hour standard)	Unclassified or attainment unknown	Attainment ^{d,e}
PM _{2.5} (annual standard)	No Standard ^c	Unclassified or attainment unknown
Carbon Monoxide	Attainment ^b	Attainment ^b
Nitrogen Dioxide	Attainment ^b	Attainment ^{b,e}
Sulfur Dioxide	Attainment ^b	Attainment ^b
Lead	Attainment ^b	Attainment ^{b,e}
Visibility Reducing Particles	N/A ^d	Attainment ^b
Sulfates	N/A ^d	Attainment ^b
Hydrogen Sulfide	N/A ^d	N/A ^d
Vinyl Chloride	N/A ^d	N/A ^d

N/A = not applicable

^a The NAAQS for 1-hour ozone was revoked on June 15, 2005 for all areas except Early Action Compact areas.

^b An air basin is designated as being in attainment for a pollutant if the standard for that pollutant was not violated at any site in that air basin during a three year period.

^c The NAAQS for annual PM₁₀ was revoked on September 21, 2006.

^d EPA or CARB does not monitor or make status designations for this pollutant.

^e Final Regulation Order (2010): Area designations for State Ambient Air Quality Standards, <http://www.arb.ca.gov/regact/2010/area10/areafrod.pdf>.

¹ Great Basin Valleys Air Basin (Great Basin Unified APCD) Attainment, <http://www.arb.ca.gov/pm/pmmeasures/pmch05/gbv05.pdf>

Great Basin Unified APCD, Annual PM₁₀ and Meteorological Report to the Town of Mammoth Lakes, 2009-10 and 2010-11.

Source: USEPA Region 9 and California Air Resources Board, 2010.

(3) California Air Resources Board Air Quality and Land Use Handbook

The California Air Resources Board (CARB) published a draft version of the *Air Quality and Land Use Handbook* on February 17, 2005, to serve as a general guide for considering impacts to sensitive receptors from facilities that emit toxic air contaminant (TAC) emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), or within 50 feet of a typical gas dispensing facility; (3) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (4) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene, and for operations with two or more machines provide 500 feet. However, as the Project does not involve siting new sensitive land uses, the guidelines are not applicable.

(4) California Air Resources Board Emission Control Measures

In 2004, CARB adopted a control measure to limit commercial heavy duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter (DPM) and other air contaminants.² The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. In general, it prohibits idling for more than five minutes at any location.

In addition to limiting exhaust from idling trucks, CARB promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. A CARB regulation that became effective on June 15, 2008, aims to reduce emissions by installation of diesel soot filters and encouraging the replacement of older, dirtier engines with newer emission controlled models.³ A prohibition against acquiring certain vehicles began on March 1, 2009, and a reporting requirement started on April 1, 2009. Implementation of some provisions is staggered based on fleet size, with the largest operators beginning compliance in 2010.

CARB estimates that by 2020, DPM will be reduced by 74 percent and smog forming NO_x (another important pollutant emitted from diesel engines) will be reduced by 32 percent, compared to emissions levels without the regulation. In January 2010, the Associated General Contractors of America filed a petition requesting CARB to adopt an emergency amendment to delay the fleet average target dates of this regulation for a period of two years. Consequently, the following relief was granted: CARB will "not take any enforcement action for noncompliance with the regulation's March 1, 2010 emission standards or other emission related

² Calif. Code of Regulations, Title 13, Sec. 2485. See <http://www.arb.ca.gov/regact/idling/idling.htm> (accessed July 2008).

³ Calif. Code of Regulations, Title 13, Secs. 2449, 2449.1, 2449.2 and 2449.3.

requirements before it receives authorization from U.S. EPA.”⁴ Because the Project would involve heavy diesel vehicle use during construction, it would be subject to the control measures adopted by CARB.

(5) Great Basin Unified Air Pollution Control District

The GBUAPCD, which covers the whole GBVAB, has jurisdiction over an area of approximately 13,975 square miles. This area includes all of Inyo, Mono and Alpine counties. The GBUAPCD was formed in 1974 when Inyo, Mono and Alpine Counties formed a joint powers agreement with the purpose of meeting and enforcing applicable Federal, State and local air quality regulations. While air quality in this area has improved, the GBUAPCD requires continued diligence to meet air quality standards.

Effective January 23, 2005, the Mono County portion of the GBVAB has a nonattainment designation for O₃ (State standard only), and a nonattainment designation for the federal and State PM₁₀ standards. Although Mono County is categorized as nonattainment of the State O₃ standard, there is no ozone implementation plan for attaining the ozone standard in Mono County, nor is one required as outlined in the 2001 CARB Ozone transport review. Instead, the document states “Transport from the central portion of the (San Joaquin) Valley is responsible for ozone violations in Mammoth Lakes.”⁵ A Draft Air Quality Management Plan (AQMP) for the Town was released on January 19, 1990, identifying PM₁₀ sources and mitigation strategies intended to attain the NAAQS. The AQMP identifies emissions from wood-burning stoves and fireplaces and traffic-related road dust and cinders as the primary causes leading to exceedances of the PM₁₀ standard in the winter, exacerbated by the substantial influx of visitors to the Mammoth Lakes area during the ski season. The combination of periods of meteorological stagnation and increased visitation to the ski resorts result in violations of PM₁₀ standards. The AQMP includes a number of control strategies, including a ban on new wood-burning devices, requirements to retrofit existing wood-burning devices, and a Town-wide limit on vehicle miles traveled (VMT).

The GBUAPCD utilizes a permitting process to regulate emissions. The following list includes some of the rules and regulations that may apply to the Project:

- GBUAPCD Rule 200-A and 200-B. Permits Required: Before any individual builds or operates anything that may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants, such person must obtain a written authority to construct and permit to operate from an Air Pollution Control Officer.
- GBUAPCD Rules 401 and 402. Fugitive Dust and Nuisance: Rule 401 requires that airborne particles remain at their place of origin under normal wind conditions. Proper mitigation techniques approved by the GBUAPCD must be implemented to ensure that fugitive dust is contained. This does not apply to dust emissions discharged through a stack or other point source. Rule 402 states that any air discharge that may cause injury or detriment, nuisance or annoyance, or damage to any public property or considerable number of people is regulated. This rule discusses the health and safety issues that may interfere with public and private areas surrounding the site.

⁴ California Regulatory Notice Register, February 2010. <http://www.oal.ca.gov/res/docs/pdf/notice/9z-2010.pdf> (accessed April 2010).

⁵ Town of Mammoth Lakes, General Plan Update EIR, October 2005, p. 4-23.

- GBUAPCD Rules 404-A and Rule 404-B. Particulate Matter and Oxides of Nitrogen: Rule 404-A states that a person shall not discharge from any source whatsoever, particulate matter in excess of 0.3 grains per standard dry cubic foot of exhaust gas. Rule 404-B states that a person shall not discharge from fuel burning equipment having a maximum heat input rate of more than 1.5 billion BTU per hour (gross), flue gas having a concentration of nitrogen oxides calculated as Nitrogen Dioxide (NO₂) in parts per million of flue gas by volume at 3 percent oxygen: 125 ppm with natural gas fuel, or 225 ppm with liquid or solid fuel. Additionally, a person shall not discharge from sources other than combustion sources, nitrogen oxides, calculated as nitrogen dioxide, 250 parts per million (ppm) by volume.
 - GBUAPCD Rule 431. PM Reduction Control Measures: Requirements include vacuum street sweeping of wood stove cinders, requires vehicle miles traveled (VMT) reduction measures for new developments, and limits peak VMT in the Town to 106,600 VMT.

(6) Regional Comprehensive Plan

The GBVAB lies outside of a metropolitan planning organization (MPO). It is identified as an Isolated Rural area, meaning that its emissions are not part of an emissions analysis of any MPO's transportation plan or Transportation Improvement Program. Therefore, there is no regional plan to guide growth and transportation issues in the area.

The Project site is located within the Town of Mammoth Lakes. Since this area is located in an Isolated Rural Area, it is not subject to regional planning issues. Therefore, there is no impact to a Regional Comprehensive Plan with implementation of the Project.

(7) Mammoth Lakes Plans and Policies

The Mammoth Lakes General Plan, last updated in 2007, is designed to promote the public health, safety and general welfare of the community. The Plan is a comprehensive, long term and an internally consistent document that sets forth goals and policies to govern decisions of the Town with respect to the community's future. The goals and policies applicable to the Project include:

Community Design and Streetscape

C.3. GOAL: Ensure safe and attractive public spaces, including sidewalks, trails, parks and streets.

- C.3.D. Policy: Development shall provide pedestrian-oriented facilities, outdoor seating, plazas, weather protection, transit waiting areas and other streetscape improvements.
 - C.3.D.1. Action: Prepare a streetscape design plan and manual that includes:
 - comprehensive design standards for all road, trail, sidewalk and transit facilities
 - lighting
 - signage (way-finding and interpretive)

- related infrastructure
- landscaping and street trees
- C.3.D.2. Action: Prepare a townwide directional signage and way-finding plan.

Mobility

M.3. GOAL: Emphasize feet first, public transportation second, and car last in planning the community transportation system while still meeting Level of Service standards.

- M.3.B. Policy: Reduce automobile trips by promoting and facilitating:
 - Walking, Bicycling, Local and regional transit, Innovative parking management, Gondolas and trams, Employer-based trip reduction programs, Alternate work schedules, Telecommuting, Ride-share programs, Cross-country skiing and snowshoeing

Walking and Bicycling

M.4. GOAL: Encourage feet first by providing a linked year-round recreational and commuter trail system that is safe and comprehensive.

- M.4.A. Policy: Improve safety of sidewalks, trails and streets.
- M.4.B. Policy: Provide a high quality pedestrian system linked throughout the community with year round access.
 - M.4.B.1. Action: Develop and implement a pedestrian improvement plan.
- M.4.C. Policy: Design streets, sidewalks and trails to ensure public safety such as:
 - adequate dimensions and separation
 - glare-free lighting at intersections
 - directional and informational signage
 - trash receptacles
 - benches
 - shuttle shelters

- protected roadway crossings
 - landscaping
 - groomed community trails
 - snow removed from sidewalks
- M.4.D. Policy: Provide safe travel for pedestrians to schools and parks.
 - M.4.D.1. Action: Update trail, streetscape and roadway design standards as well as the Circulation, Trail System and General Bikeway Plans to:
 - Establish a system of bicycle routes and pedestrian trails for recreation, commuting and shopping that is comprehensive and safe
 - Develop a townwide maintenance, grooming and/or snow removal program for sidewalks and trails to provide year-round pedestrian access
 - Design and construct streetscapes and roadways to reduce long-term maintenance costs in a harsh climate
 - M.4.E. Policy: Development shall improve existing conditions to meet Town standards.

Streets

M.7. GOAL: Maintain and improve safe and efficient movement of people, traffic, and goods in a manner consistent with the feet first initiative.

Parks, Open Space, and Recreation

P.3. GOAL: Create a Master Plan for an integrated trail system that will maintain and enhance convenient public access to public lands from town.

P.4. GOAL: Provide and encourage a wide variety of outdoor and indoor recreation readily accessible to residents and visitors of all ages.

P.5. GOAL: Link parks and open space with a well-designed year round network of public corridors and trails within and surrounding Mammoth Lakes.

Air Quality

R.10. GOAL: Protect health of community residents by assuring that the town of Mammoth Lakes remains in compliance with or improves compliance with air quality standards.

- R.10.A. Policy: Support regional air quality improvement efforts.
- R.10.D. Policy: Mitigate impacts on air quality resulting from development through design, participation in Town air pollution reduction programs, and/or other measures that address compliance with adopted air quality standards.
- R.10.E. Policy: The Town of Mammoth Lakes will strive to attain and maintain the National Ambient Air Quality Standard (NAAQS) for PM₁₀.
 - R.10.E.2. Action: The Town will continue to require project level environmental reviews (EIR's and Negative Declarations) to address the incremental increase in PM₁₀ levels from the project(s).
 - R.10.E.3. Action: In the event that the project level reviews show that the Town is likely to exceed the NAAQS, permits will not be issued until mitigation is developed that demonstrate compliance with the NAAQS.
- R.10.G. Policy: Reduce air pollutants during construction through implementation of Best Management Practices (BMPs).

Chapter 8.30 of the Municipal Code (Town Particulate Matter Ordinance) requires the Town to include a limit of 106,600 vehicle miles traveled (VMT) in its review of proposed development projects, incorporate street sweeping measures, and implement restrictions on wood-burning stoves and fireplaces, and other measures consistent with applicable GBUAPCD Rule 431 listed above.

b. Existing Conditions

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the prevalent air quality.

The following pollutants are regulated by the EPA and, therefore, are subject to emission reduction measures adopted by federal, state and other regulatory agencies.

Ozone (O₃): Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds and nitrogen oxides (NO_x) under favorable meteorological conditions such as high temperature and stagnation episodes. An elevated level of ozone irritates the lungs and breathing passages, causing coughing, and pain in the chest and throat thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower the lung efficiency.

Carbon Monoxide (CO): Carbon monoxide is primarily emitted from combustion processes and motor vehicles because of incomplete combustion of fuel. Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with

chronic heart disease. Inhalation of moderate levels of carbon monoxide can cause nausea, dizziness, and headaches, and can be fatal at high concentrations.

Nitrogen Oxides (NO_x): Major sources of NO_x include power plants, large industrial facilities, and motor vehicles. Nitrogen oxides are emitted from combustion processes and irritate the nose and throat. It increases susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_x is as a precursor to the formation of ozone.

Sulfur Dioxide (SO₂): Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Sulfur dioxide potentially causes wheezing, shortness of breath, and coughing. High levels of particulate appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Lead (Pb): Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing the metal is the primary source of lead emissions, which is primarily a regional pollutant. Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

Particulate Matter (PM₁₀ and PM_{2.5}): The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than ten microns (PM₁₀) and even smaller particles with a aerodynamic diameter equal to or less than 2.5 microns (PM_{2.5}), are trapped in the nose, throat, and upper respiratory tract. These small particulates enter the body and could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM₁₀ and PM_{2.5}. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulate could become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

“Fugitive dust” is atmospheric dust resulting from both natural and anthropogenic disturbance of soil and other granular material. Fugitive dust particles are comprised mainly of soil minerals (i.e. oxides of silicon, aluminum, calcium, and iron), but can also consist of sea salt, pollen, spores, etc. The most common regulated forms of particulate matter are known as PM₁₀ (particulate matter with a diameter of 10 microns or less in size) and PM_{2.5} (particulate matter with a diameter of 2.5 microns or less in size).

PM₁₀ is predominately comprised of windblown dust or other operations involving solid particulate materials. PM_{2.5} is more likely the result of fuel combustion and photochemical reactions. PM_{2.5} is both directly emitted and formed via chemical reactions in the atmosphere from precursor pollutants such as NO_x, SO_x, and ammonia. However, most fugitive dust particles are larger than PM₁₀ particulates and thus would not comprise either PM₁₀ or PM_{2.5}.

PM₁₀ may accumulate in the lungs and irritate the respiratory tract, and may also lead to eye irritation, but fine particles (PM_{2.5}) are more likely than larger PM₁₀ particles to contribute to health effects. The CARB and the USEPA have recognized adverse health effects that may be associated with exposure to PM, including:

- Increased respiratory symptoms, such as the irritation of the airways, coughing, or difficulty breathing;
- Decreased lung function, particularly in children;
- Aggravated asthma;
- Development of chronic bronchitis;
- Irregular heartbeat;
- Increased respiratory and cardiovascular hospitalizations;
- Premature death in people with heart or lung disease.

Based on reviews of the latest scientific literature, CARB staff has concluded that exposure to PM_{2.5} has potential health impacts. In recognition, the USEPA and CARB have established NAAQS and CAAQS for PM emissions. The NAAQS and CAAQS have been set at levels considered safe to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly with a margin of safety.

Short-term exposure to fugitive dust during construction typically will not result in any considerable health effects. Health risk methodologies for operational impacts typically assume a conservative continuous exposure of 24-hours per day, for a 70-year lifetime, outdoors at the same location. In contrast, exposure during construction is substantially reduced because of the temporary nature of construction and because construction activities primarily occur during normal working hours. As a result of the limited exposure, health effects from fugitive dust during construction are minimized. Air quality standards and GBUAPCD thresholds are developed for the purpose of protecting the health of sensitive populations.

(2) Local Area Conditions

(a) Meteorology and Pollutant Levels

The Project site is located in the Town of Mammoth Lakes in Mono County. Located on the eastern slope of the Sierra Nevada Mountains, the Town has a dry climate with clear skies, excellent visibility, hot summers, and wide fluctuations in daily temperatures. The average minimum temperature is in the upper 20s (degrees Fahrenheit), while the average maximum temperature is in the mid- to high 50s. Most of the precipitation in this area (approximately 70 percent) occurs between November and February. Spring is the windiest season, with fast-moving northerly weather fronts. During the day, southerly winds result from the strong solar heating of the mountain slopes, causing upslope circulation. Summer winds are northerly at night as a result of cool air draining from higher to lower elevations. The mean annual wind speed in Mammoth Lakes is less than 11 miles per hour (mph).

The extent and severity of the air pollution problem in the GBVAB is a function of the area’s natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). The Mono County portion of the GBVAB has a non-attainment status for ozone (State standards only); non-attainment of ozone is associated with the effect of transported pollution from outside of Mono

County, rather than local generation of ozone or ozone precursors. All of the GBVAB is designated non-attainment for the PM₁₀ State standard.

Although Mono County is categorized as non-attainment for the State ozone standard, there is no ozone implementation plan for attainment in Mono County, nor is one required under State law. As outlined in the 2001 CARB Ozone Transport Review, the CARB classifies the contribution of transported pollution from one air basin to another to be either overwhelming, significant, inconsequential, or some combination of the three. The CARB Ozone Transport Review is a statewide assessment of ozone transport between air basins. According to the CARB, ozone levels would improve in the air basin only when substantial mitigation measures are more fully implemented in upwind air basins. Local sources are not considered to have a considerable impact on ambient levels due to the climactic patterns of the eastern slopes of the Sierra Nevada Mountains.

(b) Existing Pollutant Levels at Nearby Monitoring Stations

Air quality is monitored by the GBUAPCD at a number of locations throughout the Basin. Currently, there are 19 monitoring sites in the GBVAB. The monitoring station most representative of the Project Area is the Mammoth Lakes- Gateway Home Center (Rite Aide Center) Monitoring Station, located within the TSMP area. This monitoring station is located on Highway 203 and Old Mammoth Road, approximately 1.17 miles northwest of the SHARP #1 Priority Project analyzed in the Impacts Section. Only PM₁₀ is monitored at this station. The site is equipped with a state of the art continuous-reading TEOM PM₁₀ monitor. The APCD continued to use a co-located Partisol PM₁₀ monitored in the past, but these monitoring programs have been discontinued as well. Although there has been no ozone monitoring in Mono County since 2002, the County continues to be designated a non-attainment area for the state ozone standard. However the air basin is designated as “attainment” for the federal 8-hour O₃ standard. The most recent data available from this monitoring station which has been reviewed and summarized by the GBUAPCD encompasses the years 2007 to 2011. The data shown in **Table 4.B-3, Pollutant Standards and Ambient Air Quality Data from Representative Monitoring Stations**, indicate the following pollutant trends:

Table 4.B-3

Pollutant Standards and Ambient Air Quality Data from Representative Monitoring Stations

Pollutant Standard and Data	2007	2008	2009	2009-2010	2010-2011
Particulate Matter (PM₁₀)					
<u>24-Hour: C=50 µg/m³; N=150 µg/m³</u>	67	138	118	104	102
Max. Concentration (µg/m ³)	1	6	5	20	25
% of Samples ^e > Calif. Standard	0	0	0	0	0
% of Samples ^e > National Standard					

C = California ambient air quality standard; N = national ambient air quality standard; ppm = parts per million; µg/m³ = micrograms per cubic meter; N/A = not applicable; -- = not available or not reported.

^a The standard was attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm was ≥ 1. As of June 15, 2005, the USEPA revoked the 1-hour ozone standard in all areas except certain areas outside of California.

^b May be exceeded once per year on average over 3 years.

^c At this monitoring station, PM₁₀ samples were collected every six days; each reflects a six-day period. The monitoring schedule for this station begins and ends during the month of March.

Table 4.B-3

Pollutant Standards and Ambient Air Quality Data from Representative Monitoring Stations

Pollutant Standard and Data	2007	2008	2009	2009-2010	2010-2011
<i>Source: Data obtained from GBUAPCD and ARB's ADAM Database, accessed March 2011. http://www.arb.ca.gov/adam/topfour/topfourdisplay.php</i>					

Particulate Matter, PM₁₀. The area is in non-attainment for PM₁₀. The highest average 24-hour PM₁₀ concentration was 138 µg/m³, recorded in 2008. During the years 2007-2011, between 1 and 6 percent of the air samples taken at the monitoring station (representing samples collected every six days) showed concentrations above the California 24-hour average standard for PM₁₀. No sample showed an exceedance of the national standard.

(c) Existing Emissions

The TSMP addresses the trail system envisioned throughout the Town's Municipal Boundary. This includes trail components within the Town's UGB, which is comprised of a mix of urbanized uses, as well as system components that extend beyond the Town's UGB into mostly undeveloped Inyo National Forest lands. Operation of the various trails results in indirect emissions of air pollutants from the following sources: electricity to power restrooms and lighting, emissions from on-road vehicles (tailpipe exhaust, tire wear, and re-entrained dust) transporting employees, volunteers, and visitors to and from trailheads, non-road vehicle usage (snow mobiles), and fuel combustion and chemical usage (paint, asphalt paving, etc.) related to periodic maintenance, repair, and improvement of the trail system.

Emissions from such uses include criteria and precursor pollutants and greenhouse gases (see Section 4.F, Global Climate Change). An inventory of existing criteria pollutant emissions within the TSMP area is presented below in Subsection 2, Environmental Impacts.

(d) Sensitive Receptors and Locations

The California Environmental Protection Agency and CARB consider some population groups as more sensitive to air pollution than others.⁶ These include children, the elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases) who are collectively referred to as sensitive receptors. Sensitive land uses are those most frequently used by sensitive receptors, including homes, schools, hospitals and care facilities. The Project consists of several construction sites spread throughout the TSMP area. On a programmatic level, there exist sensitive land uses in the general vicinity of most of the trails and system amenities.

Implementation of the proposed TSMP is expected to result in potential short-term or long-term increases in emissions at a number of specific locations. The nearest sensitive populations to the Priority Projects are listed below:

⁶ California Environmental Protection Agency and California Air Resources Board, "Air Quality and Land Use Handbook: A Community Health Perspective," April 2005.

- The nearest sensitive receptors to the SHARP Priority Project #1, Borrow Pit/Staging Area, are existing residential uses located approximately 2,345 feet (just under half a mile) to the northwest, along Meadow Lane. Additional existing residential sensitive receptors are also located 2,485 feet to the west of the Project site, along Fairway Court. Future single family residences within the Snow Creek VIII Tract are expected to be occupied by 2017, located along Fairway Drive and Old Mammoth Road, 1,050 feet west of the proposed staging area improvement.
- The nearest sensitive receptor to the Future Multi-Use Path 2-1, Town Loop (4a), which starts from Mammoth Creek Park to Minaret Road are the multi-family residential units located on Meadow Lane, 135 feet north of the proposed path improvement.
- The nearest sensitive receptor to the Future Multi-Use Path 3-1, College Connector, which starts from Sierra Park Road to the Town Loop are the Cerro Coso Community College Dorms located on College Parkway, 55 feet south of the proposed path improvement.

The Project is expected to result in potential short-term or long-term increases in emissions at a number of specific locations, and the nearest sensitive populations to a Trail Improvement project under the TSMP is listed below:

- The nearest sensitive receptors to the proposed Recreation Node, GIC 64 (Trailhead), Sierra Boulevard at Forest Trail are the single-family residential units located on Sierra Boulevard, and Forest Trail approximately 80 feet south of the proposed trailhead improvement.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to air quality. The Initial Study Environmental Checklist questions relating to air quality have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement 4.B-1).
- Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statement 4.B-2).
- Threshold 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (refer to Impact Statement 4.B-3).
- Threshold 4: Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement 4.B-4).

Threshold 5: Create objectionable odors affecting a substantial number of people (refer to Impact Statement 4.B-5).

b. Numerical Significance Thresholds

Neither the Town of Mammoth Lakes nor the GBUAPCD have established numerical air quality significance thresholds for quantitatively determining air quality impacts in accordance with the criteria listed above. CEQA allows Lead Agencies to rely on standards or thresholds promulgated by other agencies. Thus, projects in the GBVAB have recently used the numerical standards of the Mojave Desert AQMD in prior CEQA reviews (such as the Rock Creek Canyon Specific Plan EIR, Mono County, July 2010). Because the air quality and pollutant attainment status in portions of the Mojave Desert Air Basin (MDAB) are similar to those of the GBVAB, the numerical thresholds set for MDAB by the Mojave Desert Air Quality Management District (MDAQMD) are considered adequate to serve as significance thresholds for the Project. The significance criteria discussed below are currently recommended to translate the State *CEQA Guidelines* thresholds into numerical values or performance standards.

(1) Construction Emissions Thresholds

Based on criteria set forth in the *MDAQMD- CEQA and Federal Conformity Guidelines*, the Project would have a significant impact with regard to construction emissions if the following would occur:

- Regional emissions from both direct and indirect sources would exceed any of the following threshold levels: (1) 137 pounds per day for NO_x, (2) 137 pounds a day for VOC, (3) 82 pounds per day for PM₁₀, (4) 82 pounds per day PM_{2.5}, (5) 550 pounds per day for CO, and (6) 137 pounds per day for SO_x.⁷

TAC emissions from construction activities will be evaluated qualitatively.

(2) Operational Emissions Thresholds

The Project would have a significant impact on air quality from Project operations if any of the following would occur:

- Operational emissions from both direct and indirect sources would exceed any of the following prescribed threshold levels: (1) 137 pounds per day for NO_x, (2) 137 pounds a day for VOC, (3) 82 pounds per day for PM₁₀, (4) 82 pounds per day PM_{2.5}, (5) 550 pounds per day for CO, and (6) 137 pounds per day for SO_x.⁸
- Operational peak daily traffic loads (Project plus Cumulative) to exceed 106,660 VMT, as established in the Town of Mammoth Lakes Municipal Code (Section 8.30.110).

The Project does not involve the introduction of permanent, continuous, or stationary sources of TAC emissions. Mobile source operational emissions of TACs will be discussed qualitatively.

⁷ <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=1456>

⁸ <http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=1456>

c. Methodology

(1) Construction Impacts

Construction generates pollutant emissions both on- and off-site. On-site emissions, or emissions within the TSMP area, include exhaust emissions from diesel-powered equipment, volatile emissions from paint, construction materials, and asphalt, and fugitive dust generated by demolition, moving earth and driving on unpaved surfaces. Off-site emissions include diesel exhaust, tire wear and brake wear particulates from construction vehicles making their way to and from the TSMP area, and vehicle exhaust, tire and brake wear particulates from vehicles used for worker commuting.

Daily emissions during construction were forecast using a conservative⁹ construction scenario (for example, assuming construction activities would occur within a short period of time, producing higher daily emissions than a prolonged schedule, and at an early date, when fewer construction fleet emission control requirements may have become effective, and fewer emission control technology innovations may have become available). URBEMIS 2007 provided the required mobile-source and fugitive dust emission factors.¹⁰ Project features that would be implemented during construction that have been incorporated into the construction emissions analysis include applying water to exposed surfaces at least twice daily and frequent application of water to unpaved roads, in compliance with applicable GBUAPCD Rules. The forecast regional emission rates for construction were compared to mass daily thresholds of significance published by the MDAQMD.¹¹

(2) Operational Impacts

The analysis of a project's impact on regional air quality during long-term project operations typically considers three types of sources: mobile, area and stationary. Mobile sources are off-site vehicle trips. Area sources involve multiple similar emissions on-site, such as the consumption of natural gas or wood (for hot water, heat, or cooking) or other fossil fuel (landscaping equipment, generators, etc.), and use of consumer products that contain volatiles and solvents. Stationary sources include off-site generation of electricity used on-site for the project.¹²

The proposed Project would not result in a material increase in local demand for electricity or natural gas within the TSMP area. Maintenance activities are likely to remain similar to current conditions. Therefore the analysis of operational impacts is focused on the potential for increases in vehicular traffic at the regional and local levels. Mobile sources have the potential to create localized increases in concentrations of CO, referred to as "hot spots", which may impact sensitive receptors (residents, pedestrians, etc.) near road ways and intersections. CO is a byproduct of incomplete combustion, and emissions are worse during engine idling and periods of stop-and-go driving at slow speeds in congested conditions. As noted above, vehicular

⁹ The term "conservative," as used in this document, means health-conservative. Methods that analysts consider conservative are more likely to produce emission and health risk estimates that are high, and thus, from a risk management perspective, to err on the side of health protection. Details are provided in Appendix D.

¹⁰ URBEMIS 2007 is an emissions estimation/evaluation model developed by CARB, and based, in part, on SCAQMD CEQA Air Quality Handbook guidelines and methodologies.

¹¹ MDAQMD Air Quality Significance Thresholds (February 2009):
<http://www.mdaqmd.ca.gov/Modules/ShowDocument.aspx?documentid=1456>.

traffic has been identified as a substantial contributor to the Town's PM₁₀ levels, primarily through the re-entrainment of on-road particles from cinders, soil, and brake and tire wear.

Localized impacts to CO levels from mobile sources were evaluated using data from the Traffic Impact Study prepared for the Project by LSC in April 2011. In traffic studies, the term "level of service" (LOS) describes traffic performance at intersections or along roadway segments, and is generally expressed as a letter grade (A through F, with an A grade meaning the freest-flowing traffic). Traffic researchers and planning agencies generally assign LOS ratings to intersections based on the ratio of traffic volume (or demand) to capacity (V/C).¹³ Lower V/C ratios correspond to better performance (freer-flowing traffic). Quantitative analyses would be required for those intersections experiencing a substantial decrease in LOS or increase in V/C.

With regard to PM₁₀, the AQMP contain a comprehensive list of pollution control strategies directed at reducing emissions and achieving ambient air quality standards. This includes a limit of 106,600 vehicle miles traveled (VMT) Town-wide. Increases in population and vehicle traffic result in an increase in PM₁₀ emissions from traffic-related road dust and cinders. Therefore, a quantitative analysis would be required for a Project resulting in an operational increase in VMT, especially during the winter.

(3) Toxic Air Contaminants

Analysis of potential TAC impacts is typically performed from two viewpoints: (1) TAC emissions from the Project impacting off-site receptors and (2) ambient TAC concentrations impacting new on-site (Project) sensitive receptors. The Project does not result in a long-term increase in the use of TAC-containing products (fuels, maintenance products, etc.) or the introduction of sensitive receptors near to existing TAC sources. Therefore quantitative analysis of potential TAC impacts from the Project is not warranted.

d. Project Features

As discussed in Section II, *Project Description*, of this EIR, the Project has the primary goal to create an integrated year-round trail network that provides a seamless transition between the Town's urbanized area, the Mammoth Mountain Ski Area (MMSA), and National Forest lands within and beyond the Municipal Boundary managed by the United States Forest Service (USFS). Relevant to air quality, is the goal of the Project to enhance year-round mobility in a manner that is consistent with the Town's "Feet First" strategy that may reduce vehicle miles. The TSMP includes proposals for trails, paved Multi-Use Paths (MUPs), and Recreational Nodes, as well as goals, objectives, guidelines and various other recommendations that direct implementation and management of the plan. Features of the TSMP that address air quality impacts include the following:

- The Project goal to improve mobility consistent with the Town's "Feet First" strategy by enhancing opportunities for walking/hiking and biking, would serve to reduce vehicle miles traveled, which would result in lower emissions of criteria pollutants, toxic air contaminants, than under current conditions.

¹³ For an example LOS rating system for signalized intersections, see the City of Roseville, CA, *Level of Service (LOS) Policy*: [http://www.roseville.ca.us/pw/engineering/transportation_planning/level_of_service_\(los\).asp](http://www.roseville.ca.us/pw/engineering/transportation_planning/level_of_service_(los).asp).

- **Site Enhancements**
 - Provide Pedestrian Network Improvements (i.e., pedestrian network that connects all uses and all existing and planned trail facilities)
 - Create Recreational nodes
 - Improve Bike Lane Design
 - Provide Bike Parking and Facilities
 - Provide Education/Interpretive Areas
 - Provide Signage
- **Parking Policy/Pricing**
 - Provide Parking, but Limit Parking Supply
- **Commute Trip Reduction Programs**
 - Provide Alternative Transportation Options
 - Provide End of Trip Facilities
- **Transit System Improvements**
 - Implement Transit Access Improvements
 - Provide Bike Parking Near Transit
 - Provide Buses at specific Recreational Nodes
- **Vegetation**
 - Preserve Nature Areas
 - Preserve Open Space
- **Construction**
 - Limit Construction Equipment Idling beyond Regulation Requirements
 - Limit Number of Simultaneous Construction Projects

e. Analysis of Project Impacts

The analysis of the Project's air quality impacts applies to all future trail components associated with the Project, including the Priority Projects. Many of the future trail components associated with the Project (including the Priority Projects) would be subject to similar greenhouse gas impacts throughout the Project Area.

(1) Consistency with Air Quality Plan

4.B-1 Project implementation would result in less than significant air quality impacts and would not conflict with or obstruct implementation of the applicable air quality plan.

Pursuant to the CAA, the GBUAPCD is required to reduce emissions of criteria pollutants for which the Great Basin is in non-attainment. Because the Project is located within a nonattainment area, certain Project-related activities may be subject to emission control strategies contained within the Town of Mammoth

Lake's PM₁₀ AQMP.¹⁴ As established above, there is no ozone AQMP applicable to development Projects within the Town.

Construction would involve activities that can result in emissions of particulate matter. Construction and repair of parking lots, trails, and amenities (restrooms) would require earthmoving such as grading and trenching. Compliance with applicable Rules, ordinances, plans, and policies would minimize PM emissions during construction. As shown below, in response to question "b", construction emissions would not exceed emission thresholds.

The TSMP is intended to enhance recreational opportunities for residents and visitors and proposed Project improvements are not expected to increase population or visitors within the TSMP area. The Project is designed for pedestrian or bicycle use, providing critical links in the Town's trails system as envisioned in the Town's Trail System Master Plan. Thus, the Project would be supportive of the AQMP strategy to limit VMT. The Project would comply with GBAUPCD rules and Town ordinances and is designed to be consistent with applicable Town policies and the AQMP. Therefore the Project would not conflict with implementation of the AQMP.

(2) Violation of an Air Quality Standard

4.B-2 Project implementation would result in less than significant air quality impacts, based on the applicable threshold of significance. Potentially significant construction impacts would be reduced to a less than significant impact with implementation of the prescribed mitigation measure and would not violate applicable air quality standards nor substantially contribute to an existing or projected air quality violation.

(a) Construction Impacts

Construction of individual trail projects as part of the Project has the potential to impact air quality through the use of heavy construction equipment, earth-moving activities, and through vehicle trips of construction workers traveling to and from the Project sites. In addition, fugitive dust emissions would result from construction activities. Mobile source emissions, primarily PM and NO_x, would result from the use of construction equipment such as bulldozers, loaders, and cranes. Construction emissions can vary from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

The TSMP proposes a number of improvements at various locations throughout the Project Area. A detailed schedule of Project component initiation and completion is not known at this time. Due to the weather conditions of the project area, the construction season typically takes place from May to October over a period of six months. The Priority Projects would require at least two years for complete build out. However, since construction is contingent on available funding, construction of all Priority Projects is expected to occur in more than two years. Thus, to quantitatively evaluate potential impacts, the most intensive improvement proposed by the TSMP, the SHARP Area Priority Project #1, was analyzed on a Project-level basis. This Project component was chosen for analysis based on the affected surface area,

¹⁴ *Air Quality Management Plan for the Town of Mammoth Lakes, Prepared for the PM-10 State Implementation Plan by The Great Basin Unified Air Pollution Control District and the Town of Mammoth Lakes; November 30, 1990.*

construction schedule, and construction equipment mix. SHARP Area Priority Project #1, located on Sherwin Creek Road and Old Mammoth Road, would serve as a Borrow Pit/Staging Area, a staging and meeting area for recreationists leading to pedestrian and bike trails. The Borrow Pit/Staging Area would include facilities such as parking, bathrooms, an education/interpretive area, and signage. As a conservative analysis, construction of SHARP Area Priority Project #1 would occur over the course of 6 months, starting in May 2011 and ending in October 2011. This timeframe is of particular importance as construction emissions are directly related to the intensity of construction activities (emissions increase as the overall amount of construction activity increases). Actual construction may proceed at a less intensive pace, which would result in lower daily emissions. Construction of this Project-level component would generate fugitive dust. Dust emissions would vary from day to day depending on the level and type of activity, silt content of the soil, and the prevailing weather. Primary sources of fugitive dust during construction would include excavation, earth movement, grading, and wind erosion from exposed surfaces.

Daily emissions during construction were forecast using a 5-month construction schedule and applying the mobile-source and fugitive dust emissions factors derived from URBEMIS 2007. The URBEMIS 2007 model separates the construction process into multiple stages. The first stage is site grading, which includes general site preparation activities. Emissions from this stage include fugitive dust, equipment exhaust, and worker vehicle exhaust. Emissions from the second stage of construction (building construction) include equipment exhaust from construction equipment and worker vehicle exhaust. The last stage consists of asphalt paving, which includes emissions from paving and worker vehicle exhaust. A complete listing of the construction equipment by phase and construction phase duration assumptions used in this analysis is included within the URBEMIS 2007 printout sheets that are provided in the Appendix D of this EIR.

The analysis assumes that all construction activities would comply with GBUAPCD Rules 401 and 402 regarding the control of fugitive dust. A summary of unmitigated maximum daily regional emissions by construction phase for the most impactful priority project is presented in **Table 4.B-4, SHARP Priority Project #1, Borrow Pit/Staging Area; Unmitigated Regional Construction Emissions**, below, along with the MDAQMD regional significance thresholds for each air pollutant. As shown therein, maximum regional construction emissions would not exceed the daily MDAQMD significant thresholds for any pollutants. Thus, based on the worst-case analysis for SHARP Priority Project #1, regional construction air emissions would be less than significant for that project, as well as other individual projects proposed under the TSMP.

Table 4.B-4

**SHARP Priority Project #1, Borrow Pit/Staging Area
Unmitigated Regional Construction Emissions^a
(pounds per day)**

	VOC	NO _x	CO	SO ₂	PM ₁₀ ^b	PM _{2.5} ^b
Maximum Regional Emissions (On-site + Off-site) By Stage						
Mass Site Grading	3	25	12	<1	46	10
Site Preparation/Excavation	3	26	14	<1	46	11
Asphalt	1	5	3	<1	<1	<1
Building Construction	3	29	33	<1	1	1
Maximum Regional Emissions Regional Construction Daily	3	29	33	<1	46	11
MDAQMD Significance Threshold^c	137	137	548	137	82	82

Over/(Under)	(134)	(108)	(515)	(137)	(36)	(71)
Exceed Threshold?	No	No	No	No	No	No

^a Compiled using the URBEMIS2007 emissions inventory model. The equipment mix and use assumption for each phase is provided in the Air Quality Appendices.

^b PM₁₀ and PM_{2.5} emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.

^c Regional Construction Daily Significance thresholds are based on MDAQMD Significance Thresholds.

Source: PCR Services Corporation, 2011.

These emission forecasts reflect a specific set of assumptions in which the entire project would be built out over 6 months, using equipment subject only to current, less stringent emission standards than those applicable in future years. Because of these conservative assumptions, the emissions levels in Table 4.B-1 represent the highest daily emissions projected to occur on any one day. Actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner burning construction equipment fleet mix, and/or (2) a less intensive build-out schedule (i.e., lower daily emissions occurring over a longer time interval).

On a program-level, construction activities for the combined projects proposed under the TSMP would be completed over the course of 10 years or more with the timing of implementation based on available funding and Town approval. Accordingly, a detailed programmatic construction schedule is not available. Although individual improvement projects would involve far less ground disturbance and/or heavy duty diesel equipment than SHARP Priority Project #1 analyzed above, with less resulting air emissions, a worst-case scenario could occur where multiple construction crews operating at maximum intensity simultaneously within the Town could potentially exceed regional thresholds. Thus, mitigation is recommended to limit the maximum daily construction emission resulting from the TSMP (see Section 3.a below).

(b) Operation Impacts

The 2009 TSMP and SHARP propose to add slightly more than 11 miles of MUP trails, provide new and improved soft-surface trails, improve trail connectivity throughout Town, provide additional sidewalks, and implement approximately 18 miles of new Class II bike lanes. The TSMP projects also include improvements to trailheads, parking facilities, restrooms, education areas, and signage as envisioned in the Town's adopted Trails System Plan and General Bikeway Plan¹⁵. Overall, the Project is not expected to materially change VMT Town-wide over the course of one summer or winter day. No significant impact on traffic operations during the summer and winter seasons is anticipated. For example, according to the Traffic Study prepared by LSC Transportation Consultants, Inc. (April 2011), operation of the SHARP Area Priority Project #1 post-construction is expected to result in a modest increase in peak hour traffic volumes of about 15 vehicle trips. VMT generated by the increase in vehicle trips is however expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area and the increase in non-auto mode travel throughout Town.

¹⁵ See Figure 1, Mammoth Lakes Trails System Plan, in the Mammoth Lakes Trails System Master Plan (May 1991). Also, see Figure 4, General Bikeway Plan Map, in the Town of Mammoth Lakes General Bikeway Plan (2008).

Trails within the UGB would generally be limited to pedestrian and bike activities and would not be accessible for private vehicles, except for the use of maintenance and emergency services. Within National Forest lands, certain trails may permit use by Off-Highway and Over-Snow Vehicles on designated snow-vehicle routes. Trailheads and recreational nodes would provide for parking and meeting areas which would, then, lead to pedestrian, bike and OHV/OSV trails. The TSMP is intended to enhance existing recreational opportunities for residents and visitors. While the proposed project may result in changed use patterns within the trails system, the proposed Project improvements are not, in and of themselves, expected to increase population or visitors within the TSMP area, or to substantially increase overall usage of the system, nor would the TSMP expand the existing network of roads and trails currently available to motorized vehicle users. Therefore, operational emissions, such as exhaust from OHVs and OSVs and dust from motorized vehicle's trail usage, are not expected to increase as compared to existing conditions. Increases in emissions from trail maintenance and improvement activities, if any, are also expected to be negligible.

Because the Project is not expected to cause intersection and roadway conditions to deteriorate beyond adopted standards, quantitative analyses are not warranted. Provision of the additional pedestrian, bicycle, and transit facilities included in the proposed TSMP and the SHARP may result in a general increase in non-auto travel by providing opportunities to walk or bike, which would offset increases in vehicle trips to some degree. Thus, the Project would not result in new long-term operational sources, nor would it result in a net increase in VMT. As such, the project would not exceed thresholds or result in a violation of air quality standards or contribute substantially to an existing or projected air quality violation.

(3) Cumulatively Considerable Net Increases of a Criteria Pollutant

4.B-3 Project implementation would result in less than significant cumulative considerable net increases of any criteria pollutant for which the project region is non-attainment air quality impacts, based on the applicable federal or state ambient air quality standards (including ozone precursors).

A significant impact would occur if the Project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the GBVAB is currently in nonattainment for ozone and PM₁₀, emissions from this Project could contribute to an existing or projected air quality standard exceedance.

Implementation of the overall TSMP would result in an increase in short-term emissions related to construction, with no material change in long-term emissions compared to future conditions without the proposed Project. Construction is expected to be periodic, and may extend over ten years. However, as discussed above, due to the nature and size of the proposed improvements, simultaneous construction of up to two of the largest project components would not result in emissions of ozone precursors or PM₁₀ in excess of daily thresholds. The TSMP is intended to enhance existing recreational opportunities for residents and visitors; the proposed Project improvements are not, in and of themselves, expected to increase population or visitors within the TSMP area, or to increase usage or expand the existing network of roads and trails currently available to motorized vehicle users. Implementation of control strategies to reduce PM₁₀ would further minimize construction emissions, and heavy earthmoving activities are not expected to occur during the winter when ambient PM₁₀ levels are elevated. The project is supportive of long-term AQMP strategies to reduce VMT. Therefore, the project would not contribute to a cumulatively considerable net increase in nonattainment pollutants.

(4) Expose Sensitive Receptors to Substantial Pollutant Concentrations

4.B-4 Implementation of the Project would not expose sensitive receptors in the vicinity of the Project Area to substantial pollutant concentrations.

(a) Construction Impacts

Sensitive receptors are located as close as 55 feet to some of the improvement sites. PM₁₀ and PM_{2.5} concentrations are expected to occur primarily from fugitive dust emissions during site mass grading and excavation activities (parking lots and restrooms) and grading and, to a lesser degree, during fine grading and paving involved in trail improvements. Rule 401 requires that airborne particles remain on the site from which they originate under normal wind conditions. Proper mitigation techniques must be implemented to ensure that fugitive dust is contained. The largest improvement project is the SHARP Priority Project #1 analyzed above. As discussed above, emissions from Priority Project #1 are not expected to expose even the nearest sensitive receptors to substantial pollutant concentrations. The other TSMP Priority Projects involve equal or less intense construction activities and, due to the distance between project sites, simultaneous construction at two sites would not impact the same sensitive receptors.

In addition to criteria and precursor pollutants, TAC emissions are also created by the combustion of fossil fuels. Diesel Particulate Matter (DPM) has been recognized by the State of California as a human carcinogen for over 10 years. Diesel powered equipment would be used during grading and excavation activities and, as such, DPM is of potential concern because of its toxicity and prevalence in emission exhaust. The Office of Environmental Health Hazard Assessment (OEHHA) recognizes the potential for carcinogenic and non-cancer long-term effects in humans from exposure to DPM and has developed a methodology for estimating health risk from TAC pollutants such as diesel exhaust. No non-cancer acute (short-term) effects have been recognized for DPM.

OEHHA cancer risk factors assume a continuous exposure over a 70-year time frame; however, the proposed priority projects would require (at most) one year of construction, and would be spread out sporadically as funding becomes available over the course of ten years or more. Neither OEHHA nor the GBUAPCD have developed guidelines to accurately and scientifically estimate the incremental increase in cancer risk for such short exposure duration. Additionally, the GBUAPCD does not require a health risk assessment for short-term construction emissions. Therefore, it is not meaningful to evaluate long-term cancer impacts from construction activities which occur over a short duration. In addition, there would be no residual emissions after construction and, thus, no corresponding individual cancer risk. As such, Project-related toxic air contaminant emission impacts during construction would be less than significant.

(b) Operational Impacts

Operational emissions have the potential to impact local air pollutant levels at nearby receptors. An increase in vehicular travel may generate localized "hot spots," localized areas in the project vicinity where sensitive receptors (pedestrians) located near to roadways and intersections may be exposed to elevated ambient pollutant levels. Although the Mammoth Lakes Gateway Home Center monitoring station has not recorded any exceedance of the State or Federal CO standards, elevated CO concentrations due to heavy traffic

volumes and congestion at specific intersections or roadway segments can lead to elevated localized levels of CO.

Localized impacts from mobile source CO were evaluated using data from the Traffic Impact Study (LSC Transportation Consultants, Inc., April 2011) contained in Appendix I of this Draft EIR. In the Traffic Study, the term “level of service” (LOS) describes traffic performance at intersections or along roadway segments, and is generally expressed as a letter grade (A through F, with an A grade meaning the freest-flowing traffic). Traffic researchers and planning agencies generally assign LOS ratings to intersections based on the ratio of traffic volume (or demand) to capacity (V/C).¹⁶ Lower V/C ratios correspond to better performance (freer-flowing traffic).

According to the Traffic Study, a maximum of 100 peak hour, one-way summer trips were estimated to be generated by the trail improvement facilities. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area. New vehicle trips associated with the trail networks are expected to be relatively short. In addition, some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails. Overall, the Project is not expected to cause an increase in VMT over the course of one summer or winter day. Provision of the additional pedestrian, bicycle, and transit facilities included in the proposed TSMP and the SHARP would result in a general increase in non-auto travel, which would offset the increase in vehicle trips to some degree.

Thus, as discussed above, the Project is not expected to cause new long-term stationary sources or cause a significant net increase in vehicle trips. Based on the Traffic Study, traffic volumes from project improvements are not expected to exacerbate LOS ratings, thus CO impacts from operation would be less than significant and further analysis is not necessary.

3. MITIGATION MEASURES

Through the implementation of the project features and compliance with applicable Rules, project construction and operation would result in less than significant impacts with regard to air quality. The *MDAQMD- CEQA and Federal Conformity Guidelines* suggests that the following mitigation measures set forth a program of air pollution control strategies designed to reduce the project’s air quality impacts to the extent feasible.

a. Construction

Prior to approval of individual projects under the TSMP, the Public Works Director, or his designee, shall confirm that plans and specifications stipulate that, in compliance with GBUAPCD Rule 401, excessive fugitive dust emissions shall be controlled by regular watering or other dust preventive measures, as specified in the GBUAPCD Rules and Regulations. In addition, GBUAPCD Rule 402 requires implementation

¹⁶ For an example LOS rating system for signalized intersections, see the City of Roseville, CA, *Level of Service (LOS) Policy*: [http://www.roseville.ca.us/pw/engineering/transportation_planning/level_of_service_\(los\).asp](http://www.roseville.ca.us/pw/engineering/transportation_planning/level_of_service_(los).asp).

of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- Mitigation Measure 4.B-1.A** All active portions of the construction site shall be watered to prevent excessive amounts of dust.
- Mitigation Measure 4.B-1.B** On-site vehicles' speed shall be limited to 15 miles per hour (mph).
- Mitigation Measure 4.B-1.C** All on-site roads shall be paved as soon as feasible or watered periodically or chemically stabilized.
- Mitigation Measure 4.B-1.D** All material excavated or graded shall be sufficiently watered to prevent excessive amounts of dust; watering, with complete coverage, shall occur at least twice daily, preferably in the late morning and after work is done for the day.
- Mitigation Measure 4.B-1.E** If dust is visibly generated that travels beyond the site boundaries, clearing, grading, earth moving or excavation activities that are generating dust shall cease during periods of high winds (i.e., greater than 25 mph averaged over one hour) or during Stage 1 or Stage 2 episodes.
- Mitigation Measure 4.B-1.F** All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust.
- Mitigation Measure 4.B-2** The Town shall limit the extent of mass grading for all simultaneous TSMP construction and maintenance activities to no more than 5 acres of active disturbance daily.
- Mitigation Measure 4.B-3** The Town shall limit TSMP construction activities in the following manner so as to ensure exhaust emissions shall not exceed the established daily thresholds for gaseous pollutants¹⁷: No more than 20 pieces of construction equipment operating simultaneously per 8-hour day, or 16 pieces operating 10 hours per day, averaging 200 hp rated engine capacity. Each on-road delivery or haul truck traveling approximately 200 miles per day equals one piece of non-road equipment, and shall be included in the daily limit.

b. Operation

Impacts are less than significant, no mitigation measures are necessary.

¹⁷ Refer to Appendix for calculations for Mitigation Measure AQ-3, construction limitations.

4. CUMULATIVE IMPACTS

4.B-5 The Project combined with cumulative projects may result in cumulative air quality impacts. However, project-by-project analysis of air quality impacts, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measures would ensure that potentially significant cumulative impacts regarding air quality impacts are reduced to a less than significant level.

a. Construction

The GBUAPCD does not have numerical thresholds to determine whether the Project would result in a cumulatively considerable net increase of PM₁₀ or O₃ precursors. However, as discussed above, O₃ impacts are primarily the result of pollution generated in the San Joaquin Valley. The Town does not have control over the timing or sequencing of the related projects. Therefore, any quantitative analysis to ascertain daily construction emissions that assumes multiple and concurrent construction projects would be highly speculative.

With respect to the project's construction-period air quality emissions and cumulative Basin-wide conditions, the GBUAPCD has developed strategies to reduce criteria pollutant emissions pursuant to CAA mandates. Accordingly, the project and the related projects would comply with GBAUPCD Rule 200-A, 200-B, Rules 401 and 402, and implement all feasible mitigation measures. In addition, the project and related projects would comply with adopted AQMP emissions control measures. As discussed above, the Project's construction-period localized emissions are projected to have less than significant cumulative impacts with mitigation. Thus, cumulative impacts to air quality during Project construction would be less than significant.

b. Operation

The GBUAPCD's approach for assessing cumulative impacts related to operations is based on the attainment of ambient air quality standards in accordance with the requirements of the Federal and State Clean Air Acts.

A significant impact may occur if a project would add a cumulatively considerable contribution of a federal or state non-attainment pollutant. Because the Basin is currently in nonattainment for O₃ and PM₁₀, related projects could exceed an air quality standard or contribute to an existing or projected air quality exceedance. Cumulative impacts to air quality are evaluated under two sets of thresholds for CEQA. In particular, CEQA Guidelines Sections 15064(h)(3) provide guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency...

For purposes of the cumulative air quality analysis with respect to CEQA Guidelines Section 15064(h)(3), the project's incremental contribution to cumulative air quality impacts is determined based on compliance with the Town of Mammoth Lakes AQMP.

A project is deemed inconsistent with air quality plans if it results in population and/or employment growth that exceeds growth estimates in the applicable air quality plan. The AQMP relies upon growth projections adopted by the General Plan. Consequently, compliance with the Town's General Plan typically results in compliance with the AQMP. As discussed above, the project would not result in excess of peak day traffic loads to reach the 106,660 VMT limit enforced by Town Municipal Code. As discussed in the analysis of the worst-case priority project above, the TSMP project would not substantially change traffic volumes at any one location on a peak day. Although traffic volumes in Mammoth are generally expected to increase in the future, the proposed TSMP project is not expected to result in a significant impact on traffic operations under future cumulative conditions. Because traffic generated by the project would not exceed the Town's growth projections, the Project would not conflict with or obstruct implementation of the applicable air quality plan under the AQMP.

In addition, the project would comply with all rules and regulations as implemented by the GBUAPCD and the CARB, and would conform to the standards and guidelines of the Town of Mammoth Lakes General Plan. Because the project would conform to GBUAPCD and the CARB rules and regulations and conform to General Plan guidelines, the project would be consistent with the AQMP..

The GBUAPCD recommends that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality. As the nature of the project to create an integrated, year-round trail network that would enhance non-motorized mobility in a manner that is consistent with the Town's Updated General Plan and "Feet First" strategy, operation of the project would enhance existing recreational opportunities for residents and visitors. Provision of the additional pedestrian, bicycle, and transit facilities included in the proposed TSMP and the SHARP may result in a general increase in non-auto travel by providing opportunities to walk or bike, which would cumulatively offset increases in vehicle trips to some degree. Peak daily operation-related emissions would, therefore, not exceed the MDAQMD regional significance thresholds. Although the Basin is currently in non-attainment for PM₁₀, the Project's incremental contribution to cumulative air quality effects would be less than significant. Therefore, the project would result in a less than significant impact with regard to AQMP consistency.

b. Toxic Air Contaminants

The greatest potential for cumulative TAC emissions would involve diesel particulate emissions associated with heavy equipment operations during construction. Given that the project's contribution to cancer risk from construction activities would be less than significant and localized, it is reasonable to project that related projects would also not result in significant cancer risks from TAC emissions during construction (duration, transient), and that the areas of less-than-significant elevated cancer risks associated with construction of similar projects would not overlap to create a significant risk. Accordingly, the project's construction phase TAC emissions would not contribute to a cumulatively significant impact.

With respect to long-term TAC emissions, neither the Project nor any of the identified related projects would represent a substantial source of long-term TAC emissions (uses typically associated with TAC emissions include large-scale industrial, manufacturing, and transportation hub facilities). Based on recommended

screening for TAC-source siting distances, as set forth in CARB's Land Use Guidelines, the Project and related projects would not result in a cumulative impact requiring further evaluation.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Construction

Construction emissions from the Project's largest single component (SHARP Area Priority Project #1) would not exceed the applicable regional emissions threshold. Compliance with GBVAPCD Rules and Mitigation Measure AQ-1 would ensure that localized construction impacts would be less than significant on a project level. On a programmatic level, Mitigation Measures AQ-2 and AQ-3 would limit the extent and intensity of multiple simultaneous construction efforts and ensure that emissions would be below the daily regional thresholds. Because the Project's construction sites are spread throughout the area and would occur over a span of several years, multiple construction projects are not likely to simultaneously impact the same local sensitive receptors. Therefore, with mitigation, construction impacts are expected to be less than significant.

Cumulative impacts associated with construction of the project described above would also remain less than significant. Since regional O₃ and PM₁₀ emissions and localized PM₁₀ concentrations would not exceed applicable thresholds, the Project would not cause a significant impact with regard to AQMP consistency.

b. Operation

The project includes numerous features to reduce vehicle traffic, including the encouragement of "Feet First" alternatives. The use of the Project's proposed trail system by pedestrians, cyclists, and other non-motorized transport would reduce mobile source impacts and serve to off-set increases in trips or VMT.

Operational emissions would not exceed significance thresholds and, as such, would have a less than significant impact on regional air quality. No significant impacts related to TAC emissions during operation of the Project are anticipated to occur (see Subsection 3d(2)(c), above).

4.0 ENVIRONMENTAL IMPACT ANALYSIS

C. BIOLOGICAL RESOURCES

INTRODUCTION

This section summarizes the Biological Resources Assessment (BRA) for the Trail System Master Plan and Parks and Recreation Master Plan performed by PCR Services Corporation (June 2011) and contained in Appendix E of this Draft EIR. The BRA provides a more detailed inventory of biological resources and serves as the basis for the impact findings contained herein. As described in Chapter II, *Project Description*, of this Draft EIR, the TSMP, SHARP, and Priority Projects are collectively referred to as the “Project,” and are the focus of the impact analysis. With the exception of the TSMP’s “Priority Projects”, the recommendations and projects included in TSMP and SHARP are conceptual in nature and are therefore evaluated at a program-level. It is recognized with a programmatic study, that subsequent projects carried out under the long-term master plans may warrant site specific biological assessments and surveys once plans have been detailed and evaluated on a project-by-project basis.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

As part of the proposed Project’s review and approval there are a number of performance criteria and standard conditions that must be met. These include compliance with all of the terms, provisions, and requirements of applicable laws that relate to Federal, State, and local regulating agencies for impacts to biological resources. The following provides an overview of the applicable regulations with regard to the biological resources that may be present within the Project Area.

(1) Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) and Fish and Game Code Section 3503 protect native bird species from destruction or harm. This protection extends to individuals as well as any part, nest, or eggs of any bird listed as migratory.

In practice, Federal permits potentially impacting migratory birds typically have conditions that require pre-disturbance surveys for nesting birds, and, in the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc), and is based on the professional judgment of a monitoring biologist.

(2) State of California Fish and Game Code, Section 1602

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river,

stream, or lake to notify the California Department of Fish and Game (CDFG) of the proposed project. In the course of this notification process, the CDFG will review the proposed project as it affects streambed habitats within the project area. The CDFG may then place conditions on the Section 1602 clearance to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFG jurisdictional limits.

(3) Federal Clean Water Act, Section 404

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged material, placement of fill material, or excavation within “waters of the U.S.” and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. “Waters of the U.S.” are defined by the CWA as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined by the CWA as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The permit review process entails an assessment of potentially adverse impacts to Army Corps of Engineers (ACOE) jurisdictional “waters of the U.S.” and wetlands. In response to the permit application, the ACOE will also require conditions amounting to mitigation measures. Where a federally-listed species may be affected, they will also require an Endangered Species Act Section 7 consultation with the U.S. Fish and Wildlife (USFWS). Through this process, potentially significant adverse impacts within the federal jurisdictional limits could be mitigated to a level that is less than significant.

Over the years, the ACOE has modified its regulations, typically due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters, memorandum, or more expansive instruction guidebooks. These guidance documents help to update and define how jurisdiction is claimed, and how these “waters of the U.S.” will be regulated. The most recent significant modification occurred on June 5, 2007, subsequently updated in December 2008 when the ACOE and the U.S. Environmental Protection Agency (EPA) issued a series of guidance documents outlining the requirements and procedures, effective immediately, to establish jurisdiction under Section 404 of the CWA and the Section 10 of the Rivers and Harbors Act 1899 (ACOE and EPA 2006). These documents are intended to be used for all jurisdictional delineations and provide specific guidance for the jurisdictional determination of potentially jurisdictional features affected by the United States Supreme Court rulings in *Rapanos v. the United States* and *Carabell v. the United States* 547U.S. 715 (2006) (jointly referred to as “*Rapanos*”).

The *Rapanos* case outlines the conditions and criteria used by the ACOE to assess and claim jurisdiction over non-navigable, ephemeral tributaries. Under a plurality ruling, the Court noted that certain “not relatively permanent” (i.e. ephemeral), non-navigable tributaries must have a “significant nexus” to downstream traditional navigable waters to be jurisdictional. An ephemeral tributary has a significant nexus to downstream navigable “waters” when it has “more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a Traditional Navigable Water (TNW).” A significant nexus is established through the consideration of a variety of hydrologic, geologic and ecological factors specific to the particular drainage feature in question.

(4) Federal Clean Water Act, Section 401

The mission of the California Regional Water Quality Control Board (RWQCB) is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the State’s waters, recognizing local differences in climate, topography, geology, and hydrology. Section 401 of the CWA requires that:

Any applicant for a Federal permit for activities that involve a discharge to waters of the State shall provide the Federal permitting agency a certification from the State in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act.

Therefore, before the ACOE will issue a Clean Water Act Section 404 permit, applicants must apply for and receive a Section 401 water quality certification from the RWQCB. A complete application for 401 Certification will include a detailed Water Quality Management Plan that addresses the key water quality features of the project to ensure the integrity of water quality in the area during and post-construction.

Under separate authorities granted by State law (i.e., the Porter-Cologne Water Quality Control Act), a RWQCB may choose to regulate discharges of dredge or fill materials by issuing or waiving (with or without conditions) Waste Discharge Requirements (WDRs), a type of State discharge permit, instead of taking a water quality certification action. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under Porter-Cologne than under the Federal CWA.

(5) California Native Plant Society

The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive plant species in California. CNPS has compiled an inventory comprised of the USFS information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered plant species of California (CNPS 2001). The inventory is commonly used by State and federal resource agencies in their review and evaluation of CEQA documentation. CNPS has developed five categories of rarity:

- List 1A Presumed extinct in California
- List 1B Rare or Endangered in California and elsewhere
- List 2 Rare or Endangered in California, more common elsewhere
- List 3 Plants about which we need more USFS information before rarity can be determined– Review list
- List 4 Plants of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat– Watch list

In addition, the CNPS recently updated their Lists with Threat Codes. There are three new Threat Code extensions that follow the List number as a decimal:

1. Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
2. Fairly endangered in California (20-80% of occurrences threatened)
3. Not very endangered in California (<20% of occurrences threatened or no current threats known)

(6) California’s Endangered Species Act (CESA)

CESA defines an “endangered” species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” The state defines a “threatened” species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter.

For purposes of this assessment, the following acronyms are used for State status species:

SE	State listed as Endangered
ST	State listed as Threatened
SR	State Rare
SCE	State Candidate for Endangered
SCT	State Candidate for Threatened
SCD	State Candidate for Delisting
SFP	State Fully Protected
SSC	California Species of Special Concern

(7) Federal Protection and Classifications

The Federal Endangered Species Act of 1973 (FESA) defines an “endangered” species as “any species which is in danger of extinction throughout all or a significant portion of its range”. A “threatened” species is defined as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range”. Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA as to: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the USFWS, through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification as forms of “take”. These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action which could affect a federally-listed plant or animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

Within the last ten years the USFWS instituted changes in the listing status of candidate species abandoning the C1/C2 model. Former C1 candidate species are now considered federal candidate species (FC). Some of the USFWS field offices (e.g., Sacramento) maintain lists of federal Species of Concern (FSC). Federal Species of Concern is not a term that is defined in the federal Endangered Species Act. Rather, it is an informal term that is used to characterize species whose population are or appear to be in decline and warrant conservation. These species receive no legal protection and the use of the term FSC does not mean that they

will eventually be proposed for listing.¹ Therefore, this term is not used in this assessment. For purposes of this assessment, the following acronyms are used for federal status species:

FE	Federally listed as Endangered
FT	Federally listed as Threatened
FPE	Federally proposed for listing as Endangered
FPT	Federally proposed for listing as Threatened
FPD	Federally proposed for delisting
FC	Federal candidate species (former Category 1 candidates)

(8) USDA Forest Service Sensitive Species

The National Forest Management Act (NFMA) of 1976 and its implementing regulations require the Forest Service to ensure a diversity of animal and plant communities and maintain viable populations of existing native species as part of their multiple use mandate. The USFS sensitive species program is a proactive approach to conserving species to ensure the continued existence of viable, well-distributed populations, and to maintain biodiversity of National Forest Service lands (USFS 2004). In addition, the Secretary of Agriculture's policy on fish and wildlife (Department Regulation 9500-4) directs the USFS to avoid actions "which may cause a species to become threatened or endangered."

The USFS defines sensitive species as those animal and plant species identified by a regional forester for which population viability is a concern. This may be a result of significant current or predicted downward trends in habitat that would reduce a species' existing distribution or significant current or predicted downward trends in density or population numbers (CNDDDB 2009e).

The USFS, USFS maintains a list of sensitive wildlife and plant species. This list consists of rare plants and animals which are given special management consideration to ensure their continued viability on the national forests (Murphy, pers. comm. 2009; USFS 2006).

(9) Inyo National Forest Land and Resource Management Plan

The USFS Inyo National Forest Land and Resource Management Plan (LRMP) establishes the management, direction, and long-range goals for the Inyo National Forest (USFS 1988). Management goals for the USFS include (but are not limited to) the following:

- Protect and improve riparian area-dependent resources while allowing for management of other compatible uses.
- Protect or improve the habitats of threatened or endangered species in cooperation with state and other federal agencies.
- Protect sensitive plants to ensure they will not become threatened or endangered.

¹ *Sacramento Fish & Wildlife website: http://sacramento.fws.gov/es/spp_concern.htm*

- Manage wildlife habitat to provide species diversity, ensure that viable populations of existing native wildlife is maintained, and that the habitats of management emphasis species are maintained or improved.

Forest-wide Standards and Guidelines provide specific guidelines for the management of each resource to ensure its enhancement and protection. These include (but are not limited to) the following:

(a) Riparian Areas

- Protect streams, streambanks, lakes, wetlands, and shorelines, and the plants and wildlife dependant on these areas.
- Prevent adverse riparian area changes in water temperature, sedimentation, chemistry, and water flow.
- Rehabilitate and/or fence riparian areas that consistently show resource damage.
- Allow new developments and surface disturbance in riparian areas only after on-site evaluations have determined that resources are not adversely affected, or mitigation of any adverse impacts is identified and incorporated into the project design.

(b) Sensitive Plants

- Allow no new disturbance of identified sensitive plant habitat without direction from Interim Management Guidelines, Species Management Guides, or an environmental analysis.
- Complete inventories of project areas and areas of disturbance if there is potential habitat or known population locations identified.

(c) Wildlife – Threatened, Endangered, and Sensitive Wildlife Species

- Cooperate with the USFWS and the CDFG in the management of threatened and endangered species.
- Submit proposals for actions that might affect the continued existence of a threatened or endangered species to the USFWS for formal consultation.

(d) Wildlife – Management Indicator Species

Management Indicator Species (“MIS”) are wildlife species identified in the USFS MIS Amendment Record of Decision (“ROD”) signed December 14, 2007. The list of MIS was developed under the 1982 National Forest System LRMP Rule and amended by the 2007 SNF MIS Amendment ROD. Forest Service resource managers are directed to analyze the effects of Proposed Project Alternatives on the habitat of each MIS affected by such projects and monitor populations and/or habitat trends of each MIS.

The following habitat or ecosystem components and corresponding USFS’s MIS are included under the 2007 USFS MIS Amendment ROD.

- Riverine and lacustrine: aquatic macroinvertebrates
- Shrubland (west-slope chaparral types): fox sparrow (*Passerella iliaca*)
- Sagebrush: greater sage-grouse (*Centrocercus urophasianus*)

- Oak-associated hardwood and hardwood/conifer: mule deer (*Odocoileus hemionus*)
- Riparian: yellow warbler (*Dendroica petechia*)
- Wet meadow: Pacific tree frog (*Pseudacris regilla*)
- Early and mid seral coniferous forest: mountain quail (*Oreortyx pictus*)
- Late seral open canopy coniferous forest: sooty (blue) grouse (*Dendragapus obscurus*)
- Late seral closed canopy coniferous forest: California spotted owl (*Strix occidentalis occidentalis*), American marten (*Martes americana*), and northern flying squirrel (*Glaucomys sabrinus*)
- Snags in green forest: hairy woodpecker (*Picoides villosus*)
- Snags in burned forest: black-backed woodpecker (*Picoides arcticus*)

(10) Town of Mammoth Lakes Ordinances

The Town has adopted several ordinances that protect biological resources. Municipal Code Chapter 8.12, *Refuse Disposal*, would be applied to work within the Project Area. This code section establishes regulations for the proper refuse disposal to eliminate the availability of refuse for wildlife and Section 17.20.040(H), *Vegetation*, 17.16.050 B and 17.24.050 require the preservation of existing trees and vegetation within commercial, residential and industrial zones to the maximum extent possible. The Town may apply similar standards to other zones, including Public-Quasi Public, Resort and Open Space zones. Most types of development is prohibited within 50 feet of a creek or stream bank; trails and roads are permitted, however.

(11) Town of Mammoth Lakes General Plan

The Town of Mammoth Lakes General Plan Resource Management and Conservation Element (2007) establishes and emphasizes its goal to promote sound stewardship of natural resources including wildlife, habitat, fisheries, water, and vegetation resources of significant biological, ecological, aesthetic, and recreational value. The habitat, wildlife and vegetation conservation policies incorporated in the General Plan to support this goal are outlined below.

- R.1.A Policy: Be stewards of important wildlife and biological habitats within the Town's municipal boundary.
- R.1.B Policy: Development shall be stewards of Special Status plant and animal species and natural communities and habitats.
- R.1.C Policy: Prior to Development, projects shall identify and mitigate potential impacts to site-specific sensitive habitats, including special status plant, animal species and mature trees.
- R.1.D Policy: Be stewards of primary wildlife habitats through public and/or private management programs. For example, construction of active and passive recreation and development areas away from the habitat.
- R.1.E Policy: Support fishery management activities.

- R.1.F Policy: Support education, interpretive programs and facilities offered by the Department of Fish and Game, Mono County Fisheries Commission, and other appropriate entities.
- R.1.J Policy: Live safely with Wildlife within our community.

(12) Mono County General Plan

Whitmore Park is a Town-operated facility, but lies within unincorporated Mono County. One of the goals of the Mono County General Plan is to “maintain an abundance and variety of vegetation, aquatic and wildlife types in Mono County for recreational use, natural diversity, scenic value, and economic benefits” (Mono County 1993). This goal is accomplished through a number of policies including the following:

- Future development shall mitigate impacts to biological resources to a level of less than significant or avoid potential significant impacts.
- Threatened and endangered plants and wildlife and their habitats shall be protected and restored.
- Native plants, sensitive plants, and plants “of exceptional scientific, ecological, or scenic value” shall be protected and restored.
- Construction activities shall be prohibited in sensitive habitats prior to environmental review.
- Soil conservation practices shall be utilized during construction.
- The acquisition of valuable wildlife habitat by land conservation organizations or federal or State land management agencies shall be encouraged.
- OHV use shall be restricted in valuable habitats.
- Water quality for fishery habitat shall be maintained by enforcing the policies of the Conservation/Open Space Element of the Mono County General Plan
- Efforts shall be made to regulate in-stream flows and lake levels for the purposes of maintaining fisheries and other riparian-dependent biological resources.
- Efforts shall be made to manage fisheries “in accordance with their biological capabilities.”
- Non-consumptive use of existing fisheries shall be promoted.
- Efforts to support the reintroduction of trout in appropriate locations shall be made.
- CDFG fish stocking efforts shall be supplemented with a “county-supported stocking program.”

(13) Upper Owens River Watershed Management Plan

In March, 2007, through funding provided by a grant from the State Water Resources Control Board, Mono County and The Mono County Collaborative Planning Team completed the Upper Owens River Watershed Management Plan. Goals of the Upper Owens River Watershed Management Plan include maintaining and improving the aquatic habitat of Hot Creek and Mammoth Creek, maintaining existing wetlands, and maintaining and improving riparian habitat. Potential actions to facilitate these goals include the following:

- Guide development away from wetland margins and do not develop wetland areas
- Explore opportunities for land trades with areas of lesser quality habitat

- Suggest conservation easements on wetland parcels
- Remove and improve roads in riparian areas,
- Remove nonessential stream crossings, and remove development from riparian zones
- Restore degraded riparian areas

(14) Special Interest Species

The CDFG, U.S. Fish and Wildlife Service (USFWS), local agencies, and special interest groups, such as the California Native Plant Society (CNPS) publish watch lists of declining species. Species on these lists are a part of the special interest species assessment. Special interest species, species of concern, and candidates for state and/or federal listing are also included in the special interest species discussion.

Inclusion of species described in this analysis is based on the following:

- Direct observation of the species or its sign in the Project Area or immediate vicinity during surveys conducted for this study or reported in previous biological studies;
- Sighting by other qualified observers;
- Record reported by the California Natural Diversity Data Base (CNDDDB) published by the CDFG;
- Presence or location of specific species lists provided by private groups (e.g., CNPS); or
- Site lies within known distribution of a given species and contains appropriate habitat.

(15) Protected Bird Species

Most bird species are protected under the federal Migratory Bird Treaty Act (MBTA), as mentioned above, and under Sections 3503, 3503.5, and 3800 of the California Fish and Game Code. It is unlawful to take, possess, or needlessly destroy any bird of prey or the nests or eggs of any kind of bird species except as otherwise provided in the CDFG Codes and regulations. Disturbance of any active bird nest during the breeding season is prohibited. Disturbances at the active nesting territories should be avoided during the nesting season; typically, April 1 through August 31 in the Mammoth Lakes area.

b. Existing Conditions

(1) Vegetation and Wildlife

The following provides a discussion of the existing vegetation and wildlife resources found in the Project Area. Figure 9, *Vegetation Map*, of the BRA (see Appendix E of this Draft EIR) illustrates the general distribution of vegetation types throughout the Project area.

(a) Vegetation Communities

Vegetation within the Project Area consists of individual or mixed plant communities. The reader should note that due to the scale of the Project the following descriptions summarize the basic characteristics and constituent species of plant communities as stand-alone elements. In cases where two or three of these communities are mixed, the vegetation shares characteristics and constituent species from each of the

component parts. A summary of each major vegetation community, including descriptions of their characteristic distribution within the Project area, is provided below.

Aspen Forest and Aspen Woodland

Aspen forest consists of dense groves of quaking aspen (*Populus tremuloides*) as the sole or dominant tree in the tree canopy. Trees grow to 20 meters in height. The understory in this community typically is sparse, but includes a variety of small shrubs and herbaceous perennials. Scrubby quaking aspen thickets may occur at the edges in areas of relatively dry soil or at high altitudes. Additional species observed in this community

include mountain snowberry (*Symphoricarpus rotundifolius*), interior rose (*Rosa woodsii* var. *ultramontana*), mountain alder (*Alnus incana*), ranger's buttons (*Sphenosciadium capitellatum*), common yarrow (*Achillea millefolium*), wax currant (*Ribes cereum*), Sierra onion (*Allium campanulatum*), meadow goldenrod (*Solidago canadensis* ssp. *elongata*), and narrow-leaved willow (*Salix exigua*).

Aspen woodland consists of quaking aspen as the sole or dominant tree in the tree canopy. In contrast to aspen forests, trees in aspen woodland tend to be less than 35 meters in height with an intermittent or open canopy. This plant community characteristically occurs at elevations between 1500 meters and 3000 meters in depressions and swales, on slopes, at meadow margins, along stream corridors, and on colluvial toe slopes where soils are typically deep, well developed, and seasonally or permanently saturated. Consequently, stands of aspen forest and aspen woodlands are found scattered throughout the Project area. Additional species observed included willow (*Salix* spp.), lodgepole pine (*Pinus contorta* ssp. *murrayana*), white fir, mountain alder, common yarrow, ranger's buttons, mountain snowberry, sticky cinquefoil (*Potentilla glandulosa*), mountain meadow rue (*Thalictrum fendleri*), and scarlet gilia (*Ipomopsis aggregata*).

For the purpose of this assessment, the terms "forest" and "woodland" are used to describe quaking aspen dominated vegetation types as a whole.

Great Basin Sagebrush Scrub

Great Basin sagebrush scrub consists of mostly soft-woody shrubs usually with bare ground underneath and between shrubs. This plant community typically grows at elevations between 300 meters and 3000 meters on plains, alluvial fans, pediments, lower slopes, and valley bottoms, and along seasonal and perennial stream channels, and dry washes. It is most abundant on the broad valley floor in the Snowcreek and Sherwin Creek area; however, it can be found throughout most lower elevation areas within the Project area. Great Basin sagebrush (*Artemisia tridentata*) is the dominant species of this plant community, and growth occurs mostly in late spring and early summer. This plant community is dormant during the winter and occurs on a wide variety of soils and terrain, from rocky, well-drained slopes to fine-textured, valley soils with a high water table. Characteristic species include Great Basin sagebrush, four-wing saltbush (*Atriplex canescens*), rubber rabbitbrush (*Chrysothamnus nauseosus*), Idaho fescue (*Festuca idahoensis*), antelope bitterbrush (*Purshia tridentata*), and elymus (*Elymus cinereus*).

Conifer Forest

Conifer forest consists of an open to dense forest of coniferous evergreens up to 75 meters in height. Within the basic conifer forest classification there are various alliances that are dominated by individual species, and the forest type. In mixed conifer forest dominant species within the Project Area include lodgepole pine,

white fir, western white pine (*Pinus monticola*), and Jeffrey pine. Lodgepole pine and Jeffrey pine are most commonly the dominants or co-dominants; however, there is considerable mixing of all of the above mentioned species of pines. The understory typically consists of scattered broadleaved mesophytic shrubs and small trees. Species characteristic of this community may also include currant (*Ribes* spp.), manzanita (*Arctostaphylos* sp.), chinquapin (*Chrysolepis sempervirens*) and California lilac (*Ceanothus* spp.). Conifer forest within the Project area occur on a wide variety of slopes and aspects, on ridges and terraces, as well as in depressions. These forests are common throughout the Town environs and on the upper slopes within the Sherwin area.

Conifer forest predominates much of the landscape within the Project area. Jeffrey pine forest is characterized as a tall, open forest dominated by Jeffrey pine (*Pinus jefferyi*) with sparse understories of either montane chaparral or Great Basin sagebrush scrub. This community occurs on dry, cold sites, especially on well-drained slopes, ridges, or cold air accumulation basins up to approximately 2900 meters. Characteristic species include Jeffrey pine (dominant), Great Basin sagebrush, antelope bitterbrush, huckleberry oak (*Quercus vaccinifolia*), and snowberry. Lodgepole pine forest is characterized by dense forest of slender trees up to 40 meters tall dominated by lodgepole pine. More open stands also occur within drier sites where trees reach 20 meters tall. Dense stands of lodgepole pines typically have a sparse understory with small shrubs and perennial herbs occurring within the forest openings. Lodgepole pine forest typically occurs at elevations between 1500 meters and 3400 meters with cool, dry summers and long winters with abundant snowfall. This community tolerates a variety of soil conditions and moisture levels; however, it most commonly occurs on rocky, well-drained soils. Characteristic species include lodgepole pine (dominant), quaking aspen, cinquefoil (*Potentilla* sp.), heather (*Phyllodoce* spp.), and wintergreen (*Pyrola* spp.)

Mixed Willow Riparian Scrub

Mixed willow riparian scrub consists of a relatively open to dense shrubby streamside thicket consisting of a mixture of willow species as the dominant species in the shrub canopy. Species observed in this community on-site included arctic willow (*Salix arctica*), narrow-leaved willow (*Salix exigua*), Lemmon's willow (*Salix lemmonii*), shining willow (*Salix lucida* ssp. *lasiandra*), yellow willow (*Salix lutea*), and tea-leaved willow (*Salix planifolia*), corn lily (*Veratrum californicum*), fireweed (*Epilobium angustifolium*), spike mallow (*Sidalcea oregano* ssp. *spicata*), western blue flag (*Iris missouriensis*), common monkeyflower (*Mimulus guttatus*), mountain snowberry, meadow goldenrod (*Solidago canadensis* ssp. *elongata*), common yarrow, and horse-mint (*Agastache urticifolia*). This plant community occurs throughout the eastern Sierra Nevada up to elevations of approximately 3800 meters. It requires seasonally or perennially saturated soils and, consequently, is found along many of the larger and tributary drainages in the Project area, as well as at the margins of wet meadows.

Montane Wet Meadow

Montane meadow vegetation is characterized by a dense growth of sedges and other perennials herbs. Typically, it occurs between 1200 meters and 2600 meters. The main growth period for this plant community is from late spring through summer with a dormancy period in the winter. This community occurs on fine-textured, somewhat permanently moist or wet soils. Montane meadows are often a successional stage in the filling of lakebeds with soil and often are characterized by young trees encroaching from the margins. Within the Project area, it may be found in many areas where springs and seeps occur, at lake margins, but is concentrated in the broad valley bottom adjacent to Snowcreek.

Plant species observed within this community in the project area included epilobium (*Epilobium ciliatum*), smoothstem willow-herb (*Epilobium glaberrimum*), fireweed, corn lily, wandering daisy (*Erigeron peregrinus* var. *hirsutus*), sedge, Kelly's tiger lily (*Lilium kelleyanum*), leopard lily (*Lilium pardalinum*), yampah (*Perideridia parishii* ssp. *latifolia*), arrow-leaf butterweed (*Senecio triangularis*), meadow goldenrod, western blue flag, Sierra rein orchid (*Platanthera leucostachys*), monkshood (*Aconitum columbianum*), swamp onion (*Allium validum*), meadow paintbrush (*Castilleja miniata* ssp. *miniata*), Brewer's mitrewort (*Mitella breweri*), cow parsnip (*Heracleum lanatum*), sticky cinquefoil, mountain meadow rue, rush, horsetail (*Equisetum* sp.) common monkeyflower, slender cinquefoil (*Potentilla gracilis*), common yarrow, elephant's head (*Pedicularis groenlandica*), spike mallow, dented silk-moss (*Plagiothecium denticulatum*), common green bryum moss (*Bryum pseudotriquetrum*), ribbed bog moss (*Aulacomnium palustre*), and water speedwell (*Veronica anagallis-aquatica*).

Montane Chaparral

Montane chaparral is associated with mountainous terrain from mid to high elevations at 900 to over 3,000 meters. It occurs throughout the mountain ranges in southern California and in the Sierra Nevada and Cascade mountain ranges in central and northern California. Montane chaparral can be found on shallow to deep soils, on all exposures, and from gentle to relatively steep slopes. It may dominate on more xeric sites, but occurs locally throughout the coniferous zone. The growth form of montane chaparral plant species can vary from tree-like to prostrate. When mature, it generally becomes extremely dense. The composition of montane chaparral varies markedly throughout California, depending on elevation, geography, soil type, and slope aspect. In the Mammoth Lakes region dominant species include manzanita (*Arctostaphylos nevadensis* and *A. patula*), lilac (*Ceanothus cordulatus*, *C. interrimus*, and *C. velutinus*), and cherry (*Prunus emarginata*). Montane chaparral may be found throughout the Project area, but is most abundant on the lower and upper mountain slopes in the Sherwin area where it forms a mosaic with conifer forest.

Developed and Disturbed

Developed and disturbed habitats are found throughout the Town and along roads. While native trees, shrubs and groundcovers may occur, the predominant cover is hardscape surfaces, bare ground, non-native plants, and ornamental plantings.

(b) Wildlife

The plant communities discussed above provide wildlife habitat. Following are discussions of wildlife populations within the Project Area, segregated by taxonomic group. Representative examples of each taxonomic group either observed or expected within the Project Area are provided. Wildlife species actually observed, as well as those expected to be present, are listed in Appendix A, *Plant and Wildlife Species Compendium*, of the BRA (see Appendix E of this Draft EIR). Special status wildlife species are discussed below.

Invertebrates

Focused surveys for common invertebrate species were not conducted; however, the Project Area would be expected to support populations of a diverse assortment of invertebrates due to the number of diverse plant communities on-site.

Fish

Focused surveys for fish species were not conducted by PCR, but have been conducted for areas within the Project Area since 1992 excluding 1998 (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009). The following species have been detected within the Project Area during these surveys: brown trout (*Salmo trutta*), rainbow trout (*Oncorhynchus mykiss*), and brook trout (*Salvelinus fontinalis*).

Amphibians

Terrestrial amphibian species may or may not require standing water for reproduction. Terrestrial species avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Due to their secretive nature, terrestrial amphibians are rarely observed, but may be quite abundant if conditions are favorable. Aquatic amphibians are dependent on standing or flowing water for reproduction. Such habitats include fresh water marshes and open water (reservoirs, permanent and temporary pools and ponds, and perennial streams). Many aquatic amphibians will utilize vernal pools as breeding sites. These pools are temporary in duration and form following winter and spring rains.

Mammoth Creek, portions of the Bodle Ditch, and most of the lakes found in the Mammoth Lakes area contain water perennially. The Yosemite toad was observed in a meadow west of Lake Mary during focused surveys conducted by David Martin of Canorus Ltd. in 2009 (Martin 2009). The project area has the potential to support a few amphibian species including Sierran treefrog (*Pseudarcis sierra*) and western toad (*Bufo boreas*). Of note, the Sierran treefrog is a USFS Management Indicator Species (MIS) associated with wet meadow and freshwater emergent wetland habitats for the Sierra Nevada Forests (USDA Forest Service 2008a). However, during Martin's 2009 surveys throughout the Mammoth Lakes Basin, this species was found or detected only around Lake Mary and Twin Lakes. None were found or detected along Mammoth Creek or in Mammoth Meadows (e-mail communication from D. Martin to L. Robb of PCR, January 25, 2010). Martin also noted that the staff at the Valentine Reserve have seen "one or two in some 20 years". Therefore, significant populations of the Sierran treefrog are not expected within the Project Area.

Reptiles

Reptiles, as a group, occupy a much broader spectrum of habitats than amphibians. Reptilian diversity and abundance typically varies with habitat type and character. Some species prefer only one or two natural communities; however, most will forage in a variety of communities. A number of reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather.

One reptile species, mountain garter snake (*Thamnophis elegans*) was observed within the Project Area. Several species have the potential to occur on-site. These include rubber boa (*Charina bottae*), Sierra alligator lizard (*Elgaria coerulea*), Sierra fence lizard (*Sceloporus occidentalis*), and sagebrush lizard (*Sceloporus graciosus*).

Birds

The riparian and forest habitats within the Project Area provide foraging and cover habitat for year-round and seasonal residents. Bird species detected during the site visit included turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), northern flicker (*Colaptes auratus*), hairy woodpecker (*Picoides villosus*), olive-sided flycatcher (*Contopus cooperi*), western wood-pewee (*Contopus sordidulus*), cliff swallow (*Petrochelidon pyrrhonota*), violet-green swallow (*Tachycineta thalassina*), black-billed magpie (*Pica hudsonia*), American robin (*Turdus migratorius*), black-headed grosbeak (*Pheucticus melanocephalus*), western tanager (*Piranga ludoviciana*), dark-eyed junco (*Junco hyemalis*), fox sparrow (*Passerella iliaca*), green-tailed towhee (*Pipilo chlorurus*), red-winged blackbird (*Agelaius phoeniceus*), brown-headed cowbird (*Molothrus ater*), common grackle (*Quiscalus quiscula*), pine siskin (*Carduelis pinus*), Stellar's jay (*Cyanocitta stelleri*), Brewer's blackbird (*Euphagus cyanocephalus*), Clark's nutcracker (*Nucifraga columbiana*), mountain chickadee (*Poecila gambeli*), and American crow (*Corvus brachyrhynchos*).

Several additional species have the potential to occur in the Project Area. These include (but are not limited to) American kestrel (*Falco sparverius*), mountain quail (*Oreortyx pictus*), great horned owl (*Bubo virginianus*), belted kingfisher (*Ceryle alcyon*), brown creeper (*Certhia americana*), mountain bluebird (*Sialia currucoides*), orange-crowned warbler (*Vermivora celata*), yellow-rumped warbler (*Dendroica coronata*), yellow warbler (*Dendroica petechia*), and Wilson's warbler (*Wilsonia pusilla*). As noted previously, yellow warbler may occur on-site. This is a MIS associated with montane riparian and valley foothill riparian habitats for the Sierra Nevada Forests (USDA Forest Service 2008a).

Mammals

Most mammals are either nocturnal, reclusive, or both, and are more often detected by their sign, denning sites, etc., or through live-trapping (rodents). Mammals observed within the project area by sight, scat, tracks, or other means, include the mule deer (*Odocoileus hemionus*), snowshoe hare (*Lepus americanus*), Botta's pocket gopher (*Thomomys bottae*), western gray squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), golden-mantled ground squirrel (*Spermophilus beecheyi*), chipmunk (*Tamias* sp.), and black bear (*Ursus americanus*).

Several additional species have the potential to occur in the Project Area. These include (but are not limited to) broad-footed mole (*Scapanus latimanus*), big brown bat (*Eptesicus fuscus*), northern flying squirrel (*Glaucomys sabrinus*), lodgepole chipmunk (*Tamias speciosus*), deer mouse (*Peromyscus maniculatus*), coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), long-tailed weasel (*Mustela frenata*), American marten (*Martes americana*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*). As noted previously, mule deer was detected within the Project Area and American marten may be present as well. Mule deer is a MIS associated with montane hardwood and montane hardwood-conifer habitats for the Sierra Nevada Forests, and American marten is a MIS associated with ponderosa pine, Sierran mixed conifer, white fir, and red fir habitats (USDA Forest Service 2008a).

(c) Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger

and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because such conditions preclude the USFS infusion of new individuals and genetic USFS information into isolated populations (MacArthur and Wilson 1967, Soule 1987, Harris and Gallagher 1989, Bennett 1990).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds, on a "local" level to many square mile home ranges of large mammals moving at a "regional" level.

Local scale wildlife movement likely occurs within the Project Area as well as its surrounding vicinity. The Project Area contains habitat that supports a variety of common species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species may be entirely contained within the Project Area and immediate vicinity. Numerous populations of insects, amphibians, reptiles, small mammals, and a few bird species may find all of their resource requirements within the project area and its immediate vicinity. Riparian areas and other natural landscape features located in and around the project area can serve as natural guides for wildlife along travel routes (Hilty, et al. 2006). Local movement by small and medium-sized mammals such as California ground squirrel, Botta's pocket gopher, deer mouse, long-tailed weasel, American marten, and gray fox may occur within the project area. Occasionally, individuals expanding their home range or dispersing from their natal range will attempt to disperse from the project area.

It is also possible for migratory individuals to utilize the Project Area for cover and water resources. The Round Valley and Casa Diablo Mule Deer Herds are known to use areas in the vicinity of the Project Area for portions of their migrations from winter ranges in the lowlands to summer ranges within the higher elevations of the Sierra Nevada. The deer migratory routes are illustrated in Figure 10, *Deer Migration Routes*, of the BRA (see Appendix E of this Draft EIR). Predators, such as the mountain lion have also been known to make migrations that directly correlate temporally and spatially with those of mule deer in the region (Pierce, et al. 1999).

Mule deer

Although not considered a sensitive wildlife species, mule deer are considered an important harvest species by the CDFG. The Town of Mammoth Lakes is located within the Eastern Sierra Nevada Deer Assessment Unit. Deer populations within the Town of Mammoth Lakes consist of Rocky Mountain mule deer from the Round Valley and Casa Diablo herds. Some deer from both herds use the Doe Ridge area throughout the summer. These herds are migratory. Deer herd management plans were prepared by the CDFG in the mid 1980's for both herds. Management objectives include enhancing important winter, holding, migratory, and fawning habitats. Migratory movements occur over a six to ten week period. Deer begin their spring migration in April or May after occupying holding areas to feed and regain strength lost over the winter. When the snow recedes and forage is available at their higher elevation summer ranges (usually mid-June), they migrate to these areas.

The Round Valley herd range encompasses approximately 2,000 square miles and includes the west slope of the Sierra Nevada to the San Joaquin Ridge. The Mammoth Pass herd segment of the Round Valley herd uses

a route that heads westerly below Mammoth Rock, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River Drainage (PCR 2005). The Project Area is located within the Mammoth Lakes Basin.

The Casa Diablo herd's winter range includes the lower elevations near Benton, California to the north end of Owen's Valley. Some deer from this herd migrate across Doe Ridge towards their summer range on the higher elevations of the eastern Sierra Nevada (between June Lake and Lee Vining). The Mammoth Lakes Basin, which is located south-southeast of the project area, is utilized as a migratory corridor and holding area by the Round Valley Herd. The Casa Diablo Herd utilizes an area approximately 8 to 9 miles to the northwest of the Project Area and 6 to 7 miles north of the town of Mammoth Lakes (Jones and Stokes 1999).

Approximately 75 percent of the Round Valley Herd leaves their wintering grounds in the Round Valley, which is located approximately 20 miles southeast of the Project Area, to migrate in a northerly direction along the toe of the Eastern Sierra to the Mammoth Lakes Basin (Taylor 1996). The herd utilizes the Mammoth Lakes Basin as a holding area for approximately eight weeks while they forage and wait for winter snows to recede from the mountain passes. Following the snowmelt, some deer leave the approximately 11,300-acre holding area to traverse over the Mammoth Crest via McGee, Hopkins, Solitude, Mammoth, and San Joaquin passes to their preferred summering grounds in the Sierra Nevada between the Sierra Nevada's western slope and the San Joaquin Ridge (Town of Mammoth Lakes 2005). Those deer that do not continue their migration beyond the Mammoth Lakes Basin remain there until the herd makes its way back to the Round Valley in the fall months (Town of Mammoth Lakes 2005).

The Town of Mammoth Lakes 2007 General Plan Update identifies three distinct migration corridors for the Round Valley Herd, which occur within the vicinity of the Project Area (see the BRA, Figure 10, *Deer Migration Routes*, in Appendix E of this Draft EIR):

1. The Solitude Pass/Duck Lake herd segment leaves the holding area and migrates to summer ranges through the Solitude Pass located in the Sherwin Range, and Duck Pass located approximately three (3) miles south of the holding area.
2. The Mammoth Pass herd segment of the Round Valley Herd migrates along a route that heads westerly below Mammoth Rock, passes through the Mammoth Lakes Basin, and then crosses over Mammoth Pass into the Middle Fork of the San Joaquin River Drainage.
3. The San Joaquin herd segment migrates across the Sierra crest over San Joaquin Ridge between Minaret Summit and Deadman Pass from the western portion of the holding area.

A fairly consistent timeline of movement is generally observed for the Round Valley Herd's annual migration. Interannual temporal variability does occur, however, with respect to migrations. Variability in migration timing is generally dependent on environmental factors that affect food and habitat requirements (French, et al. 1989). The Round Valley Herd begins to appear in the Mammoth Lakes Basin during the spring. Migrants typically occupy the basin from April through June. Around mid-June most deer that are going to continue

their journey to summering grounds in the higher elevations of the Sierra have left the Mammoth Lakes Basin. Not all deer continue on to the higher elevations. Some choose to spend their summers in and around

the holding area (Carey, et al. 2004). The Round Valley Herd will begin to return to its wintering grounds in the fall months as temperatures drop and snow begins to accumulate.

The Mammoth Lakes Basin holding area represents the point where migration associated areas are most closely located to the Project Area. Deer from the Round Valley Herd generally occupy an area south and west of U.S. Route 395, and between Tobacco Flats to the east and Mammoth and Sherwin Creeks to the west. This area is known as the Sherwin Holding Area. The close proximity of these two areas presents a high likelihood for members of the Round Valley Herd to occur within the Project Area during the spring through fall months.

Mountain Lion

Mountain lions were once the broadest ranging terrestrial mammals in the western hemisphere (Logan and Sweanor 2001), ranging from British Columbia to southern Chile and Argentina, and from coast to coast in North America (NatureServe, 2006). As time has passed, land use changes, extermination campaigns, and hunting pressure have diminished the geographic range of the mountain lion to rocky, mountainous, and relatively unpopulated areas (Currier 1983, Logan and Sweanor 2001).

A wide range of habitats, including swamps, riparian woodlands, and open space with ample brush and/or woodland cover, are utilized by mountain lions throughout their range. This highly adaptable species is found in North America between sea level and approximately 11,500 feet above MSL (NatureServe 2006).

Mule deer make up the bulk of the mountain lion's diet throughout North America. Some experts have observed mule deer constituting over 90 percent of a mountain lion's diet (Logan and Sweanor 2001). This rate has been known to vary between seasons (Currier 1983). Small to medium sized mammals, birds, and reptiles are also opportunistically consumed by mountain lions (Pierce, et al. 2000).

Home range figures are highly variable throughout the mountain lion's range with males typically utilizing larger home ranges than females. Pierce, et al. (1999) documented home ranges between 425 km² and 817 km² (164 miles² and 315 miles²) for mountain lions in the Round Valley area of California. Mountain lions are generally solitary in nature, but home ranges have been known to overlap (Sweanor, Logan, and Hornocker 2000).

Pierce, et al. (1999) observed an interesting connection between mountain lion home range size and behavior of their prey. Mountain lions from the Round Valley that primarily preyed on migratory mule deer had home ranges that rarely changed over time. Contrastingly, mountain lions that primarily preyed on non-migratory mule deer tended to make seasonal migrations that corresponded to mule deer movements, both spatially and temporally. Home ranges for mountain lions that were contiguous throughout the year were larger than those with distinct summer and winter ranges.

The Round Valley mountain lion population exhibited two different modes of migration. Some lions tended to move rather slowly along the deer herd's migratory route, but did not show signs of having a discontinuous home range. Other lions moved more rapidly and had distinct summer and winter ranges that mirrored those of the Round Valley Herd.

Mountain lions that followed the migration of the Round Valley Herd to the Sherwin Holding Area have a high potential to occur within the Project Area. Logan and Sweanor (2001) documented transient behavior in numerous mountain lion populations. They also describe the possibility of mountain lions making the change from transient behavior to territorial multiple times throughout its life. Transient behavior, as described by Logan and Sweanor, usually occurs because of one or a combination of four potential conditions: (1) population isolation; (2) an extremely low, patchy, or migratory food base; (3) an extremely diffuse mountain lion population; and (4) inability to compete. If transient lions make their way into the Sherwin Holding Area it is possible that they could wander into the Project Area in search of food, mates, or establishment of a new home range.

Nesting Birds

For the purpose of this EIR analysis, nesting birds are considered migratory and therefore, fall under the category of wildlife movement.

(d) Jurisdictional Waters and Wetlands

In California, certain drainage features and the associated riparian resources fall under the regulatory jurisdiction of the ACOE, RWQCB, and CDFG. These features can include: perennial, intermittent and ephemeral streams; lakes, ponds, and other impounded water bodies; and wet meadows and wetlands. Whereas the ACOE and RWQCB use the ordinary high water mark to determine their jurisdiction, CDFG may include the bed, banks and associated riparian habitat within its jurisdiction. There are numerous jurisdictional features throughout the Project area. Most notably, Mammoth Creek and its tributaries are regulated by one or more of the above mentioned agencies.

(e) Sensitive Species and Habitats

The following sections indicate the habitats, as well as plant and animal species, present or potentially present in the Project Area that have been afforded special recognition. Sources used to determine the potential occurrence of special status resources in the vicinity of the site include USFWS (2009), USFS, USFS (2006 and 2008b), CNPS (CNPS 2009), CNDDDB (CNDDDB 2009a), and CDFG 2009a, 2009b, 2009c and 2009d).

Special-Status Wildlife Species Within the Project Area

Sensitive wildlife species include those species listed as endangered or threatened under the federal ESA or CESA, candidates for listing by USFWS or CDFG, and SSC to the CDFG. In addition, species considered sensitive by the USFS (USFS) have also been included and analyzed in this document to provide a comprehensive list of species.

A number of sensitive wildlife species were reported in the CNDDDB as occurring in the vicinity of the project area. These species are included in Table 4, *Sensitive Wildlife Species*, in the Project's BRA (Appendix E of this Draft EIR), which provides a summary of the sensitive wildlife species occurring or potentially occurring within the Project Area based upon their known geographic ranges, distributions, and preferred habitats. The majority of these species are not expected to be present due to a lack of suitable habitat.

In addition, several wildlife species listed as sensitive by the USFS (USFS) may occur within the general bioregional location of the Project Area. Sensitive wildlife species for the USFS are also included Table 4 in the BRA (Appendix E of this Draft EIR).

Focused surveys for fish species have been conducted for areas within the vicinity of the Project Area since 1992 excluding 1998 (Beak Consultants Inc. 1992, 1993, 1994; Sierra Nevada Aquatic Research Laboratory 1995, 1997; KDH 1998, 2001, 2002, 2003, 2004 2006; Horseshoe Canyon Biological Consultants 1999; Thomas R. Payne & Associates 2006, 2007, 2009). No sensitive fish have the potential to occur within the Project Area.

Special-Status Plant Communities and Plant Species Within the Project Area

The Project Area supports plant communities considered sensitive by the CDFG's CNDDDB due to their scarcity and/or because they support state and/or federal listed endangered, threatened, or rare vascular plants and animals. These communities are considered highest-inventory priority communities by the CDFG, indicating that they are declining in acreage throughout their range due to land use changes. These communities are described previously and include montane wet meadow, aspen forest and woodland, and willow scrub, and any mixed community comprised in part by one of these plant communities. These communities constitute wetland and riparian natural communities.

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFG, and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2). Several sensitive plant species were reported in the CNDDDB from the Project vicinity, and several were determined to be potentially present in the Project Area through the literature review. A discussion of each sensitive plant species observed, as well as those potentially present within the project area, is presented in Table 5, *Sensitive Plant Species*, of the BRA (see Appendix E of this Draft EIR).

On July 20 and August 9, 2010, a field survey was conducted by USFS for the areas potentially impacted by trail connection development for the Panorama Dome trailhead and the borrow pit staging area to Mammoth Rock Trail, Mammoth Creek Park East, and Tamarack Street Trailhead (SHARP Project nos. 3, 6, 712b, and 13). No sensitive, threatened, endangered, or proposed-for-listing plant species were located during these surveys. It was determined, however, the potential habitat for sensitive and listed species does exist in Kerry Meadow.

Plant species listed as sensitive by the USFS may occur within the general bioregional location of the Project Area; however, several of these species are not expected to be present due to a lack of suitable habitat and/or restricted elevation range or distribution. All USFS (USFS) plant species are also included in Table 5 of the BRA.

(f) Critical Habitat

The Project Area is not within designated critical habitat for any listed plant or wildlife species.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Approach

The EIR summarizes information gained from the BRA's analysis of both direct and indirect impacts. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e.,

vegetation or plant communities), which, in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of no or low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or eventual habitation/operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites. Such impacts include increased pollutant discharges to receiving water bodies such as wetlands or marine environments, harassment by humans and/or their pets, light and glare, or increased ambient noise levels.

The determination of impacts in this analysis is based on both the features of the Project and the biological values of the habitat and/or sensitivity of plant and wildlife species potentially affected. The Goals and Objectives of the TSMP that avoid, preserve, or restore biological resources are taken into consideration and specifically described below prior to the assessment of potential adverse impacts.

Those direct and indirect impacts determined to be less than significant include impacts to biological resources that are relatively common or exist in a degraded or disturbed state, rendering them less valuable as habitat, or impacts that do not meet or exceed the significance thresholds defined below. Those impacts determined to be significant are those that do meet the thresholds of significance defined below. Conclusions are based on both the features of the proposed project and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Specific considerations included the overall size of habitats to be affected, the Project Area’s previous land uses and disturbance history, the Project Areas surrounding environment and regional context, the Project Area’s biological diversity and abundance, the presence of sensitive and special-status plant and wildlife species, the Project Area’s importance to regional populations of these species, and the degree to which habitats within the Project Area are limited or restricted in distribution on a regional basis and, therefore, are considered sensitive in themselves.

In addition to new trails alignments, the TSMP considers street crossing improvements and new on-street bikeways. Since these improvements will generally be located within existing roadways and disturbed areas, it is concluded that they will not affect biological resources; therefore, they are not analyzed in this assessment. As also noted earlier, the impact analysis for this assessment is programmatic for all Project features except the Priority Projects, which are analyzed in as much detail as possible. In order to accommodate this varying degree of specificity and the multi-faceted nature of the Project, the following impact analysis is organized into four primary sections. The first, 5.3.1 Potential Direct and Indirect Impacts, discusses potential impacts, by topical area, that could be associated with any one or more of the Project components, whether it be a new trail, park improvement, or other recreation facility. As such, the discussions under this heading are generic in nature and should be viewed in a programmatic context.

More specific impact determinations are then discussed under Subsection (b) Trail System Master Plan, and Subsection (c) Sharp Projects Impact Determination. In each case, specific Project components are assessed

with regard to the impact types discussed under Potential Direct and Indirect Impacts. Although this analysis does address individual project components in greater detail, many of the alignments proposed are conceptual in nature, and are expected to undergo additional refinement as they are implemented.

This assessment of biological resources is based on USFS information compiled through field reconnaissance conducted by PCR Services Corporation (PCR) and LSA Associates (LSA) biologists, and the review of applicable reference materials. In addition, USFS biologists provided PCR with the results of sensitive plant surveys they conducted in the areas of various trail segments.

(2) Literature Review

This EIR summarizes information gained from the literature review performed for the BRA. The study began with a literature review that was conducted to determine special interest plant and animal species known to occur in the proposed project vicinity. Database records for *Mammoth Lakes*, *Whitmore Hot Springs*, *Convict Lake* and *Bloody Mountain*, California USGS 7.5-minute quadrangles were reviewed on March 24, 2011 using the California Department of Fish and Game ("CDFG") Natural Diversity Data Base application *Rarefind* and the California Native Plant Society ("CNPS") *Electronic Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2010). Federal register listings, protocols, and species data published by the United States Fish and Wildlife Service ("USFWS") and CDFG were reviewed in conjunction with anticipated federally and state listed species potentially occurring within the vicinity. USFS information pertaining to sensitive species provided by the USFS was also reviewed. In addition, several regional flora and fauna field guides were utilized to assist in the identification of species and suitable habitats (e.g., Weden 2005 and Laws 2007). Additional documentation relevant to the project area was also reviewed and is listed in the BRA (see Appendix E of this Draft EIR).

(3) Field Investigations

This EIR summarizes information gained from field surveys performed for the BRA. Field surveys began on July 3rd, 5th and 6th, 2009, by LSA Biologists Wendy Walters and Sarah Barrera who focused on the TSMP. Notes were taken regarding general site conditions, vegetation, potential jurisdictional areas of the ACOE and CDFG, and suitability of habitat for various special interest elements. A field reconnaissance of the Sherwin area was conducted by PCR Biologist Steve Nelson on August 31 and September 1, 2010. The primary focus of PCR's field work was to characterize the vegetation and habitats in the area of the SHARP projects. Here again, notes were taken on general site conditions, vegetation, areas of potential jurisdiction, and sensitive species habitat evaluations.

(a) Plant Community Mapping

Vegetation community classifications used in the BRA follow a basic classification system that is considered appropriate for the scale of the proposed Project. In addition, a generalized vegetation map was prepared for the BRA using data obtained from the California Department of Forestry and Fire Protection.

(b) General Plant Inventory

All plant species observed during surveys by LSA and PCR were either identified in the field or collected and later identified using taxonomic keys. Plant taxonomy follows Hickman (1993). Common plant names, when not available from Hickman, were taken from Munz (1974) and McAuley (1996). Because common names

vary significantly between references, scientific names are included upon initial mention of each species; common names consistent throughout the report are employed thereafter. All plant species observed are included in Appendix A, *Floral and Faunal Compendium*, of the BRA (see Appendix E of this Draft EIR).

(c) Sensitive Plant Surveys

Sensitive plants include those listed by the USFWS, CDFG, and CNPS (particularly Lists 1A, 1B, and 2). No focused sensitive plant surveys were conducted by either LSA or PCR. However, certain segments of the trail system were surveyed by USFS Botanists Kristen Dutcher, Paul Satterthwaite, and Sue Weis. The results of their findings are incorporated herein where appropriate, particularly with regard to the priority projects.

(d) General Wildlife Inventory

All wildlife species observed within the Project Area, as well as diagnostic sign (call, tracks, nests, scat, remains, or other sign), were recorded in field notes by both LSA and PCR. Binoculars and regional field guides were utilized for the identification of wildlife, as necessary. Wildlife taxonomy follows Stebbins (2003) for amphibians and reptiles, the American Ornithologists' Union (1998) for birds, and Jameson and Peeters (1988) for mammals. Scientific names are used during the first mention of a species; common names only are used in the remainder of the text. A list of all wildlife species detected is included in Appendix A, *Floral and Faunal Compendium*, of the BRA (see Appendix E of this Draft EIR).

(e) Sensitive Wildlife Species

No focused surveys for sensitive wildlife species were conducted by either LSA or PCR. Rather, a habitat evaluation of habitat conditions and their suitability to support listed and/or species of concern to federal and State wildlife agencies were performed. This evaluation included an assessment of habitat characteristics and how they fit with the habitat requirements of sensitive species that include the Project Area within their range.

(f) Jurisdictional Waters

A delineation of the potential jurisdictional waters and wetlands was not conducted at the time of LSA's 2009 site visit or PCR's field reconnaissance in 2010. However, areas within each site which may potentially fall under the jurisdiction of ACOE under Section 404 of the CWA or CDFG under Sections 1600 et seq. of the California Fish and Game Code were identified. General site characteristics were noted including presence of any hydrological conditions (including any drainage patterns, surface inundation, or saturated soils) or vegetation potentially indicative of the presence of water for an extended period of time within a site. Soil samples were not collected and wetland data forms were not prepared.

It should be noted, the findings and conclusions presented in the BRA regarding the location and extent of wetlands and other waters subject to regulatory jurisdiction, represent the professional opinions of LSA and/or PCR. These findings and conclusions are to be considered preliminary until verified by the ACOE and CDFG.

(g) Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement in preparation of the BRA is based on USFS information compiled from the literature. Within the past 30 years there have been a number of studies regarding the regional movements of deer herds, and the Town has delineated a deer migration route in its General Plan. As for other species, analysis of aerial photographs and topographic maps was used to determine likely wildlife movement patterns. Relative to corridor issues, the focus of this assessment is to determine if the introduction of trails within the Project Area will have significant impacts on the regional wildlife movement.

b. Thresholds of Significance

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to biological resources. The Initial Study Environmental Checklist questions relating to biological resources have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Threshold 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (refer to Impact Statement 4.C-1).
- Threshold 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service (refer to Impact Statement 4.C-2).
- Threshold 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (refer to Impact Statement 4.C-3).
- Threshold 4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (refer to Impact Statement 4.C-4).
- Threshold 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (refer to Impact Statement 4.C-5).
- Threshold 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (refer to Impact Statement 4.C-6).

c. Analysis of Project Impacts

(1) Sensitive Species

4.C-1 Project elements are proposed within habitats that could support sensitive animal species, a limited number of sensitive plant species, and several special-status plant and wildlife species. In such cases, the loss of habitat and individuals of sensitive species would be considered potentially significant and would warrant mitigation. The analysis has concluded that impacts to these sensitive species would be reduced to a less than significant level with implementation of the prescribed mitigation measures.

(a) Program Level Impacts

Project-related construction activities will involve the creation of new trails in some cases, improvements to existing trails in other cases, and other related improvement such as installation of bridge stream crossings, tunneling under Minaret Road; the project also includes implementation of various park facilities or improvements. In many cases, these activities may require the removal of vegetation and wildlife habitat. Whereas native vegetation and habitat will be lost, it will more often than not be limited in extent and/or will result in the loss of already disturbed or common plant species and habitat types that are relatively abundant in the Mammoth Lakes area. Consequently, impacts associated with most Project elements will be less than significant with regard to the habitat loss for sensitive wildlife. It should be noted, however, that impacts to certain sensitive wildlife species and nesting birds are potentially significant as discussed below.

In total, eight federal/state listed species are known to occur in the Mammoth Lakes region. The USFWS has not designated critical habitat for any of these species within the Project Area. Seven of these species are considered to be absent from the project site due to the lack of suitable habitat or the proposed project site being located outside the known range of the species. One State-listed endangered species, the willow flycatcher (*Empidonax traillii*) has a low to moderate potential to nest in riparian habitat associated with Mammoth Creek and its tributaries. According to the 2007 General Plan, potential habitat for the willow flycatcher occurs along Mammoth Creek directly upstream of U.S. Highway 395 and upstream from the creek's intersection with Minaret Road. Areas where trails improvements are proposed in the vicinity of Mammoth Creek are the only sites that have the potential to support this species.

No other federal/state listed species are expected to occur in the Project Area.

Eighteen other plant and wildlife species identified as being potentially present in the region are not state/federal listed species but are considered special status. Eleven of these are considered to be absent from the Project Area due to lack of suitable habitat or the proposed project site being located outside the known range of the species. Seven special interest species have a low or moderate probability of occurrence in the Project Area. However, Project related impacts to non-listed wildlife would be considered potentially significant and would warrant mitigation.

In a limited number of cases, Project elements are proposed within habitats that could support sensitive plants. In such cases, the loss of habitat and individuals of sensitive plant species would be considered potentially significant and would warrant mitigation measures provided below.

SHARP Project Impacts

The SHARP addresses potential trails and recreational uses in the Sherwins Area, which is located in the southern part of the Town's Municipal Boundary and comprises undeveloped National Forest lands administered by the USFS. Generally, land to the east, south and west of the Sherwins area is undeveloped federal public land also administered by the USFS. To the north is a mix of open space, rural residential uses, and resort uses, including the existing Snowcreek V subdivision and proposed Snowcreek VIII resort area.

The Sherwins Area is a diverse landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. Topography varies from flat meadowlands to glacial moraines to the chutes and cirques of the Sherwin Range. The landscape includes areas of evergreens, sage, aspens, and other native plants rooted primarily in till and talus. While recreation use in the Sherwin has traditionally been high, no formal trailheads or facilities exist at this time and the area receives no maintenance. The area has a mix of trails, some of which are part of the Inyo National Forest trail system, others that have been user created, and some that are remnants of historical use. Facilities in this area include USFS recognized trails (such as the Mammoth Rock Trail), USFS and TOML roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails.

The SHARP recommends winter and summer projects regarding trails, public access, and recreation facilities for implementation in the Sherwin area. The SHARP identifies 31 summer and 19 winter projects. A number of these projects are analyzed as Priority Projects, below. All of the trails identified within SHARP are located on National forest lands; some or all of the existing and proposed trails and facilities may remain or become official USFS system trails, others may be constructed, operated and maintained by the Town under Special Use Permit from Inyo National Forest, or under collaborative programs developed between the two agencies. All trails and facilities proposed in the SHARP are subject to review under the National Environmental Policy Act and would require approval by the USFS to move forward. At this time, only a select number of the proposals have been accepted by the USFS for further environmental review and consideration. Additional proposals included in the SHARP document may or may not be considered by the USFS as future projects.

In general, SHARP projects are located outside the UGB within undisturbed habitats, but because specific alignments have not been established for many of the trails, a project level analysis of their effects on biological resources cannot be made at this time. Only in the case of Priority Projects is a project level analysis possible. However, a programmatic analysis of non-priority facilities is appropriate.

SHARP projects (excepting Priority Projects) have the potential for a "Project Level Impact." Until site specific surveys are completed there is the potential for SHARP components to result in impacts to sensitive plant and wildlife species. As the non-priority SHARP Project components come on line, each would be assessed at the project level as to the potential impacts that may result. At that time, specific mitigation measures, as described below under Subsection 4.C, *Mitigation Measures*, below, would be incorporated into project design and implementation.

(b) Trail System Master Plan Impacts

The TSMP Trails include Recommended MUPs (also referred to as Long-Term MUPs), recommended potential trails and potential boardwalk. These features are identified in Figure 2 of the BRA (see Appendix E of this Draft EIR). In the following analysis, LSA/PCR assumes that ground disturbance for these trails would be minimal and would be contained to the proposed width of the trail or path and shoulders.

The majority of Recommended MUPs are within “in town” areas; nonetheless, these components of the Project may impact biological resources as the result of ground disturbance on vacant land and other construction activities. Design guidelines for MUPs specify that they will be between 10 feet and 12 feet wide. The Recommended MUPs may be proposed in areas that provide habitat for plant and/or wildlife species of concern that could be directly or indirectly impacted by trail construction and maintenance activities and human use. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503

The Recommended Potential Trails are proposed soft-surface trails located north of the UGB and Town Limits. These are located mostly on USFS land. Soft surface trails would be designed for the use of hikers, mountain bikers, and/or equestrians and winter users such as cross-country skiers and snowmobilers. Trails would vary in width depending on the intended use.

The Recommended Potential Trails are located mostly in a dense mixed conifer forest with little to no understory. Two special interest species, the American pine marten and great gray owl, have a moderate potential to occur in the Recommended Potential Trails vicinity due to the presence of a well-developed mixed conifer forest. In addition, several sensitive plants and other wildlife species may be affected by the Recommended Potential Trails. In addition, removal of vegetation and construction activities in proximity to habitat area could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

The Boardwalk consists of a potential six-foot wide low-impact path located within the Town’s drainage/access easement in the Snowcreek Meadow Preserve. This Preserve is privately-owned open space of approximately 15 acres and is located adjacent to Mammoth Creek north of Old Mammoth Road and west of Minaret Road.

The Snowcreek VIII, Snowcreek Master Plan Update Draft EIR identified seven special-status plant species and six special status wildlife species with a moderate or high potential to occur in the Boardwalk vicinity. These species include:

- Scalloped moonwort (*Botrychium crenulatum*) – CNPS List 2
- Common moonwort (*Botrychium lunaria*) – CNPS List 2
- Blandow’s bog-moss (*Helodium blandowii*) –CNPS 2
- Subalpine fireweed (*Epilobium howelii*) – CNPS 1B
- Hockett Meadows lupine (*Lupinus Lepidus* var. *culbertsonii*) – CNPS 1B
- Scalloped-leaved lousewort (*Pedicularis crenulata*) – CNPS 2

- Robbins's pondweed (*Potamogeton robbinsii*) – CNPS 2
- Yosemite toad (*Bufo canorus*) – CSC, FSS
- Willow flycatcher (*Empidonax traillii*) – (State Endangered)
- Western white-tailed jackrabbit (*Lepidus townsendii townsendii*), CSC
- American badger (*Taxidea taxus*) – CSC;
- Mount Lyell shrew (*Sorex lyelli*) – CSC; and,
- Sierra Nevada mountain beaver (*Aplodontia rufa californica*) – CSC

Removal of vegetation and trail construction activities in proximity to habitat area could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

As discussed herein, the TSMP could result in potentially significant direct and indirect impacts to special interest species special status species. Impacts to species of concern or special status species would be reduced to less than significant levels through the implementation of Mitigation Measures 4.C-1, 4.C-2, 4.C-3, and 4.C-4.

(c) Priority Project Impacts

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town. The Priority Projects are summarized below along with a determination of their potential direct and indirect impacts. The Priority Projects included within the TSMP (Project Nos. 1 and 2, below) and SHARP area (Project Nos. 3-9, below). Priority Projects within the SHARP area are illustrated in Figure 7, *SHARP Area Priority Projects*, in the BRA (see Appendix E of this Draft EIR).

Main Path (4a) – Town Loop

This MUP would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road (921 linear feet). The site is dominated by alder-willow riparian scrub associated with Mammoth Creek and its banks. Vegetation beyond the banks consists of basin sagebrush scrub. Several trails have been formed by park users in order to access the Creek. Riparian and wetland vegetation associated with Mammoth Creek is of high value to wildlife and may provide suitable habitat for special interest species including the willow flycatcher, Sierra Nevada mountain beaver, and others. Removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

MUP 3-1 - College Connector

This MUP, partially located along Meridian Boulevard and College Parkway, would connect Sierra Park Road to the Main Path (3,769 linear feet). Vegetation along this trail alignment is developed and disturbed along the roads and basin sagebrush scrub from where it leaves College Parkway to where it connects to the Main Path. No special interest plant or wildlife species are expected to occur at the South Gateway site due to the historic and on-going human activities and disturbances on the site and lack of suitable habitat for such

species. However, removal of or disturbances in proximity to habitat areas could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 1 (Summer and Winter) – Major Multi-Use Staging Area at the Borrow Pit

This would be the primary staging area for the Sherwin area and therefore the most developed. Facilities would include parking, bathrooms, an education/interpretive area, and signage. This staging area would be open year-round to all users and would be served by public transit. The majority of this site is disturbed due its past use as a borrow pit and a propane tank farm and much of the area is devoid of vegetation and appears to be maintained in this condition. Basin sagebrush scrub is found at the edge of the disturbed area.

No special interest plant or wildlife species are expected to occur at the Borrow Pit site due to the historic and on-going human activities and disturbances on the site and lack of suitable habitat for such species. However, removal of or disturbances in proximity to habitat areas could disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 5B (Summer)

Parallel soft-surface non-motorized connections—one on the north side of Old Mammoth Road, one on the south side—from the Old Mammoth Road safe crossing to the intersection of Old Mammoth Road and Lake Mary Road. This Priority Project would include a set of parallel soft-surface non-motorized trail connections between the Old Mammoth Road safe crossing and the road's intersection with Lake Mary Road. Facilities would be limited to signage. The north trail would be approximately 2,800 linear feet and the south trail would be approximately 4,295 linear feet. Vegetation at this site includes mixed riparian scrub, aspen forest and woodland, montane chaparral, and mixed conifer forest. The mixed riparian scrub and aspen forest and woodland are considered sensitive natural communities.

Two special interest species, the American pine marten and great gray owl, have a moderate potential to occur in the Recommended Potential Trails vicinity due to the presence of a well-developed mixed conifer forest. In addition, several sensitive plants and other wildlife species may be affected by the Recommended Potential Trails. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 6 (Summer)

This element would be a hard-surface or paved non-motorized connector from the borrow pit staging area to the Town Loop at Hayden Cabin Museum within Mammoth Creek Park East at the bridge. This Priority Project would include a hard-surface or paved ADA-compliant MUP from the borrow pit staging area (see SHARP No. 1 above) to the bridge at Mammoth Creek Park East. The exact surface of this trail is to be determined. The trail could be up to approximately 4,642 linear feet. No special interest plant or wildlife species are expected to occur at the site due to lack of suitable habitat for such species; historic and on-going human activities and disturbances along this alignment, including areas disturbed by dirt roads, informal trails and use paths, and uses associated with the adjacent to the USFS stables and Borrow Pit. However, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 7 (Summer)

This element consists of non-motorized “backbone” trail connections from the borrow pit staging area to the Tamarack Street trailhead. This Priority Project would articulate two separate non-motorized routes that connect the borrow pit staging area to the Tamarack Street trailhead and also connect into the summertime stacked-loop trail. The hard-surface or paved trail would be ADA-accessible and would be aligned over the existing USFS 4S100 road, which would require closure to motorized use. The complementary trail would be soft surface and aligned over the existing trail to the south, near the base of the Sherwin. Accommodation of equestrian use would be included in the design process, which may include an equestrian-only bridle path. The trail would be approximately 6,800 linear feet.

Vegetation in this area consists of Great Basin sagebrush scrub, montane chaparral, and montane wet meadow. Montane wet meadow is a sensitive natural community. USFS botanists surveyed this site for sensitive plants on July 20 and August 20, 2010 (Dutcher and Satterthwaite, 2010). No sensitive, threatened, endangered, or proposed plant species were located during the survey. However, the botanists did determine there was potential habitat for sensitive plant species in Kerry Meadow through which a portion of the proposed trail may be located. In addition, potential habitat for sensitive wildlife species is present. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 12b (Summer)

Soft-surface non-motorized trail connecting the Lake Mary Road staging area to the Panorama Vista Trail, Panorama Dome Trail, and the Lake Mary Road Bike Path. This Priority Project would include a new bridge that would connect the Lake Mary Road Bike Path to the soft-surface trail described here. This would be constructed on the east side of the existing bridge where the Lake Mary Road Bike Path currently ends. The trail would be approximately 1,074 linear feet.

The site is dominated by a dense mixed conifer community with a sparse understory. Narrow bands of alder-willow riparian habitat that are commonly associated with drainage features may also occur in the area. Alder-willow riparian habitat is a sensitive natural community.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. In addition, potential habitat for sensitive wildlife species is present. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 13 (Summer)

This element consists of a soft-surface non-motorized connector from the borrow pit staging area to Mammoth Rock Trail. This Priority Project would include a soft-surface non-motorized connector trail from the Mammoth Rock Trail to the south side of the borrow pit staging area. Design concerns may necessitate rehabilitation of the two existing use-trails into one system trail that connects to the existing road on the south side of the borrow pit. The trail would be approximately 2,000 linear feet.

The trail would begin at its lower terminus in basin sagebrush scrub. As it climbs up toward Mammoth Rock Trail it crosses through montane chaparral, scattered coniferous forest and talus fields that exist in a mosaic pattern across the north-facing slopes of the Sherwin.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

SHARP No. 15 (Summer)

This Priority Project involves an Old Mammoth Road soft-surface non-motorized safe crossing. A trail would be built roughly from the western entrance of Mammoth Rock Trail and stay on the uphill (south) side of Old Mammoth Road, utilizing a portion of the existing use trail/mine road, then turn parallel to the road and continue to the uppermost hairpin turn of Old Mammoth Road. The trail would be approximately 1,506 linear feet. Vegetation at this site is predominantly montane chaparral and mixed conifer forest creating a mosaic pattern.

Two special interest wildlife species, the American pine marten and great gray owl, have a moderate potential to occur in the area due to the presence of a well-developed mixed conifer forest. In addition, suitable habitat to support sensitive plant species may occur in the area. Finally, removal of or disturbances in proximity to habitat areas could also disturb nesting birds in violation of the MBTA and State Fish and Game Code Section 3503 et seq.

Some Priority Projects could result in potentially significant direct impacts to special interest species including the willow flycatcher, Sierra Nevada mountain beaver, and others, and construction projects could disturb nesting birds. Impacts to these species and nesting birds would be reduced to less than significant levels through the implementation of Mitigation Measures 4.C-1, 4.C-2, 4.C-3, and 4.C-4.

(2) Sensitive Habitat

4.C-2 Construction and maintenance activities, direct human activity, and invasion by exotic plant species could result in the loss of high priority inventory communities. These impacts would be considered potentially significant and would warrant mitigation. The analysis has concluded that impacts to these sensitive species would be reduced to a less than significant level with implementation of the prescribed mitigation measure.

(a) Program Level Impacts

In addition to the potential loss of habitats that support sensitive plant and wildlife species, CDFG maintains a list of high priority inventory natural communities. In general, these communities that are either restricted in their distribution in the state, have undergone substantial depletion over time, and/or serve as critical components of biological systems. Within the Project Area, these include aspen forest and woodland, mixed willow riparian, and montane wet meadow.

As with the loss of habitats potentially supporting sensitive plant and wildlife species, the loss of high priority inventory communities would also be potentially significant and would warrant mitigation. Losses could occur as the result of construction and maintenance activities as well as the direct effects of trampling of sensitive vegetation and invasion by exotic plant species.

Any future activities within the Project Area that could affect the wet meadows or stream beds, banks, or associated riparian vegetation (e.g., stream crossing repair/maintenance/ improvement, bank stabilization, riparian habitat restoration) would be considered potentially significant. Impacts to these sensitive habitats would be reduced to less than significant levels through the implementation of Mitigation Measure 4.C-5, below.

In addition, it is a violation of the federal Migratory Bird Treaty Act to disturb actively nesting birds either directly (e.g., brush and tree removal) or indirectly (e.g., excessive construction noise). Should this occur during new facility and trail construction, trail reclamation, exotic plant removal, fuel modification, maintenance or other management activities to be conducted as part of the Project, such a violation would represent a potentially significant impact and mitigation would be warranted. It should be noted that this potential impact may be associated with all elements and areas of the Project, including elements within the developed Town area. Impacts to nesting birds would be addressed through the implementation of Mitigation Measure 4.C-2, below.

SHARP projects (excepting Priority Projects) have the potential for a "Project Level Impact." Until site specific surveys are completed there is the potential for SHARP components to result in impacts to sensitive habitats. As the non-priority SHARP Project components come on line, each would be assessed at the project level as to the potential impacts that may result. At that time, specific mitigation measures, as described below under Subsection 4.C, *Mitigation Measures*, below, would be incorporated into project design and implementation.

(b) Trails System Master Plan Impacts

The proposed MUPs would traverse several natural communities (even within the in town areas) and can potentially be located in any of the vegetation communities previously identified, including mixed conifer forest, montane chaparral, Great Basin sagebrush, montane wet meadow, and alder-willow riparian. The proposed alignment for the Shady Rest Park Path Extension, Forest Trail to Shady Rest Connector and Knolls Path are located in an area that predominantly supports mixed conifer forest with a sparse Great Basin sagebrush understory. The proposed alignment for the Mammoth Creek Path is located in an area that predominantly supports Great Basin sagebrush and montane chaparral.

The Boardwalk would traverse a montane wet meadow as well as willow-alder riparian vegetation, both of which are considered to be sensitive natural communities. Impacts on sensitive habitat would be potentially significant. It should be noted that any future activities within the Project Area that could affect the wet meadows or stream beds, banks, or associated riparian vegetation (e.g., stream crossing repair/maintenance/improvement, bank stabilization, riparian habitat restoration) could also be regulated by Section 1602 of the California State Fish and Game Code. Under the jurisdiction of the CDFG such impacts would be considered potentially significant and may require a Streambed Alteration Agreement (SAA) from the CDFG, as described in Mitigation Measure 4.C-5, below. With the implementation of Mitigation Measure 4.C-5, the TSMP's impacts on sensitive riparian habitats would be reduced to less than significant levels.

(c) Priority Project Impacts

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town.

The Priority Projects are summarized below along with a determination of their potential direct and indirect impacts. The Priority Projects included within the TSMP (Project Nos. 1 and 2, below) and SHARP area (Project Nos. 3-9, below). Priority Projects within the SHARP area are illustrated in Figure 7, *SHARP Area Priority Projects*, in the BRA (see Appendix E of this Draft EIR).

Main Path (4a) – Town Loop.

The site is dominated by alder-willow riparian scrub associated with Mammoth Creek and its banks. Riparian and wetland vegetation associated with Mammoth Creek is of high value to wildlife. Vegetation beyond the banks consists of basin sagebrush scrub. Several trails have been formed by park users in order to access the Creek.

SHARP No. 6 (Summer)

The trail would begin at the existing bridge across Mammoth Creek; however, the trail would be designed to avoid impacts to the bed, banks, or riparian vegetation associated with the creek. From the bridge the trail would cross basin sagebrush scrub vegetation to the borrow pit area.

SHARP No. 12b (Summer)

The site is dominated by a dense mixed conifer community with a sparse understory. Narrow bands of alder-willow riparian habitat that are commonly associated with drainage features may also occur in the area.

Some Priority Projects are in proximity to and may potentially impact sensitive riparian habitat. However, with the implementation of Mitigation Measure 4.C-5, impacts to riparian and other sensitive natural communities from the development of Priority Projects would be reduced to less than significant levels.

(3) Federally Protected Wetlands

4.C-3 Construction and maintenance of park and trail facilities could affect wetlands through potential dredging and filling activities. This impact would be potentially significant and may require CWA Section 404 Permits from the ACOE, and a certification from the RWQCB. With the implementation of such permits and the prescribed mitigation measure, impacts would be reduced to less than significant levels.

(a) Program Level Impacts

Project-related activities, including construction and maintenance of park and trail facilities, within the Project Area that could affect wetlands through dredging and filling (e.g., stream crossing repair/maintenance/improvement, bank stabilization, riparian habitat restoration) may be regulated by

Section 404 of the Clean Water Act. Under the jurisdiction of the ACOE such impacts would be considered potentially significant and may require a CWA Section 404 Permit from the ACOE, and a certification from the RWQCB. Impacts with respect to federally protected wetlands would be reduced to less than significant levels through the implementation of Mitigation Measure 4.C-6, below.

SHARP projects (excepting Priority Projects) have the potential for a “Project Level Impact.” Until site specific surveys are completed there is the potential for SHARP components to result in impacts to federally protected wetlands. As the non-priority SHARP Project components come on line, each would be assessed at the project level as to the potential impacts that may result.

(b) Trails System Master Plan Impacts

The Boardwalk would potentially be located in a wet meadow area adjacent to Mammoth Creek and would traverse a montane wet meadow as well as willow-alder riparian vegetation, both of which are considered to be sensitive natural communities. The site likely contains potentially jurisdictional areas including jurisdictional waters, wetlands and riparian habitat that are regulated by ACOE, RWQCB, and/or CDFG. Other soft surface trails included in the TSMP could also cross potentially jurisdictional areas not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG. The TSMP could result in potentially significant direct impacts to regulated waters and associated riparian habitat and potentially significant direct impacts to federally protected wetlands. With the implementation of Mitigation Measure 4.C-6, potential impacts to federally-protected wetlands would be reduced to less than significant levels.

(c) Priority Project Impacts

Main Path (4a) – Town Loop

This MUP would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road. Mammoth Creek is considered a permanent water and is likely to fall under ACOE, RWQCB, and CDFG jurisdiction due to the presence of moist soils and obligate hydrophytic plant species on the banks of the Creek. These also indicate that the banks likely contain wetlands that would also fall under ACOE jurisdiction. All riparian vegetation associated with Mammoth Creek would be under CDFG jurisdiction.

MUP 3-1 - College Connector

No drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

SHARP No. 1 (Summer and Winter) – Major Multi-Use Staging Area at the Borrow Pit

No drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

SHARP No. 5B (Summer)

This Priority Project would include a set of parallel soft-surface non-motorized trail connections between the Old Mammoth Road safe crossing and the road’s intersection with Lake Mary Road. These parallel trails may cross potential jurisdictional areas not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

SHARP No. 6 (Summer)

This element would be a hard-surface or paved non-motorized connector beginning at the existing bridge across Mammoth Creek. However, other than Mammoth Creek, which would not be affected by the trail, no drainage features likely to fall under ACOE, RWQCB, and CDFG jurisdiction were observed in this area.

SHARP No. 7 (Summer)

This element consists of non-motorized “backbone” trail connections from the borrow pit staging area to the Tamarack Street trailhead. This Priority Project would articulate two separate non-motorized routes that connect the borrow pit staging area to the Tamarack Street trailhead and also connect into the summertime stacked-loop trail. These parallel trails may cross potential jurisdictional drainage features and wetlands not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

SHARP No. 12b (Summer)

Soft-surface non-motorized trail connecting the Lake Mary Road staging area to the Panorama Vista Trail, Panorama Dome Trail, and the Lake Mary Road Bike Path. This Priority Project would include a new bridge that would connect the Lake Mary Road Bike Path to the soft-surface trail described here. The trail may cross potential jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

SHARP No. 13 (Summer)

This element consists of a soft-surface non-motorized connector from the borrow pit staging area to Mammoth Rock Trail. The trail may cross potential jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

SHARP No. 15 (Summer)

This Priority Project involves an Old Mammoth Road soft-surface non-motorized safe crossing. The trail may cross potential jurisdictional drainage features not specifically identified in this analysis but that are regulated by ACOE, RWQCB, and/or CDFG.

As discussed above, some Priority Projects could impact federally protected wetlands. However, with the implementation of Mitigation Measure 4.C-6, potential impacts associated with Priority Projects would be reduced to less than significant levels.

(4) Wildlife Corridors

4.C-4 Impacts related to the movement of wildlife are not expected to be significant and no mitigation would be required.

(a) Program Level Impacts

Because of the historic recreational use of the Project Area, including past and on-going motorized and non-motorized use of existing trails and USFS roads, potentially significant impacts to wildlife movement is not

expected to result from any of the Project elements. Currently, fairly intensive recreational activities, including hiking, biking and riding are taking place in all portions of the Project Area. In particular, the SHARP area has a number of existing trails throughout including the Panorama Dome area, the area along Lake Mary Road, the Sherwin area, and area surrounding the Snowcreek development. Thus, any wildlife movement that is occurring today through these areas does so in the presence of humans and their recreational activities, and is expected to continue uninterrupted. Intensification of overall human use of recreation lands and of the trails system will occur as future projects in the Town as a whole and in this area (such as the Snowcreek VIII project), are built out. However, these changes are not caused directly by the Project, and would occur with or without the implementation of the Project. Moreover, the implementation of the plan will predominantly involve trails which are not considered to be an agent for habitat fragmentation and habitat isolation.

SHARP projects (excepting Priority Projects) have the potential for a "Project Level Impact." Until site specific surveys are completed the potential for future SHARP components to result in impacts to wildlife movement is unknown. As future non-priority SHARP components are initiated, each would be assessed at the project level regarding the potential impacts that may result.

(5) Local Policies or Ordinances

4.C-5 Potential conflicts between humans and their pets and wildlife are likely to currently occur within and adjacent to the Project Area, particularly in the SHARP area and, as such, the Project could conflict with the management goals and standards and guidelines of the Inyo National Forest Land and Resource Management Plan (LRMP). This impact could be significant and mitigation would be warranted. With the implementation of the prescribed mitigation measures, impacts would be reduced to less than significant levels.

(a) Program Level Impacts

It is expected that with implementation of the Project by the Town, or with USFS's approval authority for facilities on its lands, will be consistent with local policy and ordinances as well as USFS land use and conservation plans. As is discussed below, adoption and implementation of the Project should incorporate certain mitigation and conservation measures. These primarily speak to the Town's 2007 General Plan Resource Management and Conservation Element which includes policies specifically directed at: sound stewardship of important wildlife and biological habitats, as well as special status plant and animal species; mitigation for potential impacts to sensitive habitats, including special status plant and animal species and mature trees; construction of active and passive recreation away from habitat areas; support of fishery management activities; and living safely with wildlife.

Nonetheless, conflicts between humans and their pets and wildlife such as bears, mountain lions and coyotes are likely to currently occur within and adjacent to the Project Area. Given the natural setting of much of the Project Area, particularly the SHARP area, it is inevitable that potential conflicts with wildlife will occur so long as humans (and their pets) continue to visit and use the Project Area and its trail and park systems. Such conflicts potentially include, but are not limited to harassment of wildlife by off-leash dogs, or by humans approaching wildlife, the feeding of wildlife, the discharge of weapons at or in proximity to wildlife, noise associated with snowmobiles and Off-Highway Vehicles, and human disturbance of breeding and

foraging activities, all of which are detrimental normal wildlife behavior. Conversely, in some cases, human/wildlife conflicts have resulted in injury, often severe, to humans.

In addition, the adoption and implementation of the Project will need to be cognizant of the Inyo National LRMP and the management goals and standards and guidelines it contains. Specifically, these goals, standards and guidelines stress the conservation of riparian areas, sensitive plants, wildlife, and special status wildlife species. By incorporating the mitigation and conservation measures (Mitigation Measures 4.C-1, 4.C-2, 4.C-3, 4.C-4, 4.C-5, 4.C-6, and 4.C-7, below) provided in this assessment the Project will be consistent with local policies and ordinances and any impacts would be reduced to less than significant levels.

For all SHARP projects there exists the associated potential for one or more of the impacts described as a "Project Level Impact." However, because of their location on USFS lands, it is not likely that SHARP Project components would conflict with local policies or ordinances or conservation plans.

(6) Conservation Plans

4.C-6 No impacts with respect to adopted conservation plans are expected and no mitigation would be required.

At this time there are no adopted or on-going region-wide habitat conservation plans in the area that would be affected by implementation of the Project. Thus, no impact would occur in this regard.

3. MITIGATION MEASURES

The following mitigation measure addresses the potentially significant impacts to biological resources from the proposed project. It should also be noted that many of the Project components are located on Lands owned and managed by the USFS; if constructed or operated by the Town, they Town would be required to obtain a Special Use Permit prior to implementation. This, or construction of the proposed trails by the USFS, would trigger the need to comply with the National Environmental Policy Act (NEPA) which will entail the preparation of additional environmental documentation and review by the public and federal resource agencies. During that process, compliance with USFS land and resource management policies will be scrutinized. For example, the Inyo National Forest has adopted a Land and Resource Management Plan that sets forth forest-wide standards and guidelines that establish the minimum resource conditions that will be maintained throughout the Forest, including fish, riparian areas, sensitive plants, and wildlife. The plan also has specific management prescriptions that specify how forest resources will be managed within various management units. Thus, in addition to the measures described below for the CEQA assessment, additional measures, protocols, and conditions of compliance may be added to the Project at the federal level.

Mitigation Measure 4.C-1 - Willow Flycatcher: Prior to approval of individual projects proposed under the TSMP or PRMP that have the potential to significantly disturb riparian vegetation associated with Mammoth Creek and its tributaries, the Town shall require a habitat evaluation by a biologist well versed in the requirements of willow flycatcher to be completed. If no suitable habitat for the species is identified within 300 feet of construction or maintenance activities, no further measures would be required in

association with the project. If suitable habitat for the species is identified within 300 feet of such activities, prior to construction the Town shall require that a survey be completed by a qualified biologist for the species according to CDFG survey guidelines (Bombay et. al., May 29, 2003). This survey protocol requires a minimum of two surveys, one between June 15-25 and one during either June 1-14 or June 26-July 15. Surveys during these periods must be at least five days apart and the second survey shall be conducted no more than one week prior to clearing of vegetation and/or the operation of motorized heavy equipment. If the surveys determine the species is not present within 300 feet of the area to be affected by an individual project, no further action shall be required. If, however, willow flycatcher is determined to be present and is using habitat within 300 feet of Project-related activities, inclusive of nesting and foraging, the Town shall consult with CDFG prior to initiating any construction activities in the area. Consultation may entail the processing of a 2081 Incidental Take Permit that includes certain conditions to avoid and/or mitigate for potential impacts to the species. Such conditions could include, but not be limited to, restrictions on the time of year for construction, noise monitoring, restrictions on equipment use, and others.

Mitigation Measure 4.C-2 - Nesting Birds: To the extent practicable, brush and tree removal activities for trail and facilities and major construction activity shall be initiated outside of the nesting bird season, which is generally held to be from April 1 to August 31 in the Mammoth Lakes area, and shall be carried out with no more than a two week lapse in the work. If the Town deems this to not be practicable the Town shall require a nesting bird survey by a monitoring biologist to be conducted within 300 feet (for songbirds) and 500 feet (for raptorial birds) of construction sites no more than one week prior to initiating construction to ensure no birds protected under the MBTA and/or State Fish and Game Code Section 3503 et seq. are harmed or harassed.

If no active nests of songbirds and raptors are found within 300 feet and 500 feet, respectively, of the construction site, the work may begin. If active nests are found within the survey areas the Town shall delineate a buffer zone of 300 feet and 500 feet for songbirds and raptors, respectively, around the nest. Based on the nature of the work to be performed and the equipment to be used, the monitoring biologist may reduce the buffer zone based on intervening vegetation and topography. Such buffer zones shall remain in place until the young in the nest have fledged or the nest has failed, as determined by the monitoring biologist.

All projects involving removal of trees or vegetation capable of supporting nesting birds shall be subject to the requirements of this Mitigation Measure.

Mitigation Measure 4.C-3 - Other Sensitive Wildlife: As discussed earlier, there are a number of wildlife species of concern to federal and State resource agencies that are known or are expected to occur in the Project area.

- For such avian species, implementation of the mitigation measure for nesting birds below will suffice in reducing impacts to these species to less than significant.
- For such amphibian species, including the Mount Lyell salamander and Yosemite toad, where suitable habitat exists for these species in the project area, a thorough search of areas to be disturbed shall be made by construction personnel trained in the methods of searching for these species. If any amphibians are found, regardless of

species, they will be captured and relocated in like habitat no less than 100 feet away from construction sites.

- For such sensitive mammal species with the potential to occur in conjunction with particular project components, including the Sierra Nevada red fox, American marten, Sierra Nevada mountain beaver, Townsend's western big-eared bat, and Mount Lyell shrew, and where suitable habitat for these species exists in the project area, pre-construction surveys shall be conducted by a biologist familiar with the sign of each species to identify signs of their presence or determine their absence no more than two weeks prior to initiating construction activities. Such surveys shall encompass the area to be disturbed and the habitat within 300 feet of construction activities. Due to the secretive and/or nocturnal activity patterns of these species, the following signs shall be used:
 - Sierra Nevada red fox – evidence of den, normally on slopes with porous soils.
 - American marten – evidence of den, normally in hollow trees or downed logs.
 - Sierra Nevada mountain beaver – evidence of extensive tunnels, runways and burrows beneath dense streamside vegetation.
 - Townsend's western big-eared bat – evidence of occupation by colonies in caves, mine tunnels, and buildings
 - Mount Lyell shrew – evidence of nests of dry leaves or grasses in stumps or under logs or piles of brush.

If no evidence of the presence of any of these species is found, no further mitigation activities shall be required. However, if evidence of the presence of any of these species is observed, impacts will be avoided or minimized in one or more of the following ways and in consultation with CDFG and/or USFS: realigning trails and relocating new facilities so as to retain a 100-foot buffer between the occupied site and construction activities and human use; suspending construction activities within 300 feet of the den, nest, or bat roosts during the breeding period, (generally held to be March 1 to July 31 for these species); verifying the actual occupation of dens, nests, or roosts by means such as placing tracking medium around the den or nest entrance or conducting a bat survey at the roost entrance at sunset; temporarily blocking the entrance of a den or nest verified to be unoccupied until after construction is completed.

Mitigation Measure 4.C-4 - Sensitive Plants: Prior to approval of individual projects proposed under the TSMP that are located in areas not previously surveyed for sensitive plant species, and that are determined to have habitat suitable to support such plants, the Town shall require that a survey be completed by a qualified botanist for sensitive plant species within 100 feet on either side of a trail alignment or within the disturbance area of other proposed facilities. These surveys shall be conducted during the flowering period for the target species when they are most readily detectable. For those species with at least a low potential to occur in the Project area, this period is usually from late June to mid-August. For reference, the flowering period for individual species is provided in Table 5, *Sensitive Plant Species*, in the Project's BRA (Appendix E of this Draft EIR). If no sensitive plant species are located within the area of disturbance, no further action shall be required. If sensitive plant species are located within such areas and are likely to be impacted by and individual project, conservation actions shall be implemented. Such actions shall include, but not necessarily be limited to re-routing the trail alignment so as to avoid or minimize impacts to sensitive plants while preserving an off-site population that is substantially larger than the population to be impacted, developing a

transplantation program, and collecting seeds to move populations elsewhere out of harm's way. These measures shall be developed in consultation with the CDFG and USFS.

Mitigation Measure 4.C-5 – Sensitive Habitats: As previously noted, there are three vegetation types within the Project area that are considered sensitive. These are aspen forest and woodland, mixed willow riparian, and montane wet meadow. To the extent practicable new trails and other recreational facilities shall avoid these vegetation types. In the event this is not practicable impacts will be minimized by restricting the Project footprint, including temporary and permanent impacts, to the minimum required to implement the project. Mitigation for trees that are necessary to remove has also been incorporated in the Project's Aesthetics and Visual Resources assessment.

In the event the Town elects to repair, maintain and/or improve trail crossings along stream courses and other drainage features (that often support the sensitive vegetation types mentioned above) in association with individual projects proposed under the TSMP, prior to project approval the Town shall notify and consult with the CDFG regarding the need for a Streambed Alteration Agreement (SAA). All work shall be performed in compliance with the conditions set forth in the SAA, as determined by the CDFG. Such conditions may include the in-kind replacement or restoration of riparian habitat at a 1:1 ratio for temporary impacts and a 2:1 ratio for permanent impacts within the Project Area, or as otherwise directed by the CDFG. Alternatively, if the impacts are very minor, the CDFG may, at its discretion, allow the work to proceed under a letter of law without mitigation other than notification and consultation.

As part of the SAA agreement process and prior to beginning construction within CDFG regulated drainages, a Habitat Mitigation and Monitoring Plan (HMMP) should be developed in coordination with the CDFG and USFS if necessary that ensures no net loss of riparian habitat value or acreage. The HMMP shall include, but not necessarily be limited to, the following:

- The establishment of a reference site near regulated resources to be impacted that have similar hydrology, soil regimes, and exposure as the resources to be impacted.
- The establishment of baseline conditions at the reference site regarding absolute native shrub and tree cover, woody shrub and tree stalk density, percentage cover by non-native plant species, and plant species diversity the vegetation using the Sorensen method (Stiling, 1999) within a 400 square foot prescribed reference plot.
- The establishment of a restoration site to encompass the mitigation needs of one or more Project elements either on the Project element site or off site within the Mammoth Creek watershed.
- A minimum 3-year establishment, monitoring, and maintenance (trash collection, weeding, etc.) period.
- The establishment of the following success success criteria within a 400 square foot prescribed plot within the restoration site – 70 % of baseline absolute cover by native shrubs and trees; 70 % of baseline woody shrub and tree stalk density; no more than 5% cover by non-native plant species; and a Sorensen value of 0.6.

The HMMP shall be subject to CDFG approval and may require additional measures in addition to the mitigation discussed above. Because the implementation of individual

projects proposed under the TSMP is expected to occur over several years, the Town should also explore the processing of a Programmatic SAA with CDFG.

Also of note, the Project's Hydrology and Water Quality assessment identified several mitigation measures which are consistent with the protection of sensitive riparian and wet meadow vegetation. These include: measures that control erosion; avoidance of wet areas, springs, wetlands, and the lower portions of slopes; crossing structures at stream crossings; and, the establishment of 5 foot wide vegetation buffers between trails, streams, and wetlands. Implementation of these mitigation measures would further reduce the potential impacts to sensitive habitats.

Mitigation Measure 4.C-6 – Federally Protected Wetlands: In the event the Town elects to construct, repair, maintain and/or improve trail crossing in association with individual projects proposed under the TSMP within waters of the U.S. and federally protected wetlands, prior to project approval the Town shall notify and consult with the ACOE regarding the need for a Section 404 Permit and the RWQCD regarding the need for its 401 certification. All work shall be performed in compliance with the conditions set forth in the Permit, as determined by the ACOE. Such conditions may include the in-kind replacement or restoration of waters and/or wetlands at a ratio of 1:1 for temporary impacts and a ratio of 2:1 for permanent impacts within the Project Area, or as otherwise directed by the ACOE. Alternatively, if the impacts are less than 0.1 acre, the ACOE may, at its discretion, allow the work to proceed without mitigation other than notification and consultation.

The mitigation shall use the same approach as is outlined above in Section 6.1.5 for the mitigation of impacts to CDFG regulated resources. As is usually the case, CDFG jurisdiction extends beyond that of ACOE and mitigation for impacts to CDFG regulated resources is inclusive of ACOE mitigation needs.

Mitigation Measure 4.C-7 – Local Policies or Ordinances: In order to educate trail and facility users about the potential for human/wildlife conflicts, the Town shall install signage at all new entry points to the trail system that include warning signs. The signs shall explain the risks and potential dangers that could be encountered by trail use and include instructions for what to do in case of a potential human/wildlife conflict. The signage should include, but not necessarily be limited to the following: refer to the Police Department/Wildlife Management Officer, USFS personnel and/or CDFG personnel as appropriate when dealing with bears; prohibitions on feeding wildlife; warnings against approaching wildlife; and user responsibilities for removing trash.

a. Conservation Plans

Since there would be no conflict with existing Conservation Plans, no mitigation measures are necessary.

b. Nesting Birds

Refer to Mitigation Measure 4.C-2 above.

4. CUMULATIVE IMPACTS

4.C-7 Only two of 24 related projects (a land exchange near the Mammoth Mountain Ski area and the Casa Diablo IV Geothermal Project) are expected to affect biological resources. These projects, however, are well removed from the Project Area's biological resources and are not expected to contribute to measurably greater impacts than the Project itself. Thus, cumulative impacts would be less than significant

Cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects (Section 15130 of the *CEQA Guidelines*). A total of 24 projects have been identified for the cumulative impacts analysis. However, all but two of these are within the UGB and are not expected to have marked effects on biological resources, and/or would be the subject of regulations and policies, similar to those outlined in this chapter that would reduce the potentially significant effects of their implementation. Therefore, they would not contribute substantially to cumulative impacts. The remaining two are a land exchange near the Mammoth Mountain Ski Area main lodge and the Casa Diablo IV Geothermal Project which is east of SR 395 and well removed from the Project Area's biological resources. Thus, any cumulative impacts that result from the Project will not be measurably greater than those discussed above for the Project by itself.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of and adherence to the prescribed mitigation measures included herein, all potentially significant impacts would be reduced to a less than significant level.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

D. CULTURAL RESOURCES

INTRODUCTION

This section assesses potential impacts on archaeological, historical, and paleontological resources that could occur with development projected under the Town of Mammoth Lakes Parks Trails System Master Plan (TSMP) and the Sherwin Area Recreation Plan (SHARP). These Plans propose potential improvements to the system of recreational trails, multi-use paths (MUPs), and on-street bike paths within the Town's Municipal Boundary, including the Urban Growth Boundary (UGB) and sections of the Inyo National Forest. The analysis is based on the *Cultural Resources Assessment for the Parks and Recreation Master Plan, Trail System Master Plan, and the Sherwin Area Recreation Plan, Town of Mammoth Lakes, Mono County, California* (PCR, July 2011), which is contained in Appendix F of this Draft EIR.

The evaluation of cultural and paleontological resources is intended to identify potential impacts to cultural resources and to develop mitigation measures to avoid, reduce, or mitigate potential impacts to cultural resources for the purpose of complying with the National Environmental Policy Act (NEPA), the regulations implementing Section 106 of the National Historic Preservation Act (Section 106 of the NHPA), the California Environmental Quality Act (CEQA) and the Town's General Plan. With the exception of the SHARP Priority Projects, the recommendations and projects included in the PRMP, TSMP, and SHARP are conceptual in nature and are therefore evaluated by PCR at a program-level. The program-level analysis recognizes that subsequent more focused environmental review would occur as future project-specific development proposals are initiated under the Plans.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects of a Proposed Project on cultural resources. These laws and regulations establish a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The NHPA of 1966, as amended, CEQA, and the California Register of Historical Resources (California Register), Public Resources Code (PRC) 5024, are the primary federal and state laws governing and affecting preservation of historic resources of national, state, regional, and local significance. Other relevant regulations at the local level include the Town's General Plan. A description of the applicable laws and regulations is provided in the following paragraphs.

(1) Federal Level

(a) Section 106 of the National Historic Preservation Act of 1966 (Section 106)

Compliance with Section 106 requires a sequence of steps, often referred to as the "Section 106 process." The steps include (1) identification of the area that will be affected by the proposed undertaking ("area of potential effect" [APE]); (2) identification of historic or archaeological properties; (3) evaluation of the eligibility of the properties for listing on the National Register of Historic Places; (4) determination of the

level of effect of the undertaking on eligible properties; and (5) consultation with concerned parties and agreement in the form of a Memoranda of Agreement (MOA) on avoidance, minimization, or mitigation of adverse effects on eligible properties. These steps are described in more detail, as follows:

As defined in the NHPA (36 CFR 800.16(d)), an APE “is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effect is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.” Federal agencies define the cultural resources APE in consultation with the State SHPO. The APE may or may not match the footprint of the project area.

Identification of historic or archaeological properties is done by means of pedestrian survey and research in appropriate historical and archaeological archives. The Secretary of the Interior has set out guidelines for qualifications for archaeologists and historians responsible for identifying, evaluating, recording, and providing treatment for historical and archaeological resources (36 CFR 61). These guidelines are updated and published by the National Park Service (NPS 1983).

Evaluation of archaeological and historical property significance follows the significance criteria of the National Register of Historic Places (National Register). The National Register was established by the NHPA in 1966 to serve as “an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment.” (36 CFR § 60.2). The National Register recognizes properties that are significant at the national, state and local levels. Guidelines for nomination require that significant resources exhibit aspects of important themes in American history, architecture, archaeology, engineering, and culture and possess integrity of location, design, setting, materials, workmanship, feeling, and association and that;

- a. are associated with events that have made a significant contribution to the broad patterns of our history; or
- b. that are associated with the lives of persons significant in our past; or
- c. that embody the distinctive characteristics of a type, period, or method of construction, or that possess high artistic values, or that represent a significant distinguishable entity whose components may lack individual distinction; or
- d. that have yielded or may be likely to yield, information important to history or prehistory

The criteria for eligibility to the National Register will provide the basis for evaluation and subsequent management of cultural resources in the Study Area.

In addition to meeting the Criteria for Evaluation, a property must have integrity. “Integrity is the ability of a property to convey its significance.”¹ According to *National Register Bulletin 15 (NRB)*, the National Register

¹ *National Register Bulletin 15*, p. 44.

recognizes seven aspects or qualities that, in various combinations, define integrity: location, design, setting, materials, workmanship, feeling, and association. In assessing a property's integrity, the National Register criteria recognize that properties change over time, therefore, it is not necessary for a property to retain all its historic physical features or characteristics. The property must retain, however, the essential physical features that enable it to convey its historic identity.²

Adverse effects occur when an undertaking may directly or indirectly alter characteristics of a historic property that qualify it for inclusion in the National Register. Examples of adverse effects include physical destruction or damage; alteration not consistent with the Secretary of the Interior's Standards; relocation of a property; change of use or physical features of a property's setting; visual, atmospheric, or audible intrusions; neglect resulting in deterioration; or transfer, lease, or sale of a property out of Federal ownership or control without adequate protections (36 CFR 800.5(a)). Effects of the proposed undertaking on eligible properties are determined by analysis and agreement between consulting professional archaeologists, the State Historic Preservation Office (SHPO), and other concerned parties.

The California SHPO, the Office of Historic Preservation (OHP), established by the NHPA to implement historic preservation management at the state level, is mandated to review National Register nominations, maintain data on historic properties that have been identified but not yet nominated, and consult with Federal agencies during Section 106 review. Concurrence of the OHP on site evaluations and recommendations with respect to National Register eligibility and project effects will be required.

MOAs on avoidance, minimization, or mitigation of adverse effects on eligible properties are developed through the course of the project by consulting archaeologists, SHPO, and other parties concerned with the preservation and disposition of cultural resources, including Native American groups with affiliation to the project site.

(b) Paleontological Resources Preservation Act (PRPA)³

On March 30, 2009, the Paleontological Resources Preservation Act (PRPA) became law when President Barack Obama signed the Omnibus Public Land Management Act (OPLMA) of 2009, Public Law 111-011. P.L. 111-011, Title VI, Subtitle D on Paleontological Resources Preservation (OPLMA-PRP) (123 Stat. 1172; 16 U.S.C. 470aaa) requires the Secretaries of the Interior and Agriculture to manage and protect paleontological resources on Federal land using scientific principles and expertise. The OPLMA-PRP includes specific provisions addressing management of these resources by the Bureau of Land Management (BLM), the National Park Service (NPS), the Bureau of Reclamation (BOR), the Fish and Wildlife Service (FWS), and the U.S. Forest Service (USFS) of the Department of Agriculture.

The OPLMA-PRP affirms the authority for many of the policies the Federal land managing agencies already have in place for the management of paleontological resources such as issuing permits for collecting paleontological resources, curation of paleontological resources, and confidentiality of locality data. The

² "A property retains association if it is the place where the event or activity occurred and is sufficiently intact to convey that relationship to an observer. Like feeling, association requires the presence of physical features that convey a property's historic character. Because feeling and association depend on individual perceptions, their retention alone is never sufficient to support eligibility of a property for the National Register." *Ibid*, 15, p. 46.

³ Discussion adapted from <http://www.blm.gov>

statute establishes new criminal and civil penalties for fossil theft and vandalism on Federal lands. The OPLMA-PRP only applies to Federal lands and does not affect private lands. It provides authority for the protection of paleontological resources on Federal lands including criminal and civil penalties for fossil theft and vandalism.

Consistent with existing policy, the OPLMA-PRP also includes provisions allowing for casual or hobby collecting of common invertebrate and plant fossils without a permit on Federal lands managed by the BLM, the BOR, and the U.S. Forest Service, under certain conditions. Casual collecting is not allowed within the National Parks or other lands managed by the National Park Service. As directed by the Act, the Federal agencies will begin developing regulations, establishing public awareness and education programs, and inventorying and monitoring federal lands.

(2) State Level

(a) California Register of Historical Resources

The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the California Register is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."⁴ The criteria for eligibility for the California Register are based upon National Register criteria.⁵ Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register of Historic Places.⁶

To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the following criteria:

- a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- b. Is associated with the lives of persons important in our past;
- c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- d. Has yielded, or may be likely to yield, information important in prehistory or history.

⁴ *California Public Resources Code § 5024.1(a).*

⁵ *California Public Resources Code § 5024.1(b).*

⁶ *California Public Resources Code § 5024.1(d).*

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally Determined Eligible for the National Register.
- California Registered Historical Landmarks from No. 770 onward.
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5.⁷
- Individual historical resources.
- Historical resources contributing to historic districts.
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

(b) California Environmental Quality Act

Archaeological Resources

CEQA is the principal statute governing environmental review of projects occurring in the State. CEQA requires lead agencies to determine if a proposed project would have a significant effect on archaeological resources (PRC Sections 21000 *et seq.*). As defined in Section 21083.2 of the PRC a “unique” archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

⁷ Those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register.

In addition, CEQA Guidelines section 15064.5 broadens the approach to CEQA by using the term “historical resource” instead of “unique archaeological resource.” The CEQA Guidelines recognize that certain historical resources may also have significance. The CEQA Guidelines recognize that a historical resource includes: (1) a resource in the California Register of Historical Resources; (2) a resource included in a local register of historical resources, as defined in PRC section 5020.1 (k) or identified as significant in a historical resource survey meeting the requirements of PRC section 5024.1 (g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency’s determination is supported by substantial evidence in light of the whole record.

If a lead agency determines that an archaeological site is a historical resource, the provisions of section 21084.1 of the PRC and section 15064.5 of the CEQA Guidelines apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site is to be treated in accordance with the provisions of PRC section 21083, which is a unique archaeological resource. The CEQA Guidelines note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. (CEQA Guidelines §15064.5(c)(4)).

Paleontological Resources

Paleontological resources are also afforded protection under CEQA. Appendix G (part V) of the CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, which states, “a project will normally result in a significant impact on the environment if it will ...disrupt or adversely affect a paleontological resource or site or unique geologic feature, except as part of a scientific study.” Section 5097.5 of the PRC specifies that any unauthorized removal of paleontological remains on state lands is a misdemeanor. Further, the California Penal Code Section 622.5 sets the penalties for damage or removal of paleontological resources.

(3) Local Level

(a) Town of Mammoth Lakes General Plan

Cultural resources within the jurisdiction of the Town are subject to documentation and subsequent planning and preservation consideration. The *Arts, Culture, Heritage and Natural History* element of the Town’s General Plan mentions the following goals and policies:

- A.3. **GOAL:** Encourage public art and cultural expression throughout the community.
- A.3.A. **Policy:** Support continued development of the historic Hayden Cabin museum site.
 - A.3.B. **Policy:** Encourage development of arts, culture, and heritage facilities and venues.
 - A.3.B.1. **Action:** Encourage artists’ residences connected to galleries.
 - A.3.B.2. **Action:** Maintain a strategic public art, cultural, and heritage plan.
 - A.3.C. **Policy:** Support local history and heritage education in the community.
 - A.3.C.1. **Action:** Support and promote programs and events celebrating local history and diversity.

- A.3.D. **Policy:** Be stewards of the cultural, historical and archeological resources in and adjacent to town.
- A.3.E. **Policy:** Allow the adaptive use of historic buildings.

A.3.E.1. **Action:** Develop and maintain a cultural resources database of historic and archaeological resources within the Planning Area.

b. Existing Conditions

(1) Prehistoric context

In terms of environmental change and recognized cultural developments, prehistory is most easily discussed and understood chronologically. Table 1, *Chronology of the High Sierra and Eastern Slopes*, of the Cultural Resources Assessment contained in Appendix F of this Draft EIR, provides the detailed chronologies of the prehistory of the western Great Basin including the eastern slope of the Sierra Nevada. According to Table 1, regional phases begin with the Pre-Archaic Phase 12,000 to 7,500 years ago and continue through the Early Archaic Phase (7,500 to 4,000 years ago), the Middle Archaic Phase (7,500 to 4,000 years ago), and the Late-Archaic Phase 1,500 to 400 years ago.

(a) Pre-Archaic (ca. 12,000-7,500 Years Before Present [YBP])

Little is known of Paleo-Indian peoples in inland southern California, and the cultural history of this period follows that of North America in general. Recent discoveries in the Americas have challenged the theory that the first Americans migrated from Siberia, following a route from the Bering Strait into Canada and the Northwest Coast some time after the Wisconsin Ice Sheet receded (ca. 14,000 YBP), and before the Bering Land Bridge was submerged (ca. 12,000 YBP). A coastal migration route somewhat before that time is also possible. The timing, manner, and location of this crossing are a matter of debate among archaeologists, but the initial migration probably occurred as the Laurentide Ice Sheet melted along the Alaskan Coast and interior Yukon. The earliest radiocarbon dates from the Paleo-Indian Period in North America come from the Arlington Springs Woman site on Santa Rosa Island. These human remains date to approximately 13,000 YBP (Johnson, et al. 2002). Other early Paleo-Indian sites include the Monte Verde Creek site in Chile (Meltzer, et al. 1997) and the controversial Meadowcroft Rockshelter in Pennsylvania. Both sites have early levels dated roughly at 12,000 YBP. Life during the Paleo-Indian Period was characterized by highly mobile hunting and gathering. Prey included megafauna such as mammoth and technology included a distinctive flaked stone toolkit that has been identified across much of North America and into Central America. They likely used some plant foods, but the Paleo-Indian toolkit recovered archaeologically does not include many tools that can be identified as designed specifically for plant processing.

The rate of movement from the coast to inland California locations such as the Mammoth Lakes region is not known (see Rockman 2003), but may have been relatively rapid. Many early California sites, characterized as Late Paleoindian/Early Archaic period, are located near pluvial desert valley lakes formed by glacial meltwaters that are now evaporated or much reduced in size (Moratto 1984). Lakeshore occupation sites often include artifacts such as large projectile points (e.g., Lake Mohave), flaked stone debitage, and fire-affected rock concentrations.

The megafauna that appear to have been the focus of Paleo-Indian life went extinct during a warming trend that began approximately 10,000 years ago, and both the extinction and climatic change (which included

warmer temperatures in desert valleys and reduced precipitation in mountain areas) were factors in widespread cultural change. Subsistence and social practices continued to be organized around hunting and gathering, but the resource base was expanded to include a wider range of plant and game resources. Technological traditions also became more localized and included tools specifically for the processing of plants and other materials. This constellation of characteristics has been given the name “Archaic” and it was the most enduring of cultural adaptations to the North American environment.

(b) Early Archaic Period (ca. 7,000-4,000 YBP)

The Early Archaic in the Mammoth Lakes region is known as the Little Lake Phase, dating from ca. 7,500 to 3,150 YBP. Between 7,500 and 5,500 YBP, the period is not as well-defined for the rest of the Western Great Basin. The climate in the middle Holocene was generally hot and dry. During this time, people used base camps adjacent to rivers, and used temporary task-based camps at higher altitudes on a seasonal basis. These lithic scatters higher than 6,000 feet above mean sea level are thought to be hunting camps. Diagnostic tools of the Early Archaic include Pinto and Little Lake series projectile points. The Early Archaic economy was still organized around hunting of large game.

(c) Middle Archaic Period (ca. 4,000-1,500 YBP)

Bettinger and Taylor (1974) refer to the Middle Archaic as the Newberry Phase (3,150-1,350 YBP) in the southern section of the Eastern Sierra Front. The Middle Archaic is characterized by a transition from the Early Archaic emphasis based on hunting to a more diversified subsistence base that included the exploitation of plant and small animal resources. Grinding stones appear in the archaeological record for the first time in the region. This is consistent with the archaeological remains recovered from Mammoth Creek Cave and Hot Creek Shelters. Large bifaces were fashioned to export raw material. Elko and Humboldt series dart points were common. Site types include quarries, multipurpose camps located in upland valleys, and seed camps located near springs and creeks. Base camps contained features such as pithouses, storage areas, and burials. Seasonal camps were often reoccupied year after year. Kobari and others (1980) suggest that high altitude resources were also exploited as hunting camps were located at high elevations, such as the Casa Diablo and Long Valley Caldera.

(d) Late Archaic (ca. 1,500-400 YBP)

The Late Archaic in the region is subdivided into the Haiwee Phase (1,350 to 650 YBP) and the Marana Phase (650 YBP to EuroAmerican contact). During this time, a wide range of resources and ecozones were exploited. There was an increased emphasis on plant resources, and small game hunting replaced large game hunting. There were many technological changes during the Late Archaic. For example, the bow and arrow replaced the atlatl and darts. Diagnostic artifacts include Rose Spring, Eastgate, and Desert Side-Notched projectile points and brownware ceramics (after 900 YBP). Rosegate projectile points are characteristic of the Haiwee Phase, while small Desert Side-Notched and Cottonwood arrow points, and brownware ceramics define the Marana. Steatite disk beads are also common. Obsidian trade was thought to be east-west from Mono Lake and Long Valley Caldera over the Sierra Nevada. As the climate again oscillated to a warmer and drier regime, the area also experienced significant human population increase. With the shift to dryer conditions came a shift to piñon exploitation. Higher elevations continued to be exploited at this time (Bettinger 1977). After 750 YBP, wild crop irrigation and lowland base camps were common. It was during the Late Archaic that flat slab schist milling stones, milling slicks, and bedrock

mortars apparently first appeared. The Marana Phase sites are thought to represent Owens Valley Paiute pre-contact sites, as the Owens Valley Paiute were the occupants of the region at the time of contact.

(e) Ethnographic Context

The following ethnographic summary of the Owens Valley Paiute is derived in part from the Cultural Resources section of *Revised Draft Program Environmental Impact Report for the Town of Mammoth Lakes General Plan Update* (Town of Mammoth Lakes 2005). In addition, Sven Liljebblad and Catherine S. Fowler (1986) provide a comprehensive synthesis of the Owens Valley Paiute.

Traditionally, groups of Owens Valley Paiute have occupied an area from the town to approximately 60 miles to the east and 100 miles to the south. A ten to 15 mile-wide band of land immediately north-northeast of the Town was jointly used by Owens Valley Paiute and Northern Paiute groups from Mono Lake. This territory includes all of Owens Valley, Round Valley, Long Valley, Fish Lake Valley, and Deep Springs Valley. While both Paiute groups speak Western Numic languages, the Northern Paiute speak Northern Paiute and the Owens Valley Paiute speak Owens Valley Paiute (Nancy Peterson Walter 2005). Other neighboring groups, on the west side of the Sierra Nevada (the Monache) and south of the Town on both flanks of the mountains (Monache and Owens Valley Paiute) speak other dialects of Mono and share many cultural bonds.

The Owens Valley Paiute occupied the Owens Valley on a year-round basis with many semi-sedentary settlements located on major rivers and streams along the west side of the valley. Closer to the town, in both Long Valley and in the Mammoth Basin, the pre-contact and historic use of the area by the Owens Valley Native American groups has been vaguely documented. However, according to Wally Woolfenden, the ethnographic notes of F.S. Hules and F.J. Essene from the 1930s, and oral interviews of local people from the 1970s clearly document the year-round occupation of Long Valley by the Long Valley Paiute (a subgroup of the Owens Valley Paiute), during the 1800s and 1900s. Jeff Burton cites the work of Emma Lou Davis, Matthew Hall (1983), E.W. Gifford, and Helen Doyle in suggesting that Long Valley included an indigenous population of Northern Paiute in historic times, and provided resources and refuge on an occasional basis to Northern Paiute from Mono Lake, to Monache and Miwok from the west side of the Sierra, and to surrounding Mono-speaking groups of Paiute from Benton, Round Valley, and Owens Valley.

In contrast to the Owens Valley Paiute, the Long Valley Paiute are said to have been highly mobile in historic times, constantly moving in search of food resources and often utilizing resources beyond Long Valley. This movement included frequent trips over the Sierra crest, through Mammoth Pass, in order to collect acorns and to fish and hunt in the San Joaquin River drainage, and area within North Fork Mono Territory. Such trips sometimes occurred in winter, at which time moccasins and snowshoes were worn for snow travel.

In the vicinity of Mammoth Lakes, Mammoth Mountain is reported by Julian Steward as being a scared place as it stands on the border between the Monache (western Mono) and the Owens Valley Paiute (eastern Mono), and is considered to be the place of origin in all Mono-speakers' traditional myths. The actual locations of human origin there are marked by particular geographic features. Elsewhere in Mammoth Basin, ethnographic use by Long Valley Paiute and others is assumed to be seasonal rather than year round.

Owens Valley Paiute groups traded extensively with their neighbors in order to acquire additional foods as well as ornaments, money, and other commodities. Items traded included salt, piñon pine nuts, seeds, obsidian, sinew-backed bows, rabbit skin blankets, deerskins, moccasins, mountain sheepskin, fox skin

leggings, balls of tobacco, baskets, basketry water bottles waterproofed with pitch, wooden hot rock lifters, and red and white pigments, in exchange for shell money (e.g., disc beads, tubular clam beads, and more recently, glass beads), acorns and acorn meal, finely-constructed Yokuts baskets, cane for arrows, manzanita berries, squaw berries, and elderberries from the Monache. The Mono Paiute traded salt, piñon pine nuts, piagi (i.e., Pandora moth larvae), brine fly larvae, rabbit skin blankets, baskets, pumice stones, and red and white pigments to the Sierra Miwok, in exchange for shell money, acorns, baskets, arrows, a fungus used in paints, manzanita berries, elderberries, and squaw berries.

In Owens Valley, the population was sedentary, with year-round occupation in permanent villages and short-term visits to temporary camps for resource procurement. Leadership was hereditary, and headmen were responsible for organizing communal work projects and festivals that may have served to redistribute resource surpluses as well as to fulfill other social functions. As for the other groups using Long Valley, the Monache and the Southern Sierra Miwok groups were probably similar in their social organization to the Owens Valley Paiute, with at least some hereditary rulers and semi-permanent villages. Some researchers have postulated that any indigenous Long Valley groups that may have existed would have followed a pattern closer to that of the Mono Lake Paiute (and other Great Basin groups) than that of Owens Valley Paiute, due to similarities in environmental constraints. However, Long Valley residents may have been closely tied to the Owens Valley Paiute through kinship and trade.

Long Valley offered a variety of food resources during snow-free months. In the spring, Tui chub, speckled dace, and Owens sucker may have been dished from creeks, while roots, wild onions and greens along creeks and meadows might have replenished dwindling winter stores. Small game, deer, and antelope could have been hunted nearby. In the summer, grass seeds may have been collected from meadows and drier upland areas. Fall subsistence activities of both the Mono Lake and Owens Valley Paiute revolved around the collection of piñon. Piagi are another food resource available every two years in the Jeffery pine forests. Piagi were collected as they descended the Jeffery pine trees during mid to late summer. Nancy Peterson Walter, a local ethnologist, has extensive knowledge of the Owens Valley Paiute's exploitation of piagi (Fowler and Walter 1985). Also, there are several recorded archaeological sites in the region that are associated with piagi exploitation (Weaver and Basgall 1986).

Much of the trade and travel likely occurred during the summer months, when the high Sierra passes were free of deep snow. Inter- and intra-regional trade may have had extensive ramifications for subsistence and settlement systems of the Owens Valley and Long Valley areas. It is proposed that an elaborate exchange system might account for the relatively complex sociopolitical organization of the Owens Valley Paiute.

(2) Historic context⁸

The historic context developed below presents important themes associated within the historical development of Mammoth Lakes, California, where the proposed project is located. Research indicates the property is associated with the following historical themes: the Explorers, Early Ranching, Mining and Settlement (1829-1880); Gold Discovery and Boom (1870-1900); Transportation (1877 - 1940); Early Development of Recreation (1900-1950); and Post World War II Tourism (1945 - 1960).

⁸ Adapted from J.F. Burton, *Further Investigations of the Snowcreek Archaeology Site, Mammoth Lakes, California, Trans-Sierran Archaeological Research to Trans-Sierran Archaeology No. 21, July 1992* and C.L. Furnis, *An archaeological Reconnaissance Report for the Lake Mary Road Bike Route, Mammoth Lakes, Mono County, California, Final Report, December 18, 2001.*

(a) The Explorers, Early Ranching, Mining, and Settlement (1829 – 1880)

The first Euro American contact with Owens Valley, eastern California and western Nevada, is thought to have occurred when the English fur trapper Peter Skene Ogden of the Hudson's Bay Company who wandered into Owens Valley thinking he reached the Great Salt Lake en-route to the Colorado River in 1829 to 1830.⁹ Four years later, the first documents explorer of the eastern Sierra is Joseph Walker who crossed the Sierra Nevada at Walker Pass, then proceeded north through Owens Valley, then over to Benton Hot Springs, and east into present day Nevada. In the 1840s and 1850s, various emigrant guides and U.S. military personnel passed through the region, but few said it was an inviting place to settle. Their reports of the eastern Sierra front probably saved the area from settlement, which began in earnest in the early 1860s.

Ranching began in Owens Valley Paiute in 1861 as a way of supplying food to the early mining camps in Inyo and Mono counties. European-American settlement soon supplanted most Paiute settlements, with conflict and concomitant forced removal of most Owens Valley Paiute to Fort Tejon, California, by the United States troops. It was not until the late 1870s that permanent settlement took place at Mammoth Lakes, though a few individuals had combed the area in search of the Lost Cement Mine in the summer of 1861.

(b) Gold Discovery and Boom (1870 – 1900)

A gold mining claim, the Alpha, was staked on the slope of Mineral Hill (now called Red Mountain) in June 1877, initiating the establishment of the Lake Mining District.¹⁰ Shortly after other claims followed and in 1878 most of these claims were purchased by a group of San Francisco investors who formed the Mammoth Mining Company. The mining district included the Mammoth Mining Company headquarters, mill, a small settlement, and mines were established approximately 0.5 mile north of the mines at Mill City, remnants of which are located within the project site. In the late 1870s, four camps were established near the mining activity with a fluctuating population of a thousand. The four camps were Mineral Park, located about one-mile north of Mineral Hill in a meadow, Mill City, located about 0.5 mile north of Mineral Hill, the largest camp, Mammoth City, located at the foot of Mineral Hill, and finally, Pine City, located west of the mines and approximately 1,500 feet north of Lake Mary.

A sawmill built at Mineral Park provided most of the industry for the camp, though a brewery, saloons, stores, hotel, stable, boardinghouse, and toll house represented other commercial endeavors, in addition to some 12 or so cabin residences. Mammoth City reportedly had 400 or 500 residents in 1880, while the smaller Pine City (also called Lake City) boasted a population of 17 persons in the same year, which included one engineer, one grocer, one toll road operator, one laborer, two miners, three blacksmiths, and four housewives. Both communities were within the project area. An unknown number of Paiute were said to have participated in mining and settlement at the Mammoth area in the 1870s and 1880s.

Although surrounded by lakes, the mining camps and the mill were situated so that they required water to be transported to them by means of ditches and flumes. In 1878, one covered flume was constructed from the north end of Twin Lakes to Mill City, the Bodle Ditch, while a second flume and diversion works were erected bringing water for domestic use to Pine City and to Mammoth City, farther up the road. Fragments of the

⁹ Peter Matranga, *The Sherwin Project: A Cultural Resources Inventory and Assessment Mammoth Lakes, Mono County, California, Research Archeology, Project No. MO/I-2007(P), July 2007, 24.*

¹⁰ *USDA Forest Service: Heritage Resource Site Record, Hayden Cabin (CA-MNO-2760-H), 1993, 1.*

Bodle Ditch are located within the project area. Presumably, the ditches continued in use until the mining camps were abandoned, mostly by the early 1880s.

The Lake Mining District boom was short-lived. By 1880, the Mammoth Mining Company folded, along with the surrounding mining camps;¹¹ and Mammoth City burned down the same year. Only a few people lingered on in the area thereafter. Other mines a few miles south of Pine City operated through the 1880s, while renewed attempts at working the Mammoth Mine on Red Mountain took place in the 1890s. Because these mines were abandoned in the late 19th century and left to deteriorate, few historic structures or associated mine features are extant.

(c) Transportation (1877 – 1940)

In order to move people, animals, food, equipment, and supplies in and out of the area, roads were needed; however, roads did not exist in the area prior to 1877. There were established Paiute trails over the Sierra, to the east, north, and south along the valleys; however, these trails could not support wagons and stagecoaches. Fortunately, the mining towns established in the 1860s already had links to the outside world. Roads were soon constructed to Benton (east) and to Bodie (north), since each town already had connections with Carson City, and indirectly with Reno, and the transcontinental railroad. Jim Sherwin constructed a toll road south from Mammoth City to Round Valley in the late 1870s that connected to a road he constructed from Bishop Creek to Round Valley in the early 1870s, providing the Lake District with access to railroads, markets and larger population centers through the Mojave Desert.

Forging links to the west was another matter. This required a route directly over the crest of the Sierra Nevada, traversing elevations of over 9,000 feet through Mammoth Pass. The result was the Fresno Flats Road which became a toll trail west of Lake Mary. J.S. French located and developed the 54-mile long trail and led saddle trains over the mountains to Fresno Flats (now Oakhurst) and back twice a week. This service and trail enabled miners and other goods from the San Joaquin Valley of California to directly travel to Mammoth City and the other camps. Beef cattle were moved over this trail, providing fresh meat for the Mammoth mountain-dwellers. According to Adele Reed, the Fresno Flats Trail was still in use in the 1930s, serving prospectors, sheepherders, USFS personnel, and Native Americans.¹²

(d) Early Development of Recreation (1900 – 1950)

At the turn of the century the community moved out of the lakes basin, where the failed mines were located, to Old Mammoth. The local economy once dependent upon mining, shifted towards tourism. A topographic map from 1913 demonstrates the population shift. Old Mammoth in 1913 was comprised of seven buildings located adjacent to an early road network. As the population grew, hotels, sawmills, stores, and barns were established.

Charles F. Wildasinn and his family built the first resort, the Wildasinn Hotel, around the turn-of-the-century, located between Mammoth Creek and Windy Flat meadow and located within the project area.¹³ Later he added a small store. In 1918, Charles Summers established Mammoth Camp and constructed a hotel,

¹¹ *USDA Forest Service: Heritage Resource Site Recor, Hayden Cabin (CA-MNO-2760-H), 1993, 1.*

¹² *Adele Reed, Old Mammoth, Palo Alto, Ca: Genny Smith Books, 1982.*

¹³ *USDA Forest Service: Heritage Resource Site Recor, Hayden Cabin (CA-MNO-2760-H), 1993, 1.*

boardinghouse, barn, and corrals. Later in 1923, a garage was constructed at Mammoth Camp, signifying the era of the automobile. In the early 1920s, a greater number of summer residents came to the area to camp and fish. Small cabins were built, as well as a post office. Unfortunately in 1927 a fire destroyed most of Mammoth Camp.

In 1908, The Home Lumber Company purchased and moved the Wildasinn Sawmill from the north side of Mammoth Creek to the vicinity of the present-day Shady Rest Campground and located within the project area.¹⁴ The mill is depicted on the 1913 topographic map with the notation of “sawmill” and a scatter of seven buildings. The mill operated intermittently from 1908 to 1920. In 1920, interest in the mill was purchased by Fred and Arthur Hess and renamed the Hess Lumber Company. Under the new owners the mill operated from until 1930. In 1926 the mill was burned and rebuilt. After the death of Fred Hess in 1930, the mill and equipment was dismantled and moved to Bishop, California and the adjacent area has recently undergone development.

(e) Automobile Transportation, Tourism and Infrastructure (1917-1945)

In 1917, the first Ranger Station for the Mammoth Ranger District was established in the Inyo National Forest located along the road to the Lakes Basin (Old Mammoth Road) in Mammoth Meadow.¹⁵ The site of the first ranger station is depicted on the Topographic map from 1914, in the Antelope Valley to the east of Mammoth. The Ranger station was located in one of three recreational residence tracts, created as part of the Forest Service effort to attract campers, hunters, and fisherman to the National Forrest. The Ranger station began to issue 99 year permits to build summer cabins in the 1920s. Nearly 100 cabins were constructed before World War II.¹⁶

After 1920, several resorts and campgrounds were established around the lakes and hundreds of small family cabins were built. One such cabin was the Hayden Cabin, constructed by the civil engineer Walter Emmett Hayden constructed between 1927 and 1938, as a summer residence. In 1925, the first rented tent houses were erected at Lake Mary, followed a few years later by the Crystal Trap Lodge situated at the south end of Lake Mary. In 1923, the Wildyrie resort was developed at Lake Mary, and around this same time, the Tamarack Lodge housed fishermen at Twin Lakes. Support and related services followed, including packers, guides, ice-harvesting, dairies, gas stations, restaurants, bakeries, and more.

After World War I, the transportation infrastructure was improved and the region experienced increasingly intense development and seasonal recreational use. Old Mammoth Road, which had served as the main thoroughfare since 1877, needed substantial improvement to support and attract additional tourism. The construction of Lake Mary Road in 1920 opened up the Lakes Basin to automobile traffic, and State Highway 203 was constructed in 1937. Branching off from Highway 395 near Casa Diablo, SR 203 was constructed north of the old road and made the Mammoth area more accessible to summer tourists. Most of the community, along with businesses, migrated to the new highway and built the town of new Mammoth, the present town of Mammoth Lakes, at the intersection of Old Mammoth Road and SR 203. The 1914 topographic map as revised in 1934 demonstrates the shift in population.

¹⁴ *Evaluation of Significance: Archaeological Reconnaissance Form. Home Lumber Company Sawmill (CA-Mno-622). Mammoth County Park Expansion/Hazard Reduction. 1975.*

¹⁵ *USDA Forest Service: Heritage Resource Site Record, Hayden Cabin (CA-MNO-2760-H), 1993, 2.*

¹⁶ *USDA Forest Service: Heritage Resource Site Record, Hayden Cabin (CA-MNO-2760-H), 1993, 1.*

The Mammoth Ranger station relocated to the near the new highway in 1938, and two houses for rangers were also constructed.¹⁷ During this time the Civilian Conservation Corps (CCC), was building roads and campgrounds at the Lakes Basin, Convict Lake, and near camp headquarters at Shady Rest.

(f) Post World War II Tourism (1945 - 1960)

After the end of World War II, the Mammoth area was Southern California's most popular destinations for winter and summer sports and leisure. Winter skiing became a new major attraction at Mammoth in the 1940s, bringing enthusiasts and additional, specialized developments to the area from that time forward to the present. The 1953 Topographic map demonstrates the rapid growth of the Mammoth Lakes area. There are higher concentrations of buildings around the road networks of Old Mammoth and Mammoth Lakes in comparison to older topographic maps.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Cultural Resources Records Search

In the preparation of the cultural resources assessment, PCR utilized information from a previous records search conducted by LSA Associates, Inc. (LSA) for the TSMP and completed a supplemental in-house records search on April 4, 2011. The latter record search was conducted by PCR archaeologist, Mr. Matthew Gonzalez, at the CHRIS-EIC at the University of California, Riverside and focused on the SHARP Priority Projects since these project footprints have been finalized. The latter records searches included a review of recorded historical resources and archaeological sites within the Project and surrounding vicinity as well as a review of cultural resource reports and historic topographic maps on file. The purpose of the record search is to determine whether or not there are previously recorded archaeological or historical resources within the Project that require evaluation and treatment. The results also provide a basis for assessing the sensitivity of the Project for additional and buried cultural resources. Finally, the Inyo National Forest provided PCR with additional information regarding previously recorded resources and cultural resource surveys in the SHARP and TSMP areas.

The results of PCR's cultural resources records search through the CHRIS-EIC revealed that numerous archaeological resources are located within or in the immediate vicinity of the SHARP Priority Projects. These resources are summarized in **Table 4.D-1, Cultural Resources Located Within or in the Immediate Vicinity of the SHARP and TSMP**. According to previous records searches conducted by LSA, additional resources are located in the TSMP that are summarized in the **Table 4.D-2, Cultural Resources Located Within or In the Immediate Vicinity of the TSMP**. The resources include historic period resources such as buildings/cabins, refuse deposits, irrigation ditches, mining pits, foundations and other associated features that date to the late 19th century and early 20th century. The prehistoric period resources primarily consist of obsidian lithic scatters, although some midden and bedrock milling features have been identified. The density of both historic and prehistoric period resources is higher along the banks of Mammoth Creek and surrounding environs while the density of previously recorded resources is lower in the more elevated portions of the Project.

¹⁷ Adele Reed, *Old Mammoth, Palo Alto, Ca: Genny Smith Books, 1982.*

Table 4.D-1

Cultural Resources Located Within or In the Immediate Vicinity of the SHARP and TSMP

Site Designation	Description	Project
CA-MNO-3H	Old Mammoth town site – historic structures and associated historic features and artifacts; prehistoric village site containing lithic scatters, midden, bedrock milling features. flaked tools, manos, metates, etc.	TSMP MUP 4-5
CA-MNO-561/52-043	Obsidian lithic scatter (prehistoric)	SHARP No. 6 (Summer)
CA-MNO-770	Sparse obsidian lithic scatter (prehistoric)	TSMP MUP 4-5
CA-MNO-871	Sparse obsidian lithic scatter (prehistoric)	SHARP No. 7 (Summer)
CA-MNO-893	Irrigation feature: Bodle Ditch (c. 1878) (historic)	SHARP No. 7 (Summer)
CA-MNO-907	Lithic scatter (prehistoric)	TSMP MUP 4-5
CA-MNO-2683	Sparse obsidian lithic scatter (prehistoric)	SHARP No. 6 (Summer)
CA-MNO-2760H	Hayden Cabin (historic)	SHARP No. 6 (Summer)
CA-MNO-2810	Sparse obsidian lithic scatter (prehistoric)	SHARP No. 7 (Summer)
CA-MNO-3793	Possible mining prospect pit (historic)	SHARP No. 5B-s (Summer)
CA-MNO-4197	Earthen irrigation ditch and metal pipeline (c. 1880 – 1914)	TSMP MUP 4-5
CA-MNO-3795	(Not Available)	SHARP No. 5B-s (Summer)
CA-MNO-4542/P-26-4915/52-2172	“Mammoth City Site” - 20+ historic structure pads, historic refuse scatters, prehistoric lithic scatters (c. late 19 th century)	SHARP No. 5B-n (Summer)
CA-MNO-4642	(Not Available)	SHARP No. 6 (Summer)
52-011*	(Not Available)	TSMP MUP – Shady Rest Loop
52-035*	(Not Available)	SHARP No. 7 (Summer)
51-276*	(Not Available)	TSMP – Knolls North Route
51-305*	(Not Available)	TSMP – Overlook Trail/Shady Rest-West
51-306*	(Not Available)	TSMP – Shady Rest East Loop/Nature Walk
52-011*	(Not Available)	TSMP MUP (Shady Rest Area)
52-035*	(Not Available)	SHARP No. 7 (Summer)
52-866*	(Not Available)	SHARP No. 7 (Summer)
52-972*	(Not Available)	TSMP MUP – College Parkway Connector
52-2181*	(Not Available)	TSMP – Shady Rest-West
(Not Available)	Historic Fresno Flats Trail*	TSMP MUP – Lake Mary Rd. Bik Path

*Information provided by the Inyo National Forest

Source: PCR Services Corporation, CHRIS-EIC, Inyo National Forest

Table 4.D-2**Cultural Resources Located Within or In the Immediate Vicinity of the TSMP**

Site Designation	Description	Project
P-26-5009	Isolated flake (prehistoric)	Knolls – South Route (MUP)
CA-MNO-3H	Old Mammoth town site – historic structures and associated historic features and artifacts; prehistoric village site containing lithic scatters, midden, bedrock milling features. flaked tools, manos, metates, etc.	Potential Boardwalk
CA-MNO-888	Lithic scatter with multiple projectile point fragments, scrapers, and debitage (prehistoric)	Shady Rest East Loop (MUP)
CA-MNO-906	Lithic scatter (prehistoric)	Mammoth Creek Trail (MUP)
CA-MNO-907	Lithic scatter (prehistoric)	Mammoth Creek Trail (MUP)
CA-MNO-1655	Sparse lithic scatter (prehistoric)	203 South Connector (MUP)
CA-MNO-3454	Lithic scatter (prehistoric)	Knolls – North Route (SST)
CA-MNO-4197H	Earthen irrigation ditch and metal pipeline (c. 1880 – 1914)	Potential Boardwalk

Source: LSA Associates, Inc., CHRIS-EIC

Record search results indicate that there are several previously recorded historic resources within the Project.

There are two California Points of Historical Interest:

- Old Mammoth City, P15 (Registration date 3/29/1967) (State Parks Historic Inventory CA MNO 003; CRHR Status Code 7L: designated prior to January 1998-needs reevaluation using current standards)
- Sherwin's Grade Toll Road, P28 (Primary# 26-003061, Registration date 3/29/1967) (State Parks Historic Inventory MNO 016; CRHR Status Code 7L: designated prior to January 1998-needs reevaluation using current standards)

There is one property listed on the California Register:

- Hayden Cabin, P13 (Primary# 26-003728, registration date 7/14/1993)

The following resources have been evaluated previously and were found ineligible for listing on the National Register: Ranger Station (FS 05-03-52-961), CCC Camp (CA-MNO-623), and the Sawmill (site of the former Home Lumber Company)(CA-MNO-622). However, the previous surveys were conducted over ten years ago by archaeologists rather than qualified historians/architectural historians. It is recommended these resources be reevaluated since they are within the area of potential impact for the proposed Project.

According to the Inyo National Forest, two resources (52-035 and 52-866) are located in the vicinity of the SHARP No. 7 (Summer) project. It is possible that these resources are CA-MNO-871, -893, or -2810.¹⁸ The

¹⁸ Further consultation with the Inyo National Forest is warranted to verify this conclusion.

Inyo National Forest has also indicated that four resources (51-276, -305, -306, and 52-2181) are located within the trail corridors of proposed recreational trails in the Shady Rest area. The USFS also indicates that three additional resources (Historic Fresno Flats Trail, 52-011, and 52-592) are located within the TSMP near- and long-term MUPs.

In addition to providing information regarding previously recorded resources, the Inyo National Forest has summarized the survey coverage of the TSMP and SHARP project areas. According to the Inyo National

Forest, many of the project areas potentially affected by the TSMP and several portions of the SHARP areas have been previously surveyed. While detailed information on the extent and date of these surveys has not been provided by the USFS at this time, the available information concerning these surveys is outlined below.

Specifically, in regard to components of the TSMP; all of the Mammoth Mountain Trail, Paper Route Lakes Trails, Knolls Loop Trails, Lake Mary Road Bike Path, College Park Connector, Shady Rest Loop, Mammoth Creek Trail have been surveyed and it appears the Inyo National Forest would not require updated surveys for these areas unless a cultural resource is located within the APE. In that case, an additional site visit to confirm existing conditions and to evaluate the resource's eligibility would be required. If warranted, an impact analysis would be performed and appropriate mitigation would be recommended. These projects include the Lake Mary Road Bike Path (Historic Fresno Flats Trail), College Parkway Connector (52-972), and Shady Rest Loop (52-11). Other components of the TSMP that have been partially surveyed include sites in the vicinity of the TSMP Recreation Trails in the Shady Rest area (51-276, 51-305, 51-306, 52-2181), 203 South Connector/Hospital Industrial Park Access, Mammoth Creek MCWD Access, and Mammoth Creek Park. Additional surveys would be required for segments of these trails that have not been surveyed or in areas where a resource has been previously recorded to confirm existing conditions, conduct an impact analysis, and recommend appropriate mitigation.

According to the Inyo National Forest, portions of the SHARP have also been previously surveyed. These areas include portions of SHARP No. 5B-n, No. 6, No. 7, and No. 15. SHARP No. 5B-s has not been surveyed while the Panorama Dome Area has been completely surveyed. No information is provided for the other SHARP project components. As discussed above, additional surveys will be required for segments of these trails that have not been surveyed or in areas where a resource has been previously recorded to confirm existing conditions, evaluate their eligibility, conduct an impact analysis, and recommend appropriate mitigation.

The current location (or resource boundaries), condition, and contents of the resources (listed in Tables 2, 3, and 4 of the Cultural Resources Assessment, contained in Appendix F of this Draft EIR) would need to be field-verified by means of a pedestrian field survey. Because many years that have passed since the resources were initially recorded and the lack of accurate GPS receivers (and inadequate mapping standards) at that time, it is possible that some resources may no longer exist or may not be located where they were originally mapped. New surveys will also be required to identify if any previously unknown resources are located within the Project Area.

Because of the limited scope of the cultural resources records search, additional record searches at the CHRIS-EIC (if necessary) and the Inyo National Forest field office (in Bishop, CA) are recommended to identify previously recorded cultural resources within the Project. Additional consultation with Inyo

National Forest is also required from the Inyo National Forest regarding the location, condition, and content of the previously recorded resources and the previous survey studies that have been referenced in the Cultural Resources Assessment.

(2) Additional Methods for Historical Resources

The historical resources investigation included records searches and review of local histories to determine: (i) if known historical resources have previously been recorded within a half-mile radius of the Project; (ii) if the Project area has been systematically surveyed by historians prior to the initiation of the study; and/or (iii) whether there is other information that would indicate whether or not the area of the Project area is historically sensitive or may pose indirect impacts to adjacent historic resources. PCR consulted the National Register, California Register, California Historic Resources Inventory (HRI), California Points of Historical Interest (PHI), and California Historical Landmarks (CHL) to determine previously identified historical resources within a half-mile radius of the Project.

(3) Paleontological Resources Records Search

The paleontological resources records search consisted of an examination of geologic maps and paleontological locality records. In addition, the UCMP online database was accessed to determine if known vertebrate fossil localities are present inside or in the vicinity of the Project. Results of the record search indicate whether or not there are previously recorded paleontological resources within the Project that require evaluation and treatment. The results also provide a basis for assessing the sensitivity of the Project for additional and buried paleontological resources.

The paleontological records search through the UCMP online database determined that there are no known vertebrate, invertebrate, plant, microfossil, or other fossil localities that have been previously identified within the Project or the surrounding vicinity. The closest vertebrate fossil locality in the database is located more than 30 miles to the north. Initial consultation of collection records and geologic maps indicated that the Town area has no history of fossil resources, largely because the terrain was glaciated and is dominated by igneous and metamorphic rocks which are not conducive to retaining paleontological resources.

(4) Sacred Lands File Search and Native American Consultation

On August 25, 2010, Mr. Garcia commissioned a SLF records search of the SHARP Priority Projects through the California Native American Heritage Commission (NAHC) and conducted follow-up consultation with Native American groups and/or individuals identified by the NAHC as having affiliation with the Project vicinity. Each Native American group and/or individual listed was sent a project notification letter and map and was asked to convey any knowledge regarding prehistoric or Native American resources (archaeological sites, sacred lands, or artifacts) located within the SHARP Priority Projects or surrounding vicinity. The letter included information such as Project area location and a brief description of the proposed Project. Results of the SLF search and follow-up consultation will provide information as to the nature and location of additional prehistoric or Native American resources to be incorporated in the impact analysis whose records may not be available at the CHRIS-EIC.

Results of the SLF search through the NAHC *did not* indicate any known Native American cultural resources from the NAHC archives within the SHARP Priority Projects or within a half-mile radius. Pursuant to NAHC suggested procedure and in compliance with Section 106, follow-up letters were sent via certified mail on

November 30, 2010 to the seven (7) Native American individuals and organizations identified by the NAHC as being affiliated with the vicinity of the Project area to request any additional information or concerns they may have about Native American cultural resources that may be affected by the proposed Project. PCR has return receipts on file from each of the seven Native American contacts which confirms receipt of the submitted letters.

As of June 29, 2011, PCR has received no responses from the Native American community. PCR will keep the Lead Agencies informed with this ongoing Native American consultation. The NAHC SLF records search results letter, the Native American contact list, and other Native American consultation documentation is provided in Appendix A of the Cultural Resources Assessment contained in Appendix F of this Draft EIR.

b. Thresholds of Significance

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to cultural resources. The Initial Study Environmental Checklist questions relating to cultural resources have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 (refer to Impact Statement 4.D-1).
- Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 (refer to Impact Statement 4.D-2).
- Threshold 3: Directly or indirectly destroy a unique paleontological resource or site or unique geological feature (refer to Impact Statement 4.D-3).
- Threshold 4: Disturb any human remains, including those interred outside of formal cemeteries (refer to Impact Statement 4.D-4).

c. Project Features

(1) Trails System Master Plan (TSMP)

The proposed TSMP includes various recommendations intended to enhance the in-town network of multi-use paths, trails and bikeways and improved access to trails and backcountry experiences beyond the Town's UGB. The recommendations are intended to guide development of a comprehensive trail system within the Town. As previously noted, the February 2009 Draft TSMP incorporates the Soft Surface Trails Concept and Sherwin Area Trails Special Study: elements of both of these components of the Draft TSMP have since been the subject of additional planning through the SHARP process, and are described separately below.

(2) Sherwin Area Recreation Plan (SHARP)

The proposed SHARP recommends winter and summer projects regarding trails, public access, and recreation facilities for implementation in the Sherwins area. The SHARP identifies 31 summer and 19

winter projects. All of the trails identified within SHARP are located on National forest lands; some or all of the existing and proposed trails and facilities may remain or become official USFS system trails, others may be constructed, operated and maintained by the Town under Special Use Permit from Inyo National Forest, or under collaborative programs developed between the two agencies. Examples of existing trails include, but are not limited to, Mammoth Rock Trail, Panorama Dome Trail, and the Sherwin Lakes Trail. All trails and facilities proposed in this plan are subject to review under the National Environmental Policy Act and would require approval by the US Forest Service to move forward. At this time, only a select number of the proposals have been accepted by the US Forest Service for further environmental review and consideration. Additional proposals included in the SHARP document may or may not be considered by the US Forest Service as future projects.

(3) Priority Projects

As described above, most of the projects included in the TSMP and SHARP are conceptual; however, some projects are more fully developed and have a high priority for implementation in the short-term (i.e., next 1-5 years). These projects are considered "Priority Projects" by the Town.

(4) Management and Maintenance

Management and maintenance activities may include activities such as vegetation clearing, surface repair, and winter grooming or clearing of existing and proposed trails. It is generally assumed that trails, bike facilities and MUPs located within the UGB, and within Town rights-of-way on easements within private property would be managed and maintained by the Town of Mammoth Lakes, as would facilities operated by the Town under Special Use Permit from the Inyo National Forest. Details of which system components within National forest lands would be operated or managed by the Town, US Forest Service, or some other entity would be developed as specific projects move forward.

(5) Construction Activities

Since the construction season typically lasts approximately six months (May to October), it would be likely that most SHARP Priority Projects would take at least two years to complete, although short sections (e.g., MUPs 2-1 and 3-1) may be completed in a single season. Construction on at least some projects could begin as early as summer 2011, though ultimately would be contingent on funding. It is anticipated all of the Priority Projects would be built within 5 years, with some degree of overlap in terms of projects under concurrent construction.

For other trail components of the TSMP and SHARP plans, construction of individual projects would occur as funding and resources become available over time with the duration of construction dependent on individual project types.

d. Analysis of Project Impacts

Historical Resources

4.D-1 *Project implementation would potentially impact historical resources within the Project Area. However, analysis has concluded that impacts to historic resources would be reduced to a less than significant level with implementation of the prescribed mitigation measures.*

Most of the projects included in the TSMP and SHARP do not entail substantial improvements that could affect historical resources. Results of the records search indicated that there are two California Points of Historical Interest, Old Mammoth City and Sherwin's Grade Toll Road, and one property listed on the California Register, the Hayden Cabin. New construction within these areas must comply with the *Secretary of the Interior's Standards for Rehabilitation*. The Hayden Cabin Path (SHARP No. 6) is listed on the California Register. Project improvements within Mammoth Creek Park East for parking, signage and trail improvements are proposed in the vicinity of Hayden Cabin. If any improvements occur in proximity to Hayden Cabin, specifically if they involve new structures or notable changes in the setting and landscaping adjacent to the resource, there could be significant indirect impacts on Hayden Cabin as a historic resource. Also, in the event additions or rehabilitation to Hayden Cabin occurs in association with the Project, significant impacts could result unless the improvements comply with the *Secretary of the Interior's Standards for Rehabilitation*.

Construction of Bridge MUP 4-3 and Tunnel X2-18 have the potential to significantly impact structures and/or subsurface historic deposits associated with the Old Mammoth Town Site. The Old Mammoth City neighborhood along Old Mammoth Road has a high potential to contain historical resources over 45 years in age that may be located within the project area or vicinity of a proposed new park (Owen Street). Mitigation measures are provided to address potential direct or indirect impacts on these resources. Mitigation involves Project review by a qualified historic preservation consultant who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The objective of this review is to help ensure that Project design and construction is carried out in a manner consistent with the preservation consultant's recommendations to ensure that the project meets the Secretary of the Interior's Standards for rehabilitation. A project that conforms to the Secretary of the Interior's Standards is considered fully mitigated under CEQA.

The proposed bathroom improvement for a trailhead at Shady Rest Sawmill Cutoff Road has the potential to directly or indirectly impact the Ranger Station and contributing setting and/or CCC Camp administration buildings/campground and associated landscape features and setting. To reduce potential impacts the project should avoid historic resources and its design should be compatible with existing architecture. If determined necessary, properties over 45 years in age within the proposed project area and vicinity must be surveyed, evaluated, and recorded on DPR forms by a qualified architectural historian. Potential impacts to identified resources must be assessed and the proposed project must comply with the requirements set forth in Section 106 (36 CFR Part 800) of the National Historic Preservation Act of 1966 (NHPA), as amended.

If found eligible, any new construction, additions or rehabilitation to these resources or their contributing settings could result in significant impacts, unless they are designed to comply with the *Secretary of the Interior's Standards for Rehabilitation*. In the event eligible historic resources are demolished for

construction of the park, mitigation would include completion of a Historic American Building Survey report per State and Federal guidelines.

Mitigation involves Project review by a qualified historic preservation consultant who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The objective of this review is to help ensure that Project design and construction is carried out in a manner consistent with the preservation consultant's recommendations to ensure that the project meets the Secretary of the Interior's Standards for rehabilitation. A project that conforms to the Secretary of the Interior's Standards is considered fully mitigated under CEQA.

With the implementation of Mitigation Measures 4.D-1 and 4.D-2, impacts to historical resources would be reduced to a less than significant level.

Archaeological Resources

4.D-2 Project implementation has the potential to significantly impact archaeological resources in the Project Area. However, analysis has concluded that impacts to archaeological resources would be reduced to a less than significant level with implementation of the prescribed mitigation measures.

The proposed TSMP and SHARP improvements would generally entail limited ground disturbing activities, with the exception of a number of specific project features and types of facilities. For the most part, the proposed improvements involve the installation of signage and minor surface grading for multi-use paths (MUPs) and soft-surface trails (including installation of stormwater management features such as slope variations, water bars, etc.), with excavations of less than one foot. Similarly, relatively limited surface grading for parking lots, parks, and other improvements requiring low-intensity construction would also occur with shallow depths of excavation required. For a number of improvements, however, such as grade-separated crossings, restrooms, and larger structures at recreational nodes and portals (and associated utilities), deeper and more extensive ground disturbance would be required for construction. Where Multi-Use Path segments traverse steep slopes, more extensive grading and excavation may be needed to bring the a trail facility to a suitable grade for its designated users.

Components of the Project that do not require excavation activities such as grading, trenching, or boring would result in no impacts to archaeological resources and therefore no additional analyses or mitigation is necessary. These projects would include areas where an existing trail or roadway will be utilized. Other Project components that include excavations into heavily disturbed soils or fill would also result in no impact to archaeological resources as resources have likely been displaced from previous disturbances and there is nearly no potential to encounter resources in fill soils.

However, all components of the Project that include excavations into native soils would require additional analyses to identify any potential archaeological impacts. The results of the cultural resources records search through the CHRIS-EIC revealed that there are multiple archaeological resources located within the Project and in the immediate vicinity. These findings confirm that the potential to impact archaeological resources (on the surface or buried) at Project components appears to be high if excavations are planned in native soil.

Before an adequate project-level impact analysis can be performed for these resources (or any other previously recorded resources within the project), the current location (or resource boundaries), condition, and contents of the resources shall be field-verified by means of a pedestrian field survey before site- and project-specific mitigation measures can be established to reduce, minimize, or avoid any impacts to these resources. New surveys will also be required to identify if any previously unknown resources are located within the Project. Furthermore, because of the many years that have passed since the resources were initially recorded and the lack of accurate GPS receivers (and inadequate mapping standards) at that time, it is possible that some resources may no longer exist or may not be located where they were originally mapped. This can only be confirmed with a current pedestrian field survey. Further consultation with the Inyo National Forest is also warranted regarding the resource information that was provided to PCR for the TSMP and SHARP. Therefore, these recommendations are included as Mitigation Measures 4.D-3 through 4.D-7 and are provided in the following section. These measures are recommended to reduce impacts to archaeological resources to a less than significant level.

The positive results of the records search indicate that the Project has a moderate to high potential to impact archaeological resources. Future archaeological sensitivity assessments will be performed on a project-by-project basis and will take into account previous land use/disturbances, project impacts (direct and indirect), and location of known resources in the vicinity.

Paleontological Resources

4.D-3 Project implementation would potentially impact paleontological resources in the Project Area. However, analysis has concluded that impacts to paleontological resources would be reduced to a less than significant level with implementation of the prescribed mitigation measure.

Results of a paleontological records search through the UCMP online database indicated that there are no recorded fossil localities within the Project or within the surrounding vicinity. The closest known vertebrate fossil locality is located more than 30 miles north of the Project. Initial consultation of collection records and geologic maps (Jennings 1977) indicate that the Mammoth Lakes area has no history of fossil resources largely because the terrain is dominated by igneous and metamorphic rocks which are not conducive to retaining paleontological resources. Pleistocene glacial deposits overlie the basement and volcanic rocks in the Project and throughout the Town. Results of previous geotechnical studies for projects within the Town indicate that the lower portions of the Town and the UGB are underlain by undocumented fill (in developed areas), quaternary younger alluvium, and quaternary Tioga Till (i.e., glacial till) (Sierra Geotechnical Services, Inc. 2005). Apart from glacial deposits, there are no sediments old enough to produce fossils inside or within the vicinity of the Project and it is unlikely that shallow excavations associated with the proposed Project will encounter these deposits. However, there is a low to moderate potential to encounter paleontological resources in glacial deposits within the proposed Project area. As such, Mitigation Measure 4.D-8, which would apply to all construction activities, is recommended. With the implementation of this mitigation measure, impacts to paleontological resources would be reduced to a less than significant level.

Human Remains

4.D-4 *The Project could impacts older burial sites or human remains associated with archaeological sites. However, impacts would be reduced to less than significant levels with the implementation of mitigation measures related to archaeological resources.*

According to record searches conducted through the CHRIS-EIC, no existing or former cemeteries (including Native American human remains) have been recorded within the TSMP and SHARP project areas or immediate vicinity. Furthermore, the SLF search through the NAHC did not indicate any known Native American cultural resources within the SHARP Priority Projects sites or within a half-mile radius of these sites. The NAHC results also noted, however, that the “absence of archaeological items is not evidence that it does not exist at the subsurface level.” No existing or known burial sites or cemeteries are known to occur in the locations of TSMP and SHARP projects and, as such, impacts on human remains is not expected. If such resources are accidentally encountered during project implementation, Mitigation Measures 4.D-7, below, would reduce impacts to human remains to a less than significant level.

3. MITIGATION MEASURES

The mitigation measures listed below apply to all components of the Project including the TSMP and SHARP. PCR recommends these measures to identify and mitigate impacts to cultural resources. It is recommended that subsequent, more focused environmental review shall occur which may result in more specific mitigation.

Historical Resources

Mitigation Measure 4.D-1: The Old Mammoth City neighborhood and Sherwin’s Grade Toll Road are both previously identified California Points of Historical Interest, and therefore, improvements on or adjacent to the points of interest that have the potential to directly impact these resources or their settings, must be designed to comply with the Secretary of the Interior’s *Standards*. Likewise, the Ranger Station and/or CCC Camp administration buildings/campground in the vicinity of the Shady Rest Sawmill Cutoff Road, on USFS lands, are previously surveyed resources that require reevaluation by qualified surveyors, if determined necessary. Prior to designing or implementing projects in this area, the Town shall engage a qualified historic preservation consultant to review the proposed projects. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the Secretary of the Interior’s Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary’s Standards and Guidelines. The Town shall undertake and complete construction in a manner consistent with the preservation consultant’s recommendations to ensure that the Project meets the *Secretary of the Interior’s Standards for Rehabilitation*. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior’s Standards and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior’s *Standards* is considered fully mitigated under CEQA. For projects on federal lands, upon completion of any report on findings, the State Historic

Preservation Officer shall be consulted to allow for Section 106 review and concurrence with the study findings.

Mitigation Measure 4.D-2: The Hayden Cabin is listed on the California Register and new adjacent construction, additions, or rehabilitation to the Hayden Cabin or its contributing property setting visible from the Hayden Cabin, other than surface trail or minor paving improvements, must comply with the Secretary of the Interior's *Standards*. Prior to designing or implementing such improvements in this area the Town shall engage a qualified historic preservation consultant to review the proposed Project. A qualified architectural historian, historic architect, or historic preservation professional is someone who satisfies the Secretary of the Interior's Professional Qualification Standards for History, Architectural History, or Architecture, pursuant to 36 CFR 61, and has at least 10 years experience in reviewing architectural plans for conformance to the Secretary's Standards and Guidelines. The Town shall undertake and complete construction in a manner consistent with the preservation consultant's recommendations to ensure that the Project meets the *Secretary of the Interior's Standards for Rehabilitation*. The preservation consultant shall review the final construction drawings for conformance to the Secretary of the Interior's *Standards* and prepare a memo commenting on the final Project. A Project that conforms to the Secretary of the Interior's Standards is considered fully mitigated under CEQA.

Archaeological Resources

For subsequent projects that require excavation activity (e.g., grading, trenching or boring) into native soil, the following mitigation measures are recommended:

Mitigation Measure 4.D-3: The Town shall conduct a Phase I Cultural Resources Assessment of the Project to identify any archaeological resources within the area of a proposed project component. The Area of Potential Effect (APE¹⁹) will be the focus of the analyses for projects located on federal lands per Section 106. The Phase I assessment shall include cultural resources records searches through the Eastern Information Center (as needed) and the Inyo National Forest Field Office, a Sacred Lands File search through the Native American Heritage Commission and follow-up Native American consultation, and a pedestrian survey of the Project area (*Note: Surveys may not be required in areas of the TSMP and SHARP that have already been surveyed unless resources were identified; such a determination should be made in consultation with the Inyo National Forest*). For projects on federal lands, upon completion of any report on findings, the State Historic Preservation Officer shall be consulted to allow for review and concurrence with the study findings.

- If resources are identified during the Phase I assessment, then a Phase II assessment shall be required, as described in Mitigation Measure 4.D.-4

¹⁹ The Inyo National Forest has determined that the APE for the Project includes the Project footprint and a 15-meter buffer area extending from the trail centerline or any other ground-disturbing activity associated with the proposed Project on federal lands.

- If no resources are identified as part of the assessment, no further analyses or mitigation shall be warranted, unless it can be determined that the project has a high potential to encounter buried archaeological or historical resources;
- If it determined that there is a moderate or high potential to encounter buried archaeological resources, appropriate mitigation shall be developed and implemented. Appropriate Mitigation may include, realignment of the trail to avoid the sensitive area, in which case no additional mitigation would be required. If avoidance is not possible, appropriate mitigation may include but not be limited to the following:

Archaeological Monitoring During Construction: A qualified archaeologist shall be retained by the Town and approved by the reviewing agencies prior to the commencement of the Project. The archaeologist shall monitor all ground-disturbing activities and excavations within the Project area. If archaeological resources are encountered during implementation of the Project, ground-disturbing activities shall temporarily be redirected from the vicinity of the find. The archaeologist shall be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a testing/data recovery investigation or preservation in place. The archaeologist shall prepare a final report about the find to be filed with the Town and the CHRIS-EIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California and National Registers. The Town, in consultation with the archaeologist, shall designate repositories to curate any material in the event that resources are recovered on Town property. If the resources are encountered on private land, the landowner shall determine appropriate curation in consultation with the archaeologist and Lead Agency. If archaeological resources are encountered on federal lands, ground-disturbing activities shall cease in the immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. The Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.

Mitigation Measure 4.D-4: If resources are identified during the Phase I assessment, a Phase II Cultural Resources Assessment may be warranted if improvements or new public access is proposed in the vicinity of such resources, or if an alternate alignment is not selected. The Phase II assessment shall evaluate the resource(s) for listing in the California Register of Historical Resources (per CEQA) and the National Register of Historic Places (per Section 106). If enough data is obtained from the Phase I assessment to conduct a proper evaluation, a Phase II assessment may not be necessary. Methodologies for evaluating a resource can include, but are not limited to: subsurface archaeological excavations, additional background research, and coordination with interested individuals in the community.

Mitigation Measure 4.D-5: If, as a result of the Phase II assessment, resources are determined eligible for listing, potential impacts to the resources shall be analyzed and if impacts are significant and cannot be avoided, mitigation measures shall be developed and implemented to reduce impacts to the resources. If avoidance is not feasible, then Phase III Cultural Resources Assessments shall be implemented. Phase III assessments can include, but are not limited to: additional subsurface archaeological excavations (i.e., data

recovery) and/or archaeological monitoring during ground-disturbing activities. For projects on National Forest lands, coordination and concurrence with the Inyo National Forest and State Historic Preservation Officer regarding treatment or mitigation shall be required. The performance standard for this mitigation measure is to reduce potential impacts to archaeological resources to a less than significant level.

The following mitigation measures apply to all components of the Project:

Mitigation Measure 4.D-6: If archaeological resources are encountered during implementation of the Project, ground-disturbing activities should temporarily be redirected from the vicinity of the find. The Town shall immediately notify a qualified archaeologist of the find. The archaeologist should coordinate with the Town as to the immediate treatment of the find until a proper site visit and evaluation is made by the archaeologist. Treatment may include the implementation of an archaeological testing or salvage program. All archaeological resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the CHRIS-EIC. The archaeologist shall prepare a final report about the find to be filed with the Town and the CHRIS-EIC, as required by the California Office of Historic Preservation. The report shall include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the California and National Registers. The Town, in consultation with the archaeologist, shall designate repositories to curate any material in the event that resources are recovered on Town property. If the resources are encountered on private land, the landowner shall determine appropriate curation in consultation with the archaeologist and Lead Agency. The archaeologist shall also determine the need for archaeological monitoring for any ground-disturbing activities in the area of the find thereafter. If archaeological resources are encountered on federal lands, ground-disturbing activities shall cease in the immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. In such cases the Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.

Mitigation Measure 4.D-7: If human remains are encountered unexpectedly during construction excavation and grading activities, pursuant to California Health and Safety Code Section 7050.5, the Applicant shall halt ground-disturbing activities within the area of the human remains and notify the County Coroner. If the remains are determined to be of Native American descent, the coroner shall have 24 hours to notify the California Native American Heritage Commission (NAHC). The NAHC shall identify the person(s) thought to be the Most Likely Descendant of the deceased Native American, who shall have 48 hours from notification by the NAHC to inspect the site of the discovery of Native American remains and to recommend to the Applicant or landowner means for treating and disposition, with appropriate dignity, the human remains and any associated grave goods. The Applicant or landowner shall reinter the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance. If the remains are determined to be of Native American descent and are located on federal lands, the coroner has 24 hours to notify the NAHC and the Inyo National Forest of the discovery. The Inyo National Forest shall take the appropriate steps to comply with the federal Native American Graves Protection and Repatriation Act (NAGPRA). NAGPRA stipulates that Native American remains and associated funerary objects belong to lineal descendants. If the descendants cannot be identified, then those remains and objects, along with unassociated funerary or sacred object and objects of cultural patrimony

belong to the tribe on whose lands the remains were found or the tribe having the closest relationship to them.

Paleontological Resources

The below mitigation measure applies to all components of the Project:

Mitigation Measure 4.D-8: If paleontological resources are encountered during implementation of the Project, ground-disturbing activities shall temporarily be redirected from the vicinity of the find. The Town shall immediately notify a qualified paleontologist of the find. The paleontologist shall coordinate with the Town as to the immediate treatment of the find until a proper site visit and evaluation is made by the paleontologist. Treatment may include the implementation of salvage excavations or preservation in place. The paleontologist shall prepare a final report on the find that shall include appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Town and an appropriate paleontological institution, and shall accompany any curated fossils. The paleontologist shall also determine the need for paleontological monitoring for any ground-disturbing activities in the area of the find thereafter. If paleontological resources are encountered on federal lands, ground-disturbing activities shall cease in the immediate vicinity of the find and the Inyo National Forest shall be contacted immediately. In such cases the Inyo National Forest shall provide direction as to the appropriate evaluation, treatment, and curation of the find.

4. CUMULATIVE IMPACTS

4.D-5 The project combined with cumulative projects may impact known or unknown cultural resources. However, project-by-project analysis of cultural resources impacts and compliance with applicable regulatory requirements would ensure that potentially significant cumulative impacts to cultural resources are reduced to a less than significant level.

Cumulative impacts refer to incremental effects of an individual project when viewed in connection with the effects of past projects, current projects, and probable future projects (Section 15130 of the *CEQA Guidelines*). Approximately 24 related projects, all but two of which are located within the UGB, have been identified for the cumulative impacts analysis. However, where applicable, related projects would be required to comply with federal and state regulations regarding cultural and paleontological resources. With the project-by-project evaluation of cultural and paleontological resources and respective implementation of required mitigation measures where indicated, cumulative impacts to cultural and paleontological resources would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of and adherence to the prescribed mitigation measures included herein, all potentially significant impacts would be reduced to a less than significant level.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

E. GEOLOGY/SOILS

INTRODUCTION

This section analyzes geologic hazards in the Project Area regarding seismicity, volcanic events, carbon monoxide, erosion/loss of topsoil, and soil stability. In addition, this section analyzes the potential for soil hazards related to alternative wastewater disposal systems. Information in this section is based on geologic information contained in the Town of Mammoth Lakes General Plan Program EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) California's Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (PRC Sec. 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along known, active faults (earthquake fault zones). It also defines criteria for identifying active faults, giving legal weight to terms such as active, and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones. Under the Alquist-Priolo Act, the California Geological Survey (previously known as the Division of Mines and Geology) maps the location of earthquake faults and establishes earthquake fault zones along faults that are "sufficiently active" and "well-defined." The resultant Alquist-Priolo maps are distributed to local governments who implement the provisions of the act to restrict construction along or across faults. A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the Act as referring to approximately the last 11,000 years). A fault is considered well-defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment.

(2) Seismic Hazards Mapping Act of 1990

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC Sec. 2690-2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong groundshaking, liquefaction, and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act: the California Geological Survey is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones.

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites

within Seismic Hazard Zones until appropriate site-specific geologic or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

(3) California Building Standards Code

The State of California's minimum standards for structural design and construction are given in the California Building Standards Code (CBSC) (CCRs, Title 24). The CBSC is based on the Uniform Building Code (UBC), which is used widely throughout United States (generally adopted on a state-by state or district-by-district basis), and has been modified for California conditions with numerous, more detailed and/or more stringent regulations.

The CBSC requires that "classification of the soil at each building site... be determined when required by the building official" and that "the classification... be based on observation and any necessary test of the materials disclosed by borings or excavations." In addition, the CBSC states that "the soil classification and design-bearing capacity shall be shown on the (building) plans, unless the foundation conforms to specified requirements." The CBSC provides standards for various aspects of construction, including but not limited to excavation, grading, and earthwork construction; fill placement and embankment construction; construction on expansive soils; foundation investigations and liquefaction potential; and soil strength loss. In accordance with California law, project design and construction would be required to comply with provisions of the CBSC.

(4) Mammoth Lakes Municipal Code

The Town Municipal Code Section 12.08.076 requires that grading may be conducted under the following permits within the limits of each: 1) a letter of exemption, for minimal work; 2) a building permit, allowing grading within the footprint and as needed for the foundation excavations; and 3) a grading permit, for all other conditions. Municipal Code Section 12.08.080 requires engineered plans and a soils report to be submitted with an application for a grading permit.

Municipal Code Section 17.16.050 (Grading and Clearing) enforces the preservation of trees and other vegetation. Development includes public improvements required by parcel and tract maps, use permits, grading permits and encroachment permits. Grading is limited to that area required for construction of the structure, utilities, driveways and access to one primary entrance of the structure which is provided for resident and guest access. The code requires that existing trees and vegetation be preserved to the maximum extent possible. No live trees over six inches in diameter can be removed without prior approval of the planning director. Approval to remove a tree is based on the health of the tree(s), the necessity to remove the tree(s) because of building or driveway construction or snow removal/storage, potential hazard or solar access. Creation of views, lawns or similar amenities is not considered sufficient cause to remove native trees. Replacement planting for tree removal can be required to mitigate the removal of a tree. Required replacement shall not exceed a total trunk diameter equal to that removed and shall be limited to plantings in areas suitable for tree replacement.

Chapter 15 of the Town Municipal Code requires that all structures within the boundaries of the Town shall be designed to the requirements of Seismic Zone 4 as defined in the Uniform Building Code. One-third of the design snow load shall be added to the deadload for seismic design. In addition, a building permit is required

for retaining walls exceeding four feet in height or retaining walls supporting any surcharge or special loads. Such walls are to be designed by a professional engineer licensed in the state.

(5) Town of Mammoth Lakes General Plan

The Town of Mammoth Lakes General Plan EIR includes policies that relate to minimizing hazards associated with erosion and sedimentation, as well as geologic and seismic hazards, which include the following:

Erosion and Sedimentation

Policy R.5.C: Prevent erosion, siltation, and flooding by requiring use of Best Management Practices (BMPs) during and after construction.

Geologic and Seismic

Policy S.3.H: Restrict development in areas with steep slopes.

Policy S.3.I: Require geotechnical evaluations and implement mitigation measures prior to development in areas of potential geologic and seismic hazards.

(6) Town Emergency Operations Plan

The Town maintains an Emergency Operations Plan (2001), which sets forth the responsibilities, functions, and operations of the Town government and its interrelationship with other agencies and jurisdictions which provide services during an emergency. The Emergency Operations Plan addresses earthquakes, volcanic activity, flooding, rapid snowmelt, fire, avalanches, landslides, transportation incidents, hazardous materials releases, medical emergencies, social unrest, terrorism, and war. The Plan meets the State's Standardized Emergency Management System (SEMS) and is updated regularly.

b. Existing Conditions

(1) Regional Geology

The Sierra Nevada is the largest continuous mountain range in the contiguous United States. The range is bounded on the east by a system of normal faults, which locally produced the escarpment separating the Sierra Nevada fault block from the Owens Valley. The Owens Valley, formed on the downfaulted east side of the Sierra Nevada boundary fault system, exhibits many examples of ongoing geologic processes including lava fields, cinder cones, fault scarps, hot springs, abandoned lake shorelines, volcanic calderas, and glacial deposits.

The Town of Mammoth Lakes is located near the southwest edge of the Long Valley Caldera, which overprints the Sierra Nevada boundary fault system. Persistent earthquake and volcanic activity over the past four million years have formed the eastern Sierra landscape in the vicinity of Long Valley Caldera and the Mono Basin. The high mountains around Mammoth constitute the caldera walls with the Glass Mountains forming the west and southwest walls and the Benton Range forming the east wall. Near the center of the caldera and off to the west is a system of hills that marks the remnants of the resurgent dome (dome-shaped uplift of the caldera floor caused by volcanic or seismic activity). Mammoth Mountain is a smaller dome on the rim of the caldera formed by repeated eruptions from vents on the southwest rim of the

caldera 220,000 to 50,000 years ago. The caldera and other geologic features such as Devil's Postpile, Mammoth Rock, and Crystal Crag are evidence that the region around the Town is geologically young with an active recent history.

Although much attention has been focused on the Long Valley caldera resurgent dome and on associated volcanic hazards at Mammoth Mountain, little is known about the details of the most recent (latest Pleistocene to Holocene) eruptions in the greater Long Valley caldera complex, specifically in the Mono and Inyo Craters chain. In general, activity within the resurgent dome has not been linked with the formation and later eruptions of the Mono and Inyo Craters; however, there may be evidence to connect the two.

The eruptions that created the Long Valley Caldera were fed by a large magma chamber in the shallow crust, which culminated in the cataclysmic eruption of 150 cubic miles of rhyolite 760,000 years ago. This massive eruption resulted in the 6,000 to 10,000 foot subsidence of the magma chamber roof to form the present 20-mile long and 9-mile wide oval depression of the Long Valley Caldera. Despite recent activity in the resurgent dome east of Mammoth Mountain, the resurgent dome has experienced eruption only once every 100,000 to 200,000 years since the catastrophic caldera-forming event 760,000 years ago, and it last erupted roughly 50,000 years before present (B.P.). During the past 3,000 years the Mono-Inyo Craters have erupted at intervals of 700 to 250 years, the most recent eruptions being from Panum Crater and the Inyo Craters 500 to 600 years ago, and Paoha Island about 250 years ago. Evidence from both seismic soundings of the crust and studies of the fabric and composition of the lava indicate that these eruptions probably originated from small, discrete magma bodies rather than from a single, large magma chamber of the sort that produced the caldera-forming eruption 760,000 years ago.

During the past 3,000 years, glaciers have formed and melted several times in the eastern Sierra. The tillites preserved in the Town represent younger Pleistocene glacial deposits including the Tahoe till, the Tioga till, and related outwash deposits of gravel and sand swept away from the glacial margins by meltwater streams.

In 1982, the United States Geological Survey (USGS) under the Volcano Hazards Program began an intensive effort to monitor and study geologic unrest in the Long Valley caldera. The goal of this effort was to provide residents and civil authorities in the area reliable information on the nature of the potential hazards posed by this unrest and timely warning of an impending volcanic eruption, should it develop. Most, perhaps all, volcanic eruptions are preceded and accompanied by geophysical and geochemical changes in the volcanic system. Common precursory indicators of volcanic activity include increased seismicity, ground deformation, and variations in the nature and rate of gas emissions.

(2) Soils

The Town is underlain by a variety of rock types, including Pliocene to recent volcanic and pyroclastic deposits (12 million years old to less than 10,000 years old), Pleistocene glacial deposits (2.5 million to 10,000 years old), and Holocene alluvium (less than 10,000 years old). Soils are derived from these geologically recent deposits.

Soils in the Planning Area are characterized as Frigid and Cryic based on a four square mile survey, including the Town, by the USDA, Natural Resource Conservation Service in 2002. The soils are typically gravelly loams with low water capacity generally developed on glacial outwash south of Mary Lake Road and on

glacial moraines to the north. Generally, soils are sensitive to disturbances by development and have a moderate to high erosion potential, depending on the steepness of the slopes.

Colluvial deposits located on the slopes of Mammoth Mountain and Mammoth Rock are generally loose unconsolidated material on slopes in excess of 30 percent. These deposits and the soils they support have moderate to high erosion and landslide potential.

(3) Topography

The land surface of the Town rises irregularly, but gently, toward the southwest from approximately 7,910 feet above mean sea level (amsl) near the intersection of Joaquin Road and Main Street to approximately 8,070 feet amsl near Camp High off Lake Mary Road. Topographic expression ranges from level to rolling alluvial plains at about 7,200 feet amsl in Long Valley, to approximately 11,600 feet amsl at Mammoth Mountain Summit, west of Mammoth Lakes. Slope gradients in the Town range from relatively flat terrain in Sherwin Meadow and Long Valley to slopes of 50 percent or greater on Mammoth Mountain. Slopes exceeding 30 percent are found in portions of Old Mammoth (particularly the Bluffs area), Mammoth Slopes, Westridge and the Mammoth Knolls.

(4) Volcanism

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake Long Valley area, including at least ten eruptions in the Mono Inyo volcanic chain during the past 600 years. Actual volcanic eruptions in the vicinity of the Town have not occurred in historic times. The most recent eruption in the region occurred in 1890 beneath the southern portion of Mono Lake, approximately 35 miles north of the Town. Another eruption occurred in approximately 1,400 A.D. within four miles of the Town at the southernmost Inyo Crater. Both eruptions were phreatic in type (i.e., they produced steam, water, mud, and other gasses and materials, as a result of ground water being heated by magma). The Mono and Inyo Craters comprise a young volcanic chain with a violent history, and there is strong evidence that another eruption in the region is very likely in the thousands of years.

Recently, the occurrence of Richter magnitude 6 earthquakes in May of 1980 initiated a new phase of magmatic activity and heightened potential for volcanic eruptions. Since the early 1980s, persistent, frequent low magnitude (Richter magnitude less than 3.0) seismic activity has indicated that magma is moving at depth. Detailed surveys indicate that the central portion of the Long Valley Caldera has risen more than 30 inches since the late 1970s, possibly in response to the filling of a shallow magma chamber. In 1990, it was recognized that magmatic gasses were killing trees in certain portions of the caldera. The trees were killed by high carbon dioxide content in the soil gasses surrounding their roots. The most well known location of high carbon dioxide soil gas is at the north end of Horseshoe Lake where scientists estimate that between 50 and 150 tons of carbon dioxide is emitted daily.

(5) Seismicity

The Mono Lake Long Valley region is part of one of the most active seismic regions in the U.S. Low and moderate magnitude earthquakes occurring within the Long Valley Caldera are felt occasionally by residents of Mono and Inyo Counties. The two main sources of earthquakes in the Mono Lakes area are tectonic and those generated by the movement of magma or the formation of cracks through which magma can move.

Tectonic earthquakes occur from rapid displacement on faults as a result of regional geologic stresses. Earthquakes from magmatic activity rarely have Richter magnitudes greater than 5.0.

(6) Geotechnical Hazards

Several types of potential geologic hazards may occur in the vicinity of the Town that could affect existing and future land uses, including the proposed trail system components as part of the Project, within the Planning Area. These hazards are not all of equal severity and would not affect land uses in the Planning Area to the same extent. These potential hazards include slope instability, erosion, seismicity, and various volcanic events as discussed below.

(a) Slope Stability Hazards

Regional Hazards: Landslides, earthslips, mudflows, and soil creeps are expressions of soil conditions related to the instabilities created by steep slopes. These conditions are also related to shallow soil development, the presence of excess water, or the lack of shear strength in the soil or at the soil/rock interface. Each of these conditions has been observed in Mono County; however, it is usually reported simply as a landslide. Earthquake activity induces some landslides, but most slides result from the weight of rain saturated soil and rock exceeding the shear strength of the underlying material. Erosion of supporting material at the foot of constructed slopes is another major cause of sliding.

Local Hazards: The moraines¹ south, west, and north of the Town are considered unstable, partly because they contain irregular deposits of clay that lack the strength to stand in steep slopes. Moraines in the center of the Town and to the east are considered generally stable, unless they are underlain by shallow groundwater because of the relatively low topography in this area. The southwest portion of the Lodestar project area has the potential for shallow groundwater; however, no groundwater was encountered during test pits dug in this area in 1976. Slope stability problems are primarily limited to steeper slopes, particularly those with significant talus accumulations. The stability of moraines in the Planning Area is variable.

(b) Erosion Hazards

Erosion potential is variable throughout the Town. The highest erosion potential occurs in loose and/or shallow soils on steep slopes. The portions of the Town where loose, sandy soils occur are subject to erosion when the surface area is disturbed or vegetation is removed. Under existing conditions in the Town, erosion potential of overland flow from snowmelt and rainfall runoff is reduced by ground cover, fallen leaves and needles, or the root systems of living trees.

(c) Seismic Hazards

The Town could experience considerable seismic activity in the future due to a number of reasons that include the following: 1) a high degree of crustal faulting in the Mono Lake and Long Valley area, which may lead to the release of tectonic strain by frequent small or moderate earthquakes; 2) the present frequent moderate earthquakes and earthquake swarms along the Sierra Front fault, which indicate the potential for a

¹ *Moraines are the rocks and soil carried and deposited by a glacier. An "end moraine", either a ridge or low hill running perpendicular to the direction of ice movement, forms at the end of a glacier when the ice is melting.*

large earthquake; and 3) movement of magma beneath the caldera, which may be the cause of seismic events below the Long Valley Caldera.

The California Division of Mines and Geology has included the Town within seismic zone III in the Urban Geology Master Plan with an expected modified Mercalli Rating of "IX" or "X" at maximum earthquake intensities. [The "IX" Mercalli rating indicates that heavy damage to unreinforced structures would result and some structures would collapse. The "X" rating indicates that most masonry structures would be destroyed, some well built wooden structures would be destroyed, and public facilities would be damaged.]

Regional Seismic Activity: There are several active and potentially active fault zones within 60 miles of the Town. These zones include faults that are historically active (during the last 200 years), those that have been active in the Holocene (the last 10,000 years), and those that have been active at some time during the Quaternary Period (the last two million years). The Mono Lake, June Lake, and Hilton Creek faults form the northern extension of the Sierra Nevada Boundary fault system and are historically active. The southern extension of the Sierra Nevada Boundary fault system includes the main trace of the Sierra Nevada fault and the historically active Owens Valley fault. Holocene faults occur as branches within major active fault zones and as segments of other faults in Mono and Inyo Counties. The Bodie Hills, White Mountains, Death Valley Furnace Creek, and Saline Valley faults have been classified as Quaternary and display no recent offset.

Local Seismic Activity: Seismic activity in the vicinity of the Town is a result of continuing tectonic movement along the eastern front of the Sierra Nevada Mountain Range. Three historically active faults located in proximity to the Town have the greatest potential to create significant ground shaking in the Town. These faults include the Hilton Creek fault (1980 earthquake), the Owens valley fault (1972 earthquake) and the Chalfant Valley fractures (1986 earthquake). These three faults, as well as six other potentially active faults that have the potential for ground shaking within the Town, are described below. (See **Figure 4.E-1, Regional Fault Map.**)

Hilton Creek Fault - The main shocks (Richter magnitude greater than 6.0) of the Mammoth Lakes earthquakes of May 1980 are attributed to movement on the Hilton Creek fault. At its nearest point, the Hilton Creek fault (including the northern splays) is located approximately 10 miles east of the Town. This fault has the greatest potential for ground shaking in portions of the Planning Area because of its close proximity to the Town and historic seismic activity.

In 1998 and 1999 three earthquakes with Richter magnitudes greater than 5.0 occurred on an unnamed north northeast trending fault zone west of the Hilton Creek fault. The sequence of earthquakes and their associated aftershocks appeared to propagate in a southerly direction away from the Town.

Owens Valley Fault - The Owens Valley fault is a major component of the Sierra Nevada boundary fault system. It extends from Coso Junction on the south to near Bishop on the north, a length of 56 miles. At its closest point, the Owens Valley fault is approximately 48 miles south of the Town.

Chalfant Valley Fractures - The Chalfant Valley fractures, at their closest point, are approximately 36 miles east of the Town.

Other Faults - Of the 37 active or potentially active faults within approximately 62 miles of the Town, the three historically active faults that have the greatest potential to cause seismic hazards in the Town are described above. However, six other potentially active faults that may have the potential for ground shaking in the Town include the following:

- Hartley Springs Fault (approximately four miles northwest);
- Laurel Convict Fault (approximately four miles southeast);
- Long Valley Caldera Faults (approximately two miles northwest);
- Mono Craters Caldera Faults (approximately 13 miles northwest);
- Silver Lake Fault (approximately ten miles northwest); and
- Wheeler Crest Fault (approximately 20 miles southeast).

The Long Valley Caldera lies along the Sierra Nevada Boundary fault system, overprinting the geographic and geologic boundary between the Sierra Nevada Mountain Range and the Owens Valley. Some of the faults along the western boundary of the caldera may now be considered part of the Sierra Nevada Boundary fault system and serve to link the Hilton Creek fault system to the south with the northern continuation of the Sierra Nevada Boundary fault system, the Silver Lake fault system to the north. These faults pass under Mammoth Mountain, within two miles of the Town (see Figure 4.E-1).

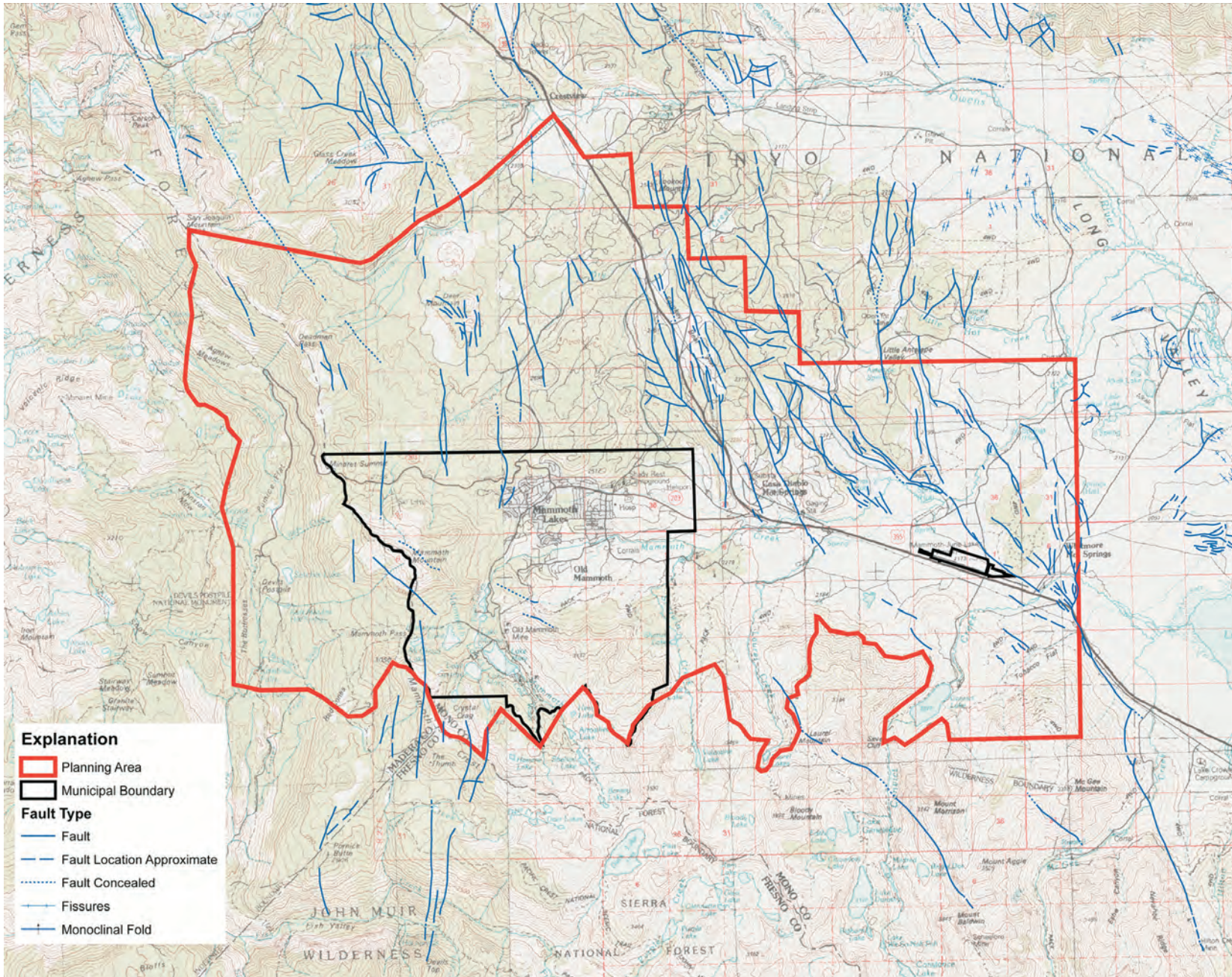
Other Geotechnical Hazards: Other geotechnical hazards may result from seismic activity. These related hazards include surface rupture, ground shaking, landslides, and liquefaction, as described below.

Surface Rupture - Damage due to surface rupturing is limited to the actual location of the fault line break, unlike damage from ground shaking, which can occur at great distances from the fault. The potential for surface rupture in the Town is considered to be moderate due to the presence of several active earthquake faults in the Planning Area. Further, there are several Alquist-Priolo Earthquake Fault Zones within the Planning Area.

Landslides - Landslides move under the force of gravity and are affected by the type of earth materials involved, the internal friction of the slide mass, and the slope over which the mass is moving. Triggering events for landslides include earthquakes, heavy precipitation, natural erosion, and earthwork/grading.

Liquefaction - Another response to severe ground shaking that can occur in loose soils is liquefaction. Liquefaction occurs in areas with shallow groundwater and where finer grained sands make up a significant part of the near surface (less than 30 feet amsl) soil section. Within Mammoth Lakes, areas of alluvium and moraine material with shallow groundwater have the potential for liquefaction.

According to the Lodestar EIR (1991) and General Plan EIR, some areas within the Town are composed of glacial outwash and till including the Westridge, Mammoth Slopes, Main Street Commercial, Old Mammoth Commercial, Minaret, Meridian, Snowcreek, Sierra Valley and Gateway Planning Districts. Areas subject to liquefaction because of fine-grained alluvium are in the low areas including Sherwin Meadows, areas to the north and south of the Old Mammoth District, and to a lesser extent, an area of shallow groundwater near the intersection of Meridian Boulevard and Minaret Road. Based on the character of surface and subsurface soil and depth to groundwater, there appears to be little potential for liquefaction in the Town.



Regional Fault Map

Trails System Master Plan Project

Source: Town of Mammoth Lake General Plan EIR, 2008.

FIGURE

4.E-1

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(d) Volcanic Hazards

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake-Long Valley area, including at least ten eruptions in the Mono-Inyo volcanic chain during the past 600 years. The Long Valley Caldera may be a center of volcanically-related seismic activity. Earthquake swarms and surface rupturing in the caldera are accompanied by uplift and deformation that have increased concerns about the possibility of renewed eruptive activity.

The possibility of such an occurrence in the Mono-Long Valley area has resulted in increased monitoring of seismic and non eruptive volcanic activity, and in increased efforts by local, state, and federal offices to prepare emergency response plans. The potential hazards from future eruptions of volcanoes in the area are being studied by the USGS and they have estimated the chances of an eruption in the Planning Area in any given year a small possibility. The Safety Element of the Mono County General Plan (1993) indicates a one in a 1,000 annual likelihood of volcanic eruption in the vicinity of the Town.

(e) Carbon Dioxide

Since 1980 scientists have monitored geologic unrest in the Long Valley Caldera. After a persistent swarm of earthquakes beneath Mammoth Mountain in 1989, geologists discovered large volumes of carbon dioxide gas likely derived from magma (molten rock). High concentrations of carbon dioxide in soil can kill the roots of trees. In addition, carbon dioxide gas is heavier than air and when it leaks from the soil it can collect in snow banks, depressions, and poorly ventilated enclosures, such as cabins and tents, posing a potential hazard to humans and animals.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to geology and soils. The Initial Study Environmental Checklist questions relating to geology and soils have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

Threshold 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Section 6, *Other CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard.).
- ii) Strong seismic ground shaking (refer to Impact Statement 4.E-1).

- iii) Seismic-related ground failure, including liquefaction (refer to Impact Statement 4.E-1 and).
- iv) Landslides (refer to Impact Statement 4.E-1).

Note : Volcano and carbon monoxide hazards are also addressed under this threshold (refer to Impact Statement 4.E-1);

Threshold 2: Result in substantial soil erosion or the loss of topsoil (refer to Impact Statement 4.E-2).

Threshold 3: Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse (refer to Impact Statement 4.E-3).

Threshold 4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property (refer to Section 6, *Other CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard.).

Threshold 5: Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water (refer to Impact Statement 4.E-4).

b. Methodology

The analysis of geology and soils uses significance thresholds as set forth in the Town's General Plan EIR as well as Appendix G of the CEQA Guidelines. Significant impacts associated with geologic hazards are generally defined as those which directly or indirectly affect life, property or major public facilities (e.g., transportation and utility corridors). Compliance with applicable safety and building codes/regulations generally preclude the potential for adverse impacts; however, where applicable, recommended mitigation measures are provided to address potentially significant impacts. As indicated in the Initial Study prepared for the Project, no impacts related to surface fault rupture and expansive soils would occur with Project implementation and are not analyzed in this section.

c. Project Features

Chapter 6 in the TSMP contains Design Guidelines for the application of bicycle, pedestrian and trail facilities. These are not engineering specifications and are not intended to replace existing applicable mandatory regulations or advisory standards, nor the exercise of engineering judgment by licensed professionals. MUPs would be built to a standard high enough to allow heavy equipment to operate on the path without causing deterioration. During the design phase of each trail facility, appropriate surfacing would be selected. Asphalt and concrete are the most common surface treatments for MUPs, however, alternative surface materials such as decomposed granite may be appropriate in some circumstances. When selecting alternative surfaces, durability and snow removal needs (grooming and clearing) would be considered on a project-by-project basis.

The Design Guidelines also address soft-surface trail facilities design considerations. These design considerations are carried over into the Soft-Surface Trails Concept (SSTC) document. The USFS relies on a number of trail construction related documents that include the *Trail Construction and Maintenance Notebook* (2007 Edition) and the *Forest Service Trails Management Handbook* (FSH 2309.18) for guidelines on building almost any type of trail, including soft-surface trails. These USFS documents would be referred to during the construction of trails within the SHARP area. Soft-surface trails recommended in the SSTC and/or the SHARP area would be designed in consideration of a number of factors that include: the intended trail user, type of soil, and average and maximum grades, amongst others. Trails would be designed to follow natural land contours and topography to the maximum extent feasible. Surface water control features to control erosion such grade reversals, knicks, rolling grade dips, and water bars would be incorporated into soft-surface trail designs. Trail surfaces and routing would be determined based on a project-by-project basis. Best Routing Location (BRL) Principals are included in the TSMP Design Guidelines and the SSTC (similar trail design standards are provided in the USFS trail construction documents). Examples of the BRL Principals include:

- Avoid hazardous areas such as unstable slopes, cliff edges, faults, crevasses, embankments and undercut streams, and avalanche prone zones (in the winter).
- Avoid trail routing that encourages shortcutting. Use natural topography or features to screen short cuts.
- Avoid routing trails too close to other trail systems to minimize trail proliferation and user conflict.

Soft surface trail facilities constructed in accordance with the TSMP Design Guidelines and/or USFS standards would not only be designed meet the needs of the intended users, but would be constructed with appropriate surfacing or tread so that the trail would not deteriorate over time or be eroded away by water and use. Standards and specifications for design and materials to be used in all trails facilities will be developed and adopted in a “Standards Manual.” These specifications would be reviewed for consistency with applicable Codes and engineering standards, to ensure durability and suitability of trails surfaces.

Chapter 7, *Operations and Maintenance*, in the TSMP provides a summary of existing and recommended maintenance policies and procedures within the Town. Under current maintenance policies, trail facilities are inspected, cleared and repaired on a routine basis during both summer and winter conditions. Existing maintenance activities are identified on a weekly, monthly, seasonal, and long-term (at least every 5 years) basis. The proposed maintenance policies in the TSMP include: developing a coordinated year-around (interdepartmental) maintenance plan; and providing and prioritizing snow removal and grooming activities on paved MUPs and sidewalks during winter conditions to maintain year around use.

d. Analysis of Project Impacts

The analysis of Project impacts regarding geology and soils below applies to all future trail components associated with the Project, including the Priority Projects. Many of the future trail components associated with the Project (including the Priority Projects) would be subject to similar geology and soils impacts throughout the Project Area. However, the analysis, where appropriate, analyzes impacts that could occur due to varying geologic characteristics (i.e., topography, steep slopes, etc.) and the developed (or undeveloped) nature of certain areas within the Project Area.

(1) Seismic Hazards

4.E-1 Project implementation would result in less than significant seismic-related ground shaking and liquefaction impacts, as well as volcanic and carbon monoxide impacts, based on the Project's compliance with applicable regulatory requirements. Potentially significant landsliding impacts would be reduced to a less than significant level with implementation of the prescribed mitigation measures.

Seismic Ground-Shaking. The Project Area is located in a seismically active area, as is the case throughout the Town of Mammoth Lakes. Major faults and fault zones characterize the region. Generally, trail projects do not involve the construction of habitable structures that would expose people or structures to substantial adverse effects associated with seismic hazards. Thus, the focus of this analysis is on built facilities and/or structures to be developed as part of the Project. Built structures and/or facilities would be constructed in accordance with the requirements of the CBSC and the Town's Municipal Code Sections 12.08.076 and 12.08.080, as applicable, local building codes for to address local snow-loading, seismic and wind conditions, and with construction standards and specifications set forth by the US Forest Service for projects on National Forest lands. As indicated above, Section 12.08.080 requires engineered plans and a soils report to be submitted with an application for a grading permit. Site development plans, as appropriate, would be reviewed by the Town to determine conformance with specific recommended geotechnical procedures. Field inspection would be conducted by the Town during earthwork and construction operations. The observation of cuts, fills, backfills, foundation excavations, and the preparation of pavement subgrades would take place during these phases of site development. Although trail system-related facilities and structures (i.e., bridges and trail crossings) would be limited and vary on a project-by-project basis, such facilities would be designed in accordance with the ground motion parameters that have been calculated for the project site to withstand seismic ground shaking from the maximum credible earthquake anticipated to occur at the particular project site, as necessary per applicable regulatory requirements. Further, it is anticipated that most, if not all, structures to be implemented as part of the Project would not involve the construction of habitable structures that would expose people or structures to substantial adverse effects associated with seismic hazards. Thus, despite the seismically active area, impacts associated with seismic ground shaking would be less than significant.

Liquefaction. According to the Town of Mammoth Lakes General Plan EIR, areas subject to liquefaction because of fine-grained alluvium are in the low areas including Sherwin Meadows, areas to the north and south of the Old Mammoth District, and to a lesser extent, an area of shallow groundwater near the intersection of Meridian Boulevard and Minaret Road. However, based on the character of surface and subsurface soil and depth to groundwater, there generally appears to be little potential for liquefaction in the Town. Regardless, the Project's proposed trail system components would be built in accordance with the applicable seismic requirements of the CBSC and Town of Mammoth Lakes Municipal Code requirements, as described above. Further, it is anticipated that most, if not all, structures to be implemented as part of the Project would not involve the construction of habitable structures that would expose people or structures to substantial adverse effects associated with seismic hazards. Thus, despite the seismically active area, less than significant impacts regarding liquefaction would occur with Project implementation.

Landslides. The Project includes trail system components that traverse nearly all parts of Mammoth's landscape and topography, including with the UGB, and outside of the UGB within the Planning Area that includes moderate to steep topography. Many of the proposed trail system components would be located within the UGB over existing informal trails, adjacent to existing roadways, or in otherwise developed areas,

on relatively level to gently sloping surfaces. Construction in these areas would involve removal of existing grasses or vegetation (including tree removal) if necessary, minor grading, and/or smoothing of the trail surface and importation of a surface material (i.e., asphalt, concrete, decomposed granite, etc.) to provide a usable trail surface. In such instances, construction activities would not involve substantial quantities of earthwork. The minimal amount of earthwork combined with the relatively level to gently sloping topography within the UGB would preclude the potential for significant landsliding impacts. In addition, according to the Town's General Plan EIR, there is no record of landslide activity in the Town.

Outside of the UGB, including within the SHARP area, proposed trail system components may be developed in areas of moderate to steep topography. According to the USFS's *Trail Construction and Maintenance Notebook (2007 Edition)*, the steepness of the hillside determines how difficult a trail is to build. The steeper the hillside, the more excavation will be needed to cut in a stable backslope. Trail grade also has a direct bearing on how much design, construction, and maintenance work will be needed to establish solid tread and keep it solid. Grades range from 1 percent for wheelchair access to 50 percent or greater for scramble routes. Most high-use trails would be constructed with an average trail grade in the 5- to 10-percent range. Trails of greater difficulty can be built at grades approaching 15 percent when solid rock is available. Trails steeper than 20 percent typically require steps or hardened surfaces to maintain original trail route.

As indicated in the "Project Features" section above, soft-surface trail facilities would be designed in accordance with the Design Guidelines provided in the TSMP and/or USFS trail construction guidance documents, and with the Standards Manual when adopted. The determination of trail routes on a project-by-project basis would set a priority for taking advantage of existing non-formal trail alignments where feasible, avoiding landslide related hazards, and minimizing the need for grading, excavation and vegetation clearance. In addition, existing and proposed maintenance policies in the TSMP and per the USFS trail construction guidance documents would serve to ensure that soft-surface trails are maintained in a manner to provide on-going erosion control and to address any unstable soil conditions. Based on these considerations, the potential for landslides to occur with implementation of the majority of the proposed trail system components appears low.

Nonetheless, landsliding hazards cannot be completely disregarded in steep areas without a project specific review of soil conditions. For purposes of this analysis, steep slopes are considered to be slopes greater than or equal to 20 percent. In steeper areas where excavation is required, trail segments could be constructed on a cut and fill section or retaining walls could be used. The combination of these construction techniques, steep slopes and unstable soils, could result in potentially significant landsliding impacts. Thus, to minimize the potential for landsliding impacts on slopes greater than 20 percent to the extent feasible, Mitigation Measures 4.E-1.A and 4.E-1.B have been prescribed. Implementation of the prescribed mitigation measures would reduce potentially significant landsliding impacts to a less than significant level.

Volcanic and Carbon Monoxide Hazards. Geotechnical hazards in the Planning Area related to volcanic activity are possible based on geologic history. Potential impacts to the Town include inundation by ash deposition, lava, or lahars, or complete destruction from a catastrophic eruption. A comprehensive daily monitoring program of activity along known faults helps scientists to assess the volcanic hazards in the Long Valley area and to recognize the early signs of possible eruptions. The USGS, in cooperation with the California Office of Emergency Services and local jurisdictions in eastern California, has established procedures to promptly alert the public to a possible eruption. In addition, the Town adopted an Emergency Operations Plan in 2001, which is updated regularly. The Project, in and of itself, would not change the population in the Town in the near- or long-term. Thus, the Project would not put more people within the

Town at risk to volcanic hazards compared to existing conditions. Accordingly, with the plans in place stated above, impacts regarding volcanic hazards are concluded to be less than significant.

With regards to carbon monoxide, since carbon dioxide derived from molten rock is heavier than air, when it leaks from the soil it can collect in snow banks, depressions, and poorly ventilated enclosures, such as cabins and tents. The areas in which carbon dioxide occur are outside the UGB and are within USFS jurisdiction. The occurrences are seasonal and USFS monitors the areas. Should trail facilities be located in areas where carbon monoxide hazards are present and conditions present safety hazards to trail users, such trail facilities would be marked and closed off as needed by the USFS. With these USFS management activities in place, impacts regarding carbon monoxide are concluded to be less than significant.

(2) Soil Erosion/Loss of Topsoil

4.E-2 *Project implementation could result in substantial soil erosion or loss of topsoil impacts. Potentially significant impacts would be reduced to a less than significant level with implementation of the prescribed mitigation measure.*

As stated in the Existing Conditions discussion, soils throughout the Project Area are sensitive to disturbance and exhibit moderate to high erosion potential depending on the grade of the slope. Construction of individual trail system components could therefore, expose earth surfaces to wind and rain action. If slopes and exposed surfaces are not protected by vegetation or some other form of protection, uncemented soils could experience erosion during strong winds or heavy precipitation. In turn, erosion would generate potential impacts to nearby streams and watercourses or the storm drain system due to sedimentation. (Please refer to Section 4.H, *Hydrology and Water Quality*, for a discussion regarding water quality impacts.)

Development of future trail system components would comply with the applicable provisions of Municipal Code Section 12.08, *Land Clearing, Earthwork and Drainage Facilities*, which includes Sections 12.08.090, *Drainage and Erosion Design Standards*, and 12.08.080, *Engineered Grading Permit Requirements*. In addition, projects would be required to comply with the Lahontan Regional Water Quality Control Board (LRWQCB) *Guidelines for Erosion Control in the Mammoth Area*. These regulatory requirements serve to implement construction techniques that minimize soil erosion and slope instability. In addition, best management practices (BMPs), which would reduce and/or eliminate erosion potential, would be incorporated into trail system component projects, as applicable. Trail system components would be subject to compliance with the requirements (as applicable) set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit for construction activities (as applicable) and water quality regulations set by the LRWQCB. These regulatory requirements, as well as BMPs, are discussed in detail within Section 4.H, *Hydrology and Water Quality*. Compliance with applicable requirements would ensure that short-term construction impacts associated with soil erosion are less than significant.

Once in operation, hard surface trails (i.e., concrete or asphalt), such as MUPs and bike lanes within the Town, are not expected to be subject to substantial erosion impacts given that they would be inspected and repaired on a routine schedule, as necessary, pursuant to the existing and proposed maintenance activities as part of the TSMP. The greatest potential for long-term erosion impacts would occur on soft-surface trails, as discussed below.

As indicated in the “Project Features” section above, trail facilities would be designed in accordance with the Design Guidelines provided in the TSMP and/or USFS trail construction guidance documents that include the

Trail Construction and Maintenance Notebook (2007 Edition) and the *Forest Service Trails Management Handbook (FSH 2309.18)*. Development of trails on a project-by-project basis in compliance with these policies and guidelines would help determine the trail route and surface that would be least susceptible erosion hazards. Trails would be designed to follow natural land contours and topography to the maximum extent feasible. Surface water control features to control erosion such grade reversals, knicks, rolling grade dips, and water bars would be incorporated into soft-surface trail designs. In addition, existing and proposed maintenance policies in the TSMP and per the USFS trail construction guidance documents would serve to ensure that soft-surface trails are maintained in a manner to provide on-going erosion control. Implementation of the above referenced design and maintenance considerations would ensure that impacts regarding substantial soil erosion or loss of topsoil erosion associated with recreational use on trails are less than significant.

During winter conditions, snowmobile use on motorized trails can cause significant impacts on the stability of trails during periods when inadequate snowpack allows tires to contact the ground surface. Vehicle contact in these conditions can create rapid erosion impacts in a short-period of time during continued use of the trail. This trail use pattern requires vehicles to cross areas that are, alternatively, covered in a minor amount of snow and/or saturated by snowmelt. Further, snow coverage of the established trail alignment can be difficult to follow, resulting in vehicles crossing over the trail boundaries. Erosion and loss of topsoil impacts attributed to over snow vehicles during these circumstances are especially severe during early and late winter conditions when the snowpack is at its lowest levels. Impacts from snowmobiles under these conditions are considered to be potentially significant due to the potential for their operation to erode soil materials and introduce them into downstream receiving waters. However, to minimize the potential for erosion impacts from snowmobiles to the extent feasible, Mitigation Measures 4.H-4, 4.H-9, 4.H-10, 4.H-11, 4.H-12, 4.H-14, 4.H-15, 4.H-16, and 4.H-17 in Section 4.H, *Hydrology and Water Quality*, of this EIR that serve to minimize erosion effects throughout the operational life of the proposed facilities through design features and erosion control BMPs. Furthermore, implementation of the TSMP itself would not, by itself increase trail use by non-motorized users to a substantial degree, nor would expand the network of trails or other areas open to motorized users. This fact, together with implementation of the prescribed mitigation measures would reduce potentially significant erosion impacts attributable to snowmobiles to a less than significant level.

(3) Soil Stability

4.E-3 *While the geologic units and soils within the Town are generally considered to be adequate and would support the Project, there would be potentially significant impacts regarding landslides. Potentially significant impacts regarding landslides would be reduced to a less than significant level with implementation of the prescribed mitigation measures.*

Impacts associated with landslides and liquefaction are analyzed above in *Impact Statement 4.E-1*. As analyzed therein, potentially significant impacts regarding landslides would be reduced to a less than significant level with implementation of Mitigation Measures 4.E-1.A to 4.E-1.C. Also, less than significant impacts regarding liquefaction would occur with Project implementation.

Lateral spreading involves displacement of large blocks of ground down gentle slopes or towards stream channels. Lateral spreading is typically a type of displacement of major concern associated with liquefaction. As described above, liquefaction impacts are considered to less than significant. In addition, the Town does

not have any know history of significant lateral spreading occurrences. Thus, the potential for lateral spreading is considered to be low and as such, impacts are considered to be less than significant.

Subsidence is a localized mass movement that involves the gradual downward settling or sinking of the ground, resulting from the extraction of mineral resources, subsurface oil, groundwater, or other subsurface liquids, such as natural gas. The Project Area does not include areas of known subsidence associated with oil or ground water withdrawal, peat oxidation or hydro-compaction. Furthermore, the Project does not include the extraction of oil or groundwater from aquifers. As such, no impacts regarding subsidence would occur with Project implementation. Based on the above, impacts associated with unstable geology and soils would be less than significant.

(4) Soils and Alternative Waste Water Disposal Systems

4.E-4 *Project implementation would result in less than significant impacts regarding septic and other wastewater disposal systems based on the Project's compliance with applicable regulatory requirements.*

Implementation of the Project could involve new restroom facilities at various locations throughout the Town. Some of the restroom facilities may have access to water and/or sewer infrastructure to accommodate wastewater disposal needs. However, there may be instances where due to the remote location of a proposed restroom facility it may not be feasible to connect with existing infrastructure for wastewater disposal. In these circumstances, septic and/or other wastewater disposal systems may be considered by the Town and/or USFS. Development of such systems may not be supported by certain soils types and could directly or indirectly result in water quality impacts. However, any proposed septic or alternative waste disposal system would be required to comply with the standards and regulatory requirements stipulated by the current regulatory standards, including those set by the Town of Mammoth Lakes, Mono County Environmental Health Department, and LRWQCB, at the time of the proposed restroom facility. The regulatory requirements are anticipated to include a site specific review of the proposed restroom facility to determine whether soils would be capable of adequately supporting the proposed wastewater system. Compliance with the applicable regulatory requirements would ensure that impacts in this regard are less than significant.

3. MITIGATION MEASURES

The following mitigation measures address the potentially significant impacts regarding geology and soils from the Project.

a. Seismic Hazards

Seismic Ground Shaking and Liquefaction

No mitigation measures are necessary.

Landslides

Mitigation Measure 4.E-1.A Trail development on slopes greater than 20 percent shall be avoided where feasible alternative alignments exist.

Mitigation Measure 4.E-1.B Prior to trail development on slopes 20 percent or greater, a soils and geotechnical study shall be conducted to determine the potential for landsliding and soil instability and to ensure that design measures are incorporated to avoid landslide and soils instability hazards.

Mitigation Measure 4.E-1.C Trails development on slopes greater than 20 percent shall be regularly monitored at least annually and evaluated by the Town and/or USFS to ensure that unstable soil conditions do not develop. Should unstable soil conditions develop, the trail shall be temporarily closed until conditions are improved.

b. Soil Erosion/Loss of Topsoil

Refer to Mitigation Measures 4.H-4, 4.H-9, 4.H-10, 4.H-11, 4.H-12, 4.H-14, 4.H-15, 4.H-16, and 4.H-17 in Section 4.H, *Hydrology and Water Quality*, of this EIR.

c. Soil Stability

Landslides. Refer to Mitigation Measure Mitigation Measures 4.E-1.A to 4.E-1.C. No additional mitigation measures are necessary.

Liquefaction, Lateral Spreading and Subsidence. No mitigation measures are necessary.

d. Soils and Alternative Waste Water Disposal Systems

No mitigation measures are necessary.

4. CUMULATIVE IMPACTS

4.E-5 *The Project combined with cumulative projects may result in cumulative geology and soils impacts. However, project-by-project analysis of geology and soils impacts, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measures would ensure that potentially significant cumulative impacts regarding geology and soils are reduced to a less than significant level.*

The Project would not result in significant unavoidable impacts related to geology and soils with implementation of applicable mitigation measures. Geology and soils impacts are site-specific and each trail system component project would subject to, at minimum, uniform site development and construction standards relative to seismic and other geologic conditions that are prevalent within the Town and/or region. Impacts related to erosion could be cumulative in nature, if future development were to contribute to increased soil loss. However, provided that: such development, as well as all future contemplated trail system components as part of the Project, adheres to standards and polices in the Mammoth Lakes General

Plan, Mono County Environmental Health Department, and the LRWQCB *Guidelines for Erosion Control in the Mammoth Area*, and; the prescribed mitigation measures are implemented for the Project, as applicable, cumulative erosion impacts would be less than significant. Further, because the development of each cumulative project site would have to be consistent with Town of Mammoth Lakes design and construction requirements and the CBSC, as each pertains to protection against known geologic hazards, and given the known geologic conditions, impacts of cumulative development would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures included in this EIR would reduce all potentially significant impacts regarding geology and soils to a less than significant level. No significant and unavoidable impacts would occur with Project implementation.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

F. GLOBAL CLIMATE CHANGE

INTRODUCTION

This section addresses greenhouse gas emissions associated with construction and operation of trail and trail related improvements proposed under the TSMP and the potential for impacts on global climate change. The analysis also addresses the consistency of the Project with the policies and goals set forth by the Town of Mammoth Lakes. The analysis of Project-generated air emissions focuses on whether the Project would cause a significant impact to Global Climate Change. Technical data utilized in this section is included as Appendix D of this EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

In response to growing scientific and political concern regarding global climate change, California adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of Greenhouse Gases (GHGs) from commercial and private activities within the State. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve “the maximum feasible reduction of greenhouse gases” emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. It should be noted that setting emission standards on automobiles is solely the responsibility of the federal EPA. The federal CAA allows States to set state-specific emission standards on automobiles if they first obtain a waiver from the USEPA. The USEPA initially denied California’s request for a waiver, thus delaying CARB’s proposed implementation schedule for setting emission standards on automobiles to help reduce GHGs. However, on June 30, 2009, the USEPA granted the waiver to California for GHG emission standards for motor vehicles beginning with the 2009 model year.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions targets for the state, as well as a process to ensure the targets are met. The order directed the Secretary for California EPA to report every two years on the State’s progress toward meeting the Governor’s GHG emission reduction targets. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California EPA, was formed. The CAT is made up of representatives from a number of State agencies and was formed to implement global warming emission reduction programs and reporting on the progress made toward meeting statewide targets established under the Executive Order. State agency members include the Business, Transportation and Housing Agency; Department of Food and Agriculture; Resources Agency; Air Resources Board; California Energy Commission; the Public Utilities Commission; and Department of Water Resources. The CAT published its Climate Action Team Report to Governor Schwarzenegger and the Legislature in March 2006, in which it laid out forty-six specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the executive order.

In September 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32, into law. AB 32 commits the State to achieving the following:

- 2000 GHG emission levels by 2010, which represents an approximately 11 percent reduction from business as usual (BAU).
- 1990 levels by 2020, approximately 28.5 percent below BAU.
- 80 percent below 1990 levels by 2050.

To achieve these goals, AB 32 mandates that CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. The following schedule outlines the CARB actions mandated by AB 32:

- January 1, 2008, CARB adopted regulations for mandatory GHG emissions reporting, defines 1990 emissions baseline for California (including emissions from imported power), and adopts it as the 2020 statewide cap. CARB adopted 427 million metric tons of carbon dioxide equivalent (MMTCO_{2e}) as the total statewide greenhouse gas 1990 emissions level and the 2020 emissions limit in 2007.¹
- January 1, 2009, CARB adopted a plan to effect GHG reductions from significant sources of GHG via regulations, market mechanisms and other actions.² CARB approved the AB32 Scoping Plan in December 2008.
- During 2009, CARB drafted rule language to implement its plan and holds a series of public workshop on each measure (including market mechanisms).
- January 1, 2010, early action measures were scheduled to take effect on this date.
- During 2010, CARB, after workshops and public hearings, conducted a series of rulemaking to adopt GHG regulations including rules governing market mechanisms.
- January 1, 2011, CARB completed major rulemakings for reducing GHGs, including market mechanisms. CARB may revise and adopt new rules after January 1, 2011 to achieve the 2020 goal.
- By January 1, 2012, GHG rules and market mechanisms adopted by CARB are scheduled to take effect and become legally enforceable.
- December 31, 2020, the deadline for achieving 2020 GHG emissions cap is on this date.

CARB's list of discrete early action measures that can be adopted and implemented before January 1, 2010 was approved on June 21, 2007. The list focuses on major State-wide contributing sources and industries, not on individual development projects or practices. These early action measures are: (1) a low-carbon fuel standard; (2) reduction of refrigerant losses from motor vehicle air conditioning system maintenance; and (3) increased methane capture from landfills. CARB compiled and released emissions inventory estimates for 1990 through 2004.

¹ CARB has adopted 427 million metric tonnes of carbon dioxide equivalent (MMTCO_{2e}) as the total statewide greenhouse gas 1990 emissions level and the 2020 emissions limit. See <http://www.arb.ca.gov/cc/inventory/1990level/1990level.htm> (last visited 04/06/2010).

² CARB released the Climate Change Proposed Scoping Plan in October 2008, which details the strategies that the State will use to reduce GHG emissions. The Plan was approved at the Board hearing in December 2008.

A companion bill to AB 32, Senate Bill (SB) 1368, requires the California Public Utilities Commission (PUC) and California Energy Commission (CEC) to establish GHG emission performance standards for the generation of electricity. These standards will generally apply to power generated outside of California and imported into the State.

An additional bill related to AB 32 (SB 97 adopted in August 2007) requires the California Office of Planning and Research (OPR) to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by the California Environmental Quality Act (CEQA). These include, but are not limited to, effects associated with transportation or energy consumption. OPR transmitted these guidelines by the July 1, 2009 deadline, and the Resources Agency certified and adopted the guidelines prior to the January 1, 2010 deadline. The Resource Agency will be required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to AB32.³ OPR does not identify a threshold of significance for GHG emissions, nor has it prescribed assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

In November 2008, the California Building Standards Commission established the California Green Building Standards Code (CALGreen) which provides for building projects to reduce environmental impacts and encourage sustainable construction practices. Although CALGreen codes went into effect in 2009, the code was voluntary. As of January 1, 2011, the CALGreen code became mandatory for all new buildings constructed in the state. The CALGreen code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design and overall environmental quality⁴.

There has also been legislative activity by the state that acknowledges the relationship between land use planning and transportation sector GHG emissions. California Senate Bill 375, signed by the Governor on September 30, 2008, links regional planning for housing and transportation with the GHG reduction goals outlined in AB 32. For example, reductions in GHG emissions could be achieved by locating housing closer to jobs, retail, and transit. Under the bill, each MPO is required to adopt a sustainable community strategy to encourage compact development so that the region will meet a target, created by CARB, for reducing GHG emissions. In August 2010, CARB released the draft CEQA Functional Equivalent Document (FED) which proposes GHG emission reduction targets specific to each metropolitan planning organization (MPO). The CARB recognizes that GHG reduction measures may be unique to certain areas of California where viable GHG reduction measures in one area may not be feasible in another.

Although CARB is tasked with setting GHG reduction targets, there is no regional agency responsible for the regulation of GHG emissions related to global climate change. The Great Basin Unified Air Pollution Control District (GBUAPCD) is the agency principally responsible for comprehensive air pollution control in the Great Basin Valley Air Basin (GBVAB), but lacks the authority to directly regulate factors leading to global

³ *Senate Bill No. 97, Chapter 185, approved by Governor Schwarzenegger and filed with the Secretary of State, August 24, 2007.*

⁴ *California 2010 Green Building Standards code, California Code of Regulations Title 24, Part 11.*

climate change or GHG emission issues associated with plans and new development projects throughout the GBVAB.

In 2007, the US Supreme Court ruled in *Massachusetts v. EPA* that GHG's are air pollutants covered under the Clean Air Act (CAA). Since the EPA is responsible for overseeing compliance with the CAA, emissions of GHGs fall under the jurisdiction of the EPA. As of January 2, 2011, the EPA requires GHG analyses to be performed as part of the permitting requirements for projects which are currently undergoing the permitting process.

On May 19, 2009, President Obama announced a new federal policy "aimed at both increasing fuel economy and reducing GHG pollution for all new cars and trucks sold in the United States." The policy proposes fuel efficiency standards that would apply to model years 2012 through 2016. These standards would be more aggressive than the federal Corporate Average Fuel Economy (CAFE) standards and would result in a reduction of approximately 900 million metric tons of GHG nationwide⁵.

Given that the Project would directly or indirectly cause GHG emissions during construction and operation, many of the global climate change regulations and plans noted above are applicable to the Project.

b. Existing Conditions

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and predictive capabilities are advancing. While there is an overwhelming consensus among scientists that there is a causal link between GHG emissions and global climate change, there remain significant scientific uncertainties in the exact relationships and outcomes of various changes. For example, predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation remain uncertain. Due to the complexity of the Earth's climate system, the uncertainty surrounding climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it is impossible to label a single development project as the cause of future specific climate change impacts.

The Intergovernmental Panel on Climate Change (IPCC), in its Fourth Assessment Report (FAR), stated that "it is likely that there has been significant anthropogenic warming over the past 50 years."⁶ However, it is impossible to identify a single development project as the cause of future specific climate change impacts due to the global nature of climate change. Also in the FAR, the IPCC holds that the impacts of future climate change will vary across regions. While "large-scale climate events have the potential to cause very large impacts," the impacts of future climate change will be mixed across regions.

According to CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and

⁵ http://www.whitehouse.gov/the_press_office/President-Obama-Announces-National-Fuel-Efficiency-Policy/

⁶ *Intergovernmental Panel on Climate Change, Fourth Assessment Report, Summary for Policy Makers, 2007.*

more drought years (ARB, 2007). Below is a summary of some of the potential effects reported by an array of studies that could be experienced in California as a result of global warming and climate change:

Air Quality. Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state (CEC, February 2006).

Water Supply. Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, “Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change.” (Kiparsky et al. 2003). For example, some studies identify little change in total annual precipitation in projections for California (California Climate Change Center, 2006). Other studies show significantly more precipitation (Climate Change and California Water Resources [(DWR 2006)]). Even assuming that climate change leads to long-term increases in precipitation, analysis of the impact of climate change is further complicated by the fact that no studies have identified or quantified the runoff impacts such an increase in precipitation would have in particular watersheds (California Climate Change Center, 2006). Also, little is known about how groundwater recharge and water quality will be affected (Id.). Higher rainfall could lead to greater groundwater recharge, although reductions in spring runoff and higher evapotranspiration could reduce the amount of water available for recharge (Ibid.).

The California Department of Water Resources (DWR 2006) report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta concludes that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand.” It also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain” (DWR, 2006). The relationship between climate change and its potential effect on water demand is not well understood (DWR, 2006). DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.” Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows (Kiparsky 2003; DWR 2005; Cayan 2006, Cayan, D., et al, 2006).

Hydrology. As discussed above, climate changes could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of sea water as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California’s water supply. Increased storm

intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture. California has a \$30 billion agricultural industry that produces half the country's fruits and vegetables. Higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality (CCCC, 2006).

Ecosystems and Wildlife. Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise 1.0-4.5°F (0.6- 2.5°C) in the next fifty years, and 2.2-10°F (1.4-5.8°C) in the next century, with significant regional variation (EPA 2000). Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as two feet along most of the U.S. coast. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage (Parmesan, 2004; Parmesan, C. and H. Galbraith 2004.)

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however some data indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) emissions of GHGs is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. There continues to be significant scientific uncertainty concerning the extent to which increased concentrations of GHGs have caused or will cause climate change, and over the appropriate actions to limit and/or respond to climate change.

GHGs are those compounds in the Earth's atmosphere that play a critical role in determining temperature near the Earth's surface. More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy, which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. GHGs include carbon dioxide (CO₂), methane (CH₄), ozone (O₃), water vapor, nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). CO₂ is the most abundant GHG in the atmosphere. GHGs are the result of both natural and anthropogenic activities. Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions.

(1) Regional Context

Worldwide anthropogenic emissions of GHG were approximately 40,000 million metric tons of carbon dioxide equivalents (CO₂e), including ongoing emissions from industrial and agricultural sources, but excluding emissions from land use changes (i.e., deforestation, biomass decay) (IPCC, 2007). CO₂ emissions from fossil fuel use accounts for 56.6% of the total emissions of 49,000 million metric tons CO₂e (includes land use changes) and all CO₂ emissions are 76.7% of the total. Methane emissions account for 14.3% and

N₂O emissions for 7.9% (IPCC, 2007).⁷

(2) Local Area Conditions

Total U.S. greenhouse gas emissions in 2008 were 6,958 million metric tons CO₂e (USEPA, April 2010), or about 14% of world-wide GHG emissions. Overall, total U.S. emissions have risen by 14 percent from 1990 to 2008. However, U.S. emissions decreased by 2.9 percent (211.3 MMT CO₂e) from 2007 to 2008, due in large part to the record high costs of these fuels that occurred in 2008. Additionally, electricity demand declined in 2008 in part due to a significant increase in the cost of fuels used to generate electricity. The primary GHG emitted by human activities in the United States was CO₂, representing approximately 85.1% of total GHG emissions (USEPA, April 2010). The largest source of CO₂, and of overall GHG emissions, was fossil fuel combustion. Methane (CH₄) emissions, which have declined from 1990 levels, resulted primarily from enteric fermentation associated with domestic livestock, decomposition of wastes in landfills, and natural gas systems. Agricultural soil management and mobile source fossil fuel combustion were the major sources of N₂O emissions. The emissions of substitutes for ozone depleting substances and emissions of HFC-23 (trifluoromethane or CHF₃) during the production of HCFC-22 (chlorodifluoromethane or CHClF₂) were the primary contributors to aggregate HFC (hydrofluorocarbon) emissions. Electrical transmission and distribution systems accounted for most SF₆ (sulfur hexafluoride) emissions, while PFC (perfluorocarbons) emissions resulted from semiconductor manufacturing and as a by-product of primary aluminum production.⁸

The residential and commercial end-use sectors accounted for 21 and 19%, respectively, of CO₂ emissions from fossil fuel combustion in 2008 (USEPA, April 2010). Both sectors relied heavily on electricity for meeting energy demands, with 71 and 79%, respectively, of their emissions attributable to electricity consumption for lighting, heating, cooling, and operating appliances. The remaining emissions were due to the consumption of natural gas and petroleum for heating and cooking. California is a substantial contributor of global GHGs as it is the second largest contributor in the United States and the sixteenth largest in the world (AEP, 2007). Based upon the 2008 GHG inventory data (the latest year available) compiled by the CARB (CARB, 2008), California produced 474 MMT CO₂e. The major source of GHG in California is transportation, contributing 37% of the state's total GHG emissions. Electricity generation is the second largest source, contributing 25% of the state's GHG emissions (CARB, 2008). Most, 85%, of California's 2008 GHG emissions (in terms of CO₂e) were carbon dioxide produced from fossil fuel combustion, with 2.5% from other sources of CO₂, 6.0% from methane, and 2.8% from nitrous oxide (CARB, 2008). California emissions are due in part to its large size and large population. By contrast, California in 2001 had the fourth lowest CO₂ emissions per capita from fossil fuel combustion in the country, due to the success of its energy efficiency and renewable energy programs and commitments that have lowered the state's GHG emissions rate of growth by more than half of what it would have been otherwise (CEC, December 2006).

⁷ Carbon dioxide equivalent (CO₂e) is a quantity that describes, for a given mixture and amount of GHGs, the amount of CO₂ (usually in metric tons; million metric tons [megatonne] = MMTCO₂E = terragram [Tg] CO₂ Eq; 1,000 MMT = gigatonne) that would have the same global warming potential (GWP) when measured over a specified timescale (generally, 100 years).

⁸ USEPA 2010 U.S. Greenhouse Gas Inventory Report (April 2010).

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study (contained in Appendix A of this EIR). The Initial Study Environmental Checklist includes questions relating to global climate change. The Initial Study Environmental Checklist questions relating to GHG emissions have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

- Threshold 1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance (refer to Impact Statement 4.F-1).
- Threshold 2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (refer to Impact Statement 4.F-2).

b. Methodology

The significance criteria discussed below are currently recommended by the GBUAPCD to translate the State *CEQA Guidelines* thresholds into numerical values or performance standards. The Town utilizes the *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Section 15064.7 of the *CEQA Guidelines* defines a threshold of significance as an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. *CEQA* gives wide latitude to lead agencies in determining what impacts are significant and does not prescribe thresholds of significance, analytical methodologies, or specific mitigation measures. *CEQA* leaves the determination of significance to the reasonable discretion of the lead agency and encourages lead agencies to develop and publish thresholds of significance to use in determining the significance of environmental effects. However, neither the GBUAPCD nor the Town have not yet established specific quantitative significance thresholds for GHG emissions evaluated under *CEQA*. In the latest *CEQA Guidelines*, effective March 18, 2010, OPR encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. However, the Town of Mammoth Lakes has not yet developed a GHG mitigation plan meeting the Guideline requirements.

Section 15064.7(c) states “when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies...”. The California Air Pollution Control Officers Association (CAPCOA) released white paper, entitled *CEQA and Climate Change*, in January, 2008 examines various threshold approaches available to air districts and lead agencies for determining whether GHG emissions are significant, including a number of “non-zero” thresholds for land use development projects. In the absence of promulgated numeric thresholds, the most conservative (lowest) threshold suggested by CAPCOA, 900 tons per year, will be used to assess potential impacts from this Project.

Not all GHGs exhibit the same ability to induce climate change; as a result, GHG contributions are commonly quantified in the equivalent mass of CO₂, denoted as CO₂e. Mass emissions are calculated by converting pollutant specific emissions to CO₂e emissions by applying the proper global warming potential (GWP) value. These GWP ratios are available from the USEPA and published in the California Climate Action Registry (CCAR) General Reporting Protocol. By applying the GWP ratios, project related CO₂e emissions can be tabulated in metric tons per year. The CO₂e values are calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation.

The California Climate Action Registry (CCAR) has prepared a protocol for calculating and reporting GHG emissions from a number of general and industry-specific activities. This guidance was used to address GHG emissions from the project. Construction emissions are calculated using the URBEMIS 2007 model, which is based on OFFROAD2007 model outputs. OFFROAD 2007 is an emissions estimation model developed by CARB to calculate emissions from construction activities. The output values used in this analysis were adjusted to be project-specific, based on usage rates of construction equipment, type of fuel, and construction schedule. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate GHG emissions values for each construction year (refer to Appendix D). The URBEMIS 2007 model outputs CO₂ emissions only. Therefore, CH₄ and N₂O emissions were estimated based on the emissions ratios for construction and industrial equipment from the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions were calculated on an annual basis.

The GHG emissions resulting from the incremental increase in on-road mobile vehicles, electricity, and natural gas after construction of the Project are considered as project-related. Mobile source emission calculations associated with operation of a project utilize a projection of trip rate and annual VMT, which is derived from URBEMIS 2007 defaults or from a project-specific traffic analysis. Emission calculations for the project typically include credits or reductions for the project design objectives set forth in this EIR, such as reductions in transportation and VMT. Mobile source calculations also utilize EMFAC2007 and the CCAR General Reporting Protocol (GRP), Version 3.1 to generate emission factors for CO₂ and CH₄, and N₂O. It should be noted that greenhouse gas reduction factors from *Alternative Compliance Strategies*, contained in AB 1493, were not applied in the EMFAC2007 software. As a result of a lawsuit from automakers, a federal waiver was granted on June 30, 2009, which delays the regulations contained in AB 1493 to reduce GHG emissions from taking effect until 2012. Therefore, Project-related emissions are likely overstated as emission factors for fleet mixes containing post 2012 vehicles would not emulate reductions that would, otherwise, go into effect as a result of AB 1493.

The consumption of fossil fuels to generate electricity and to provide heating and hot water creates GHG emissions. Future fuel consumption rates and water demand are estimated based on square footage of the Project. Natural gas and electricity usage factors derived from the CCAR GRP⁹ are used to project fuel consumption rates. Embodied energy rates associated with the project's future water supply needs are calculated using factors derived from the California Energy Commission (CEC).¹⁰ GHG emission factors from

⁹ Energy usage includes construction, electricity, water conveyance and natural gas usage. All CO₂e factors were derived using the CCAR General Reporting Protocol; Version 3.1, January 2009.

¹⁰ California Energy Commission, *Refining Estimates of Water Related Energy Use in California, 2006*.

the CCAR GRP are then applied to the respective usage rates, to calculate annual greenhouse gas emissions in metric tons. Because water conveyance associated with the Project is regional in nature, the emission factors used in this component of the analysis represent a State-wide average of known power producing facilities, utilizing various technologies and emission control strategies. The CCAR GRP emission factors do not reflect targeted future reductions in GHG emissions under SB 1368. Thus, these emission factors are considered conservative and representative. CEQA Guidelines leave the determination of whether a qualitative or quantitative analysis is warranted to the discretion of the lead agency. Because the proposed improvements do not include major stationary sources of emissions and are not expected to substantively alter the traffic patterns of visitors using the trails, the Town determined that a qualitative analysis is most appropriate to analyze operational GHG emissions.

Understanding of the fundamental processes responsible for global climate change has improved over the past decade, and predictive capabilities are advancing. As discussed above, however, there remain significant scientific uncertainties, for example, in predictions of local effects of climate change, occurrence of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system, the uncertainty surrounding climate change may never be completely eliminated. Because of these uncertainties, there continues to be significant debate as to the extent to which increased concentrations of GHGs have caused or will cause climate change, and with respect to the appropriate actions to limit and/or respond to climate change. In addition, it is not possible to label a single development project as the cause of future specific climate change impacts.

c. Project Features

As discussed in Section II, *Project Description*, of this EIR, the Project includes various design features and objectives that related to global climate change, such as the primary goal to create an integrated year-round trail network that enhances mobility between the Mammoth Mountain Ski Area (MMSA), and National Forest lands within and beyond the Municipal Boundary in a manner that is consistent with the Town's "Feet First" strategy. The TSMP consists of physical improvements of trails system components which may contribute GHG emissions as a result of construction and operation; however the goal of the TSMP is to enhance existing recreational opportunities for residents and visitors. The proposed Project improvements are not expected to increase GHG emissions from population or visitors within the TSMP area, or to increase usage of the existing network of roads and trails currently available to motorized vehicle users, but to improve non-automotive mobility and pedestrian activity which have beneficial effects on greenhouse gases. As such, the TSMP includes proposals for trails, paved Multi-Use Paths (MUPs), and Recreational Nodes, as well as goals, objectives, guidelines and various other recommendations that direct implementation and management of the plan. The Project features that relate to global climate change include the following:

- **Project Goals and Objectives**

The Project goal and related objectives to "improve mobility consistent with the Town's "Feet First" strategy by enhancing opportunities for walking/hiking and biking", would serve to reduce vehicle miles traveled, which would result in lower emissions of criteria pollutants, and toxic air contaminants, than "business as usual,"

- **Site Enhancements.** The following specific site enhancements support the above goals and objectives, and/or would be considered to have a positive effect on emission of criteria pollutants and toxic air contaminants:
 - Provide Pedestrian Network Improvements (i.e., pedestrian network that connects all uses and all existing and planned trail facilities)
 - Create Recreational nodes
 - Improve Bike Lane Design
 - Provide Bike Parking and Facilities
 - Provide Education/Interpretive Areas
 - Provide Signage
- **Parking Policy/Pricing**
 - Provide Parking, but Limit Parking Supply
- **Commute Trip Reduction Programs**
 - Provide Alternative Transportation Options
 - Provide End of Trip Facilities
- **Transit System Improvements**
 - Implement Transit Access Improvements
 - Provide Bike Parking Near Transit
 - Provide Buses at specific Recreational Nodes
- **Vegetation**
 - Preserve Nature Areas
 - Preserve Open Space
- **Construction**
 - Limit Construction Equipment Idling beyond Regulation Requirements
 - Limit Number of Simultaneous Construction Projects

d. Analysis of Project Impacts

The analysis of the Project's global climate change impacts applies to all future trail components associated with the Project, including the Priority Projects.

(1) Direct and Indirect GHG Emissions

4.F-1 Based on the applicable threshold of significance, Project implementation would not cause significant GHG emissions. Potentially significant construction impacts would be reduced to a less than significant impact with implementation of the prescribed mitigation measure.

(a) Construction

Due to the weather conditions of the project area, the construction season typically takes place from May to October over a period of six months. Individual Priority Projects may not require a full six months for construction. In order to provide a conservative worst-case analysis, it was assumed that construction of priority projects would take place for six months per calendar year (during the summer months). Mitigation Measure 4.B-3 (see Section 4.B, *Air Quality*, of this Draft EIR) would limit the daily construction equipment mix across all simultaneous TSMP construction projects to approximately 16-20 pieces of heavy duty equipment. Thus, annual worst-case programmatic GHGs were calculated using the maximum daily allowable fleet mix for each work day for six months (approximately 25 workdays per month). Results of the analysis are presented in **Table 4.F-1, Construction Greenhouse Gas Emissions**, below. Construction of individual projects would proceed as funding and Town approval are secured over a period of several years, and construction equipment mix would vary by project. Because this maximum level of intensity is unlikely to be sustained for six months; GHG emissions are likely overestimated.

Table 4.F-1

Construction Greenhouse Gas Emissions

Emission Source	CO₂e (Metric Tons)
Cumulative	
Construction (Total)	830
Above the 900 ton threshold?	No

Source: PCR Services Corporation, 2011.

As shown above, maximum construction levels are not expected to result in annual GHG emissions that exceed the most stringent threshold proposed by CAPCOA.

(b) Operation.

The Project would add just over 11 miles of paved Multi-Use Paths (MUPs), provide new and improved soft-surface trails, improve the trail connectivity throughout Town, provide additional sidewalks, and implement about 18 miles of new Class II bike lanes. The TSMP Project also includes numerous improvements to trailheads, parking facilities, restrooms, education areas, and signage. As the nature of the Project is to meet the Town's adopted Trails System Plan and General Bikeway Plan¹¹ to reduce vehicle miles, operation of the Project is expected to have a minimal impact associated with GHG emissions.

According to the Project's Traffic Impact Study (LSC, Inc., April 2011), a maximum of 100 peak hour, one-way summer trips were estimated to be generated by the TSMP and SHARP trail improvement facilities. As further discussed in Section 4.L, *Traffic and Circulation*, of this Draft EIR, world-class hiking trails are already

¹¹ See Figure 1, *Mammoth Lakes Trails System Plan*, in the *Mammoth Lakes Trails System Master Plan (May 1991)*. Also, see Figure 4, *General Bikeway Plan Map*, in the *Town of Mammoth Lakes General Bikeway Plan (2008)*.

provided in the Mammoth area and implementation of the Project is not expected to increase the number of persons visiting the Mammoth area from other communities or other regions on a busy summer day. The TSMP is intended to enhance existing recreational opportunities for residents and visitors. While the proposed project may result in changed use patterns within the trails system, the proposed Project improvements are not, in and of themselves, expected to increase population or visitors within the TSMP area, or to substantially increase overall usage of the system, nor would the TSMP expand the existing network of roads and trails currently available to motorized vehicle users. New trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total vehicle miles traveled (VMT). The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area and the increase in non-auto mode travel throughout Town. Overall, the Project is not expected to materially change VMT. Provision of the additional pedestrian, bicycle, and transit facilities included in the Project Area may result in a general increase in non-auto travel by providing opportunities to walk or bike, offsetting increases in vehicle trips to some degree. The change in emissions from trail maintenance and improvement activities, compared to current practice, is expected to be negligible.

The operation of additional amenities of the Project, such as bathrooms, would increase the consumption of natural resources and generate additional GHG. However, the extent of such improvements are limited in scale and increases in GHG emissions are expected to be minimal and would be difficult to quantify. Thus, the Project would not significantly increase GHG emissions from new long-term stationary sources, nor would it result in a significant number of net new vehicle trips. Therefore, due to the nature of the Project (outdoor trails system), the change in operational GHG emissions is expected to be minimal and no further quantitative analysis is necessary.

Based on the applicable threshold of significance, construction and operation of the Project's direct and indirect GHG emissions would have a less than significant impact on the environment.

(2) Greenhouse Gas Plan

4.F-2 Project implementation would result in less than significant impacts regarding GHG emissions based on the Project's compliance with applicable regulatory requirements and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The Town of Mammoth Lakes has not yet developed a specific GHG Reduction Plan that meets the requirements set forth in the latest OPR guidelines. However, the Town has adopted goals and policies under the Mammoth Lakes General Plan, such as Goal R.11 to reduce greenhouse gas emissions in support of the objectives of the U.S. Mayors Climate Protection Agreement, Assembly Bill 32, and California Executive Order S-03-05 and implement action to reduce Mammoth Lakes' carbon footprint, aimed at reducing GHG emissions. The intent is to promote land use patterns that reduce the number and length of motor vehicle trips; implement best management practices to reduce emissions associated with construction; encourage linkage of new development areas and associated community-wide facilities; orientation of new facilities to existing developed areas of the community through open space systems and bicycle and pedestrian systems;

and establish a comprehensive and safe system of bicycle routes and pedestrian trails for short-range commuting, shopping trips and recreational use.

Various features and objectives of the TSMP address the Town's goals and global climate change, such as:

- to enhance year-round mobility, improve connectivity to the trail network, provide alternative modes of transportation by including bike and bus facilities;
- to create an integrated year-round trail network that provides a seamless transition between the Town's urbanized area, the MMSA, and National Forest lands within and beyond the Municipal Boundary managed by the USFS;
- to improve and reduce the emissions of greenhouse gases by meeting sustainable practices established by the Town's "Feet-First" strategy. The TSMP includes proposals for trails, paved Multi-Use Paths (MUPs), and Recreational Nodes, as well as goals, objectives, guidelines and various other recommendations that direct implementation and management of the plan.

An "Environmental Benefit" that will further reduce GHGs as a result of the Project's sustainable commitments is the reductions in GHGs and other vehicle-related emissions is based on the number of vehicle trips shifted to bicycling, walking, and transit as stated in Section 9.1.2 (Environmental Benefits) of the TSMP.

As further discussed within Section 4.L, *Traffic and Circulation*, of this Draft EIR, the improvement projects under the TSMP are consistent with the Town's Mobility Plan. Because the TSMP would not exceed the most stringent proposed threshold for temporary increases in GHG emissions, it would support the State's goals to reduce GHG emissions. In addition, the Project would be consistent with the Town's goals, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions. Thus, the Project would have a less than significant impact with respect to Threshold 2.

3. MITIGATION MEASURES

Because impacts are less than significant with inclusion of Project features and implementation of Mitigation Measure 4.B-3 (see Section 4.B, *Air Quality*, of this Draft EIR) no additional mitigation measures are required to further reduce GHG emissions.

4. CUMULATIVE IMPACTS

4.F-3 The project combined with cumulative projects would not result in cumulative air quality impacts. However, project-by-project analysis of greenhouse gas impacts, compliance with applicable regulatory requirements and implementation of the prescribed mitigation measure would ensure that potentially significant cumulative impacts regarding greenhouse gases are reduced to a less than significant level.

Typically, a cumulatively impact results from the effects of a project in addition to the related projects identified in the traffic study. However, in the case of global climate change, the proximity of the Project to other GHG-generating activities is not directly relevant to the determination of a cumulative impact.

Although AB-32 sets statewide targets for future GHG emissions, the Scoping Plan and other implementing tools of the law are clear that the reductions are not expected to occur uniformly from all sources or sectors. **Table 4.F-2, *GHG Reduction Strategies*** contains a list of numerous GHG-reducing strategies potentially applicable to the Project, the identified related projects, and future development similar in scope and location (Town of Mammoth Lakes). Included are the regulations or guidelines from which the strategies were developed, and the expected range in reduction of GHGs (for those strategies that can be quantified). The Project-level analysis above highlights the manner by which the Project intends to meet many of these strategies.

As shown in Table 4.F-2, there exist numerous options for related project developers to reduce their contribution to city-, county-, and State-wide GHG emissions, while helping to meet the region's future housing, jobs, and infrastructure needs. However, it is not possible at this time to accurately quantify GHG emissions expected from the related projects or the GHG reductions anticipated from the above-listed strategies. Because of the complex physical, chemical and atmospheric mechanisms involved in global climate change, there is no basis for concluding that an emissions increase resulting from the Project and the related projects could actually cause a measurable increase in global GHG emissions sufficient to force global climate change. In addition, the emissions models used for Project-level evaluations do not fully reflect

Table 4.F-2

GHG Reduction Strategies

Source	Category / Description	Reduction Range
AB 1493 (Pavley Regulations)	Reduces greenhouse gas emissions in new passenger vehicles from 2012 through 2016. Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020	Up to 17 percent
SB 1368	Establishes an emissions performance standard for power plants within the State of California.	Improves RPS from 20 to 33 percent
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	10 percent
CALGREEN Requirements	<p>All bathroom exhaust fans shall be Energy Star compliant</p> <p>Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.</p> <p>Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.</p> <p>Indoor water usage must be reduced by 20 percent compared to current California Building Code Standards for maximum flow.</p> <p>All irrigation controllers must be installed with weather sensing or soil moisture sensors</p> <p>Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.</p> <p>Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.</p> <p>Requires documentation of types of waste recycled, diverted or reused.</p> <p>Requires use of low VOC coatings consistent with AQMD Rule 1168</p> <p>100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.</p>	<p>20 percent</p> <p>6.1 percent</p> <p>20 percent</p>
CALGREEN Voluntary Actions	<p>Building shall be oriented with long-side within 30 degrees of south</p> <p>Solar reflective index shall be consistent with CalGREEN or Cool Roof requirements</p> <p>Exceed 2008 California Energy Code requirements by 15 or 30 percent</p> <p>All appliances shall be Energy Star Rated</p> <p>Water heating efficiency shall be 0.80 or higher</p>	
Climate Action Team	<p>Reduce diesel-fueled commercial motor vehicle idling.</p> <p>Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.</p>	

Source	Category / Description	Reduction Range
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	
	The California Energy Commission updates building energy efficiency standards that apply to newly constructed buildings and additions to and alterations to existing buildings. Both the Energy Action Plan and the Integrated Energy Policy Report call for ongoing updating of the standards	
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	

Source: PCR Services, CalGreen Building Code, Climate Action Team, Attorney General's Office, 2011

improvements in technology and other reductions in GHG emissions that are likely to occur pursuant to State regulations, such as AB 1493, SB 1368, AB 32, and Executive Order S-3-5, as well as future federal and/or state regulations. Therefore, it is not possible or meaningful to calculate emissions from each of the identified related projects and compare that with a numeric threshold or reduction target.

The Project would be consistent with the State's goals, result in a GHG emission profile that is below the most stringent threshold, and include implementation of the mandatory and many optional GHG-reducing strategies. Therefore, the TSMP Project does not contribute considerably to cumulatively significant GCC impacts.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project implementation would result in a less than significant impact regarding GHG emissions and would not substantially contribute to the cumulative impact of Global Climate Change.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

G. WILDLAND FIRES/FIRE PROTECTION

INTRODUCTION

This section provides a qualitative analysis of potential risks to human health and safety related to wildland fires that could result from implementation of the TSMP, as well as the Plan's effect on overall fire protection services in the Plan area. This analysis is based on information presented in the Town of Mammoth Lakes General Plan, Mammoth Lakes General Plan Environmental Impact Report, and data provided by the Mammoth Lakes Fire Protection District (MLFPD).

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Wildland Fires

(a) Federal Fire Regulations

The National Forest Service prepares Land and Resource Management Plans (LRMPs) for all National Forest lands in the nation. The Inyo National Forest (INF) LRMP, the most recently adopted version of which was approved in 1988, is the plan that prescribes goals, objectives, and forest-wide management guidelines related to wildland fires and fuel management within the INF. The relevant LRMP goals, objectives, and management prescriptions, which are listed below.

Goals:

The Forest has a cost-effective fire management program that minimizes resource losses and serious or long-lasting adverse effects from wildfire. The Forest Service mission in fire management is to use fire as a resource management tool.

Policies:

- Implement a fire management program consisting of: 17 percent prevention and detection, 83 percent suppression and aviation, and the application of all appropriate wildfire suppression strategies (confinement, containment, and control).
- Use Prescriptions and Management Area Direction and fire management action plans when determining the appropriate wildfire suppression strategy.
- Use prescribed fire as a management tool.
- Consider both existing conditions and the effect of future management activities in the area surrounding the project area when developing treatment standards for fuels.

- Coordinate with local fire districts in the development of major new structural facilities on National Forest lands.
- Allowable burned acre objectives for specific areas will be determined in the preparation of fire management area plans.
- The Forest Service mission in fire management is to use fire as a resource management tool.

Management Prescriptions:

- Use the fire suppression strategies of confinement, containment, or control for management of unplanned natural fires. Control all unplanned human-caused fires.
- Obtain approval prior to emergency use of the following suppression activities: Regional Forester approval for tractor use and/or for heliport construction; Forest Supervisor approval for heliport construction, retardant application other than short-term or fugitive-dye, wheeled vehicles, generators, or chain saws (unless for direct suppression).
- Apply low-impact suppression tactics such as reliance upon natural barriers unless more direct attack is needed to protect persons or adjacent property values. Favor the use of water over land disturbance. Favor cold-trailing over handline construction.
- Mitigate temporary fire camps, heliports, evidence of vehicles, and other disturbances created by emergency fire suppression activities.
- Use prescribed fire (planned ignitions only) to reduce the risks and consequences of wildfire within wilderness or escaping from wilderness to an acceptable level.
- Minimize environmental disturbance when suppressing fires.
- Prescribed fire may be used for habitat improvement.
- Use no heavy equipment or fire-retardant chemicals for controlling fires without approval of the Forest Supervisor.
- Allow natural fuels to accumulate.
- Control all wildfires and use a technique of fire suppression that minimizes landscape alteration and ground disturbance.
- Prescribed fire may be used to increase forage production.

(b) State Fire Regulations

Assembly Bill 337 (the Bates Bill, adopted September 29, 1992) was a direct result of the great loss of lives and homes in the Oakland Hills "Tunnel Fire" of 1991. The Bates Bill Process is used to identify Very High Fire Hazard Severity Zones in Local Responsibility Areas. Government Code Section 51178 specifies that the Director of the California Department of Forestry (CDF), in cooperation with local fire authorities, shall identify areas that are Very High Fire Hazard Severity Zones (VHFHSZs) in Local Responsibility Areas (LRAs), based on consistent statewide criteria and the expected severity of fire hazard. State Responsibility Areas (SRAs) include all lands regardless of ownership, except for cities and federal lands. Although the State has financial responsibility for SRAs, it is not the State's responsibility to provide fire protection services to any building or structure located within a wildland area, unless the CDF has entered into a cooperative agreement with a local agency for those purposes pursuant to Public Resources Code Section 4142. Under

Assembly Bill 3819, passed in 1994 (AB 3819 Willie Brown), “Class A” roofing, minimum clearances of 30 feet around structures, and other fire defense improvements are required in VHFHSZs.

Government Code Section 51178 states that a local agency may, at its discretion, exclude from the requirements of Section 51182 an area identified as a VHFHSZ by the CDF. This requires a finding, supported by substantial evidence, that the requirements of Section 51182 are not necessary for effective fire protection within the area. Conversely, local agencies may include areas not identified as a VHFHSZ by the CDF, following a finding that the requirements of Section 51182 are necessary for effective fire protection. According to Section 51182, such changes made by a local agency shall be final and cannot be rebutted by the CDF.

Wildland areas require disclosure for real-estate transactions. Specifically, Assembly Bill 6 (AB6) requires that both types of fire hazard areas (SRAs and VHFHSZs) be disclosed in real estate transactions. Civil Code Section 1103(c)(6) also requires real estate sellers to inform prospective buyers whether or not a property is located within a wildland area that could contain substantial fire risks and hazards.

Public Resources Code Section 4290 requires minimum statewide fire safety standards pertaining to the following:

- Road standards for fire equipment access;
- Standards for signs identifying streets, roads, and buildings;
- Minimum private water supply reserves for emergency fire use; and
- Fuel breaks and greenbelts.

Wildland fire areas are also subject to Public Resources Code Sections 4291 through 4299, which require property owners in such areas to conduct maintenance in order to reduce the fire danger.

The California Emergency Services Act, (Government Code [GC], Title 2, Division 1, Chapter 7, Section 8550 et. seq.), states that “the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provision thereof.” The act provides the basic authorities for conducting emergency operations following the proclamations of emergencies by the Governor or appropriate local authority, such as a City Manager.

(c) Local Fire Regulations

Chapter 15.04.010 of the Town of Mammoth Lakes Municipal Code (MLMC) “Uniform Building Code – Section 102” was enacted for the purpose of adopting rules and regulations pursuant to the state housing law and the Health and Safety Code, for the protection of the public health, safety and general welfare of the occupants and the public; governing the creation, construction, enlargement, conversion, alteration, repair, moving, removal, demolition, occupancy, use, height, fire protection, sanitation, ventilation, and maintenance of any building used for human habitation. The State Uniform Fire Code, as adopted by the International Conference of Building Officials and the National Fire Protection Association, is the effective fire code of the Town.

(2) Fire Protection Services

All new construction must comply with the applicable provisions as set forth in the MLMC, including Uniform Building Code--Section 102, as indicated above. The MLMC also contains, by reference, State of California Title 24 construction standards and fire safety measures. In addition, the Town adopted an updated Master Facility Plan, Capital Improvement Program and Development Impact Fee schedule in 2005, and fees are adjusted for market conditions every July starting in 2006. All of the required fire suppression facilities, vehicles and equipment needed to service buildout of the General Plan are included in the Plan and program. The Town currently collects between \$745.00 and \$1,561.00 per unit of new residential development and between \$0.99 and \$2.02 per square foot for non-residential uses to fund the required fire suppression equipment.

b. Existing Conditions

(1) Wildland Fires

The Town's location relative to National Forest lands and the large areas of urban interface with forest vegetation increase the susceptibility of the Town to wildland fire. The combination of highly flammable fuel, long dry summers, and steep slopes create the potential for wildland fires in the Project Area. Wildland fires in the National Forest can be attributed almost exclusively to either lightning strikes or human activity. Ninety-nine percent of fires within the Sierra Nevada National Forests have been contained to less than 100 acres. The one percent of wildfires that exceeded 100 acres in the last quarter-century accounted for almost 98 percent of the total acres burned.

Wildfires can result in death, injury, economic loss, and heavy public investment in fire fighting efforts. Woodlands and other natural vegetation can be destroyed, resulting in loss of timber, wildlife habitat, scenic quality, and recreational resources. Soil erosion, sedimentation of fisheries and reservoirs, and downstream flooding can also result from wildland fires.

Fire has been and remains a natural and important component of the Sierra Nevada landscape and ecosystem. Wildlands must burn or otherwise be managed periodically through controlled burns to maintain ecological viability. Fuel maintenance, such as controlled burning, is an effective means of mitigating uncontrolled wildland fires, thereby protecting human habitation and development.

Fire hazard and risk are measured by the amount of fuel available to burn at any given time in a given area and the likelihood that an ignition would occur. Rankings within the USFS Fire Risk and Hazard Index are based on expected fire behavior, the length of time that fuels are available to burn during the fire season, and the likelihood that a fire would occur based on ignition history. The risk factors are used to provide a relative ranking of fire risk, hazard, and susceptibility to large severe fire. Fire hazard severity has been mapped by the CDF, with the entire Project Area rated as a VHFHSZ: i.e., having a very high fire potential. The Town, the Mammoth Lakes Fire Protection District (MLFPD), the USFS, and Mono County continually strive to minimize wildland fire risks.

In response to the 2002 fire season, the Eastern Sierra Regional Fire Safe Council (ESRFSC), which is based in Bishop, prepared a handbook called the Fire Safe Plan. This handbook is designed to help east side residents of Inyo and Mono Counties improve their defense against wildland fires. The ESRFSC is comprised of private citizens advised by the USFS, CDF, and BLM. The ESRFSC collaborates with local volunteer fire departments

and assists CDF as they train fire prevention volunteers to perform residential fire hazard inspections within Eastern Sierra communities. Volunteers work with homeowners to raise awareness concerning wildland fire risks and methods of home hazard reduction.

The California Public Resource Code (Section 4291) requires property owners to reduce fire hazards by removing dead vegetation, creating a ten-foot clearance around propane tanks, removing tree limbs that are within ten feet of the residence, removing leaves and pine needles from roofs and rain gutters, installing a half-inch mesh screen on stovepipes or chimneys, installing spark arresters on all internal combustion engines, and by obtaining burn permits. ESRFSC suggests that Section 4291 offers insufficient protection for a residence built on a slope and/or on property surrounded by flammable continuous vegetation, such as forest with understory or brush. In most cases in the Eastern Sierra, more defensible space is necessary to create a safety zone. ESRFSC has included a section entitled "Firescaping" in its plan. This section includes numerous lists of firesmart plants as well as a list of where to purchase plants locally.

In response to management direction from the Sierra Nevada Forest Plan Amendment (SNFPA) (2004) and the National Fire Plan (NFP) (2000), USFS crews began constructing the Mammoth Lakes Fuelbreak on August 1, 2002. This project is designed to protect the north end of Mammoth Lakes from fire and treat approximately 400 acres of urban interface (the 0.25 mile Defense Zone defined in the NFP). The \$400,000 project is funded by the NFP. The most critical 350 acres were contracted out for mowing in the spring of 2003 with completion of the fuel break project in 2004. Mowing was completed using uneven edges to minimize visual effects as well as impacts to locally important resources such as terrestrial and aquatic animals, heritage resource sites, watershed function and spread of undesired plant species. The fuelbreaks are monitored annually by the USFS and depending on regrowth of brush, may be re-mowed every five years. Since 2003 MLFPD and the USFS have initiated fuels reduction projects at various locations within and outside the urbanized area, in an effort to reduce wildland fire threat.

(2) Fire Protection Services

The Mammoth Lakes Fire Protection District (MLFPD) provides fire protection and emergency response to the Project Area including the Lakes Basin, Camp High Sierra, and the Mammoth Mountain Ski Area (MMSA). The MLFPD service area includes approximately 3,000 acres of mountain resort area in and around the Town and over 2,500 acres within the Town. Additionally, MLFPD provides fire protection services and emergency response to the upper middle fork of the San Joaquin, Red's Meadow, and Devil's Postpile National Monument (DEPO) located in Madera County. The MLFPD currently utilizes approximately 60 volunteer and four full-time fire fighters.

The MLFPD maintains an extensive system of fire facilities and requisite response vehicles and equipment. It currently responds to calls for service from two fire stations located within the MLFPD, with a third facility being planned near Main Lodge to provide increased protection.

Fire Station No.1, the primary station, is located at 3150 Main Street and was recently replaced with a larger, more updated facility that was completed in 2006. The new updated facility includes a total of 17,600 square feet and contain administrative offices, as well as expanded housing facilities for full-time fire staff. The second station, Fire Station No.2, is located at 1574 Old Mammoth Road and contains housing facilities for full-time employees. Fire Station No. 2 also functions as a training facility and houses the training tower.

The combined stations are staffed with up to 60 volunteer personnel who are in compliance with National Fire Protection Association recommendations and four full-time employees, including the Chief. Two paramedics employed by Mono County currently are based in Fire Station No. 1 and respond to all MLFPD calls. The MLFPD has a sizeable fleet of response units (each fully equipped) consisting of the following: five engines; one aerial truck; one Chevy rescue unit; one Kenworth tender; one Case loader; two utility vehicles; and two Ford staff trucks. The Town currently has a fire rating of three, as a result of an Insurance Service evaluation conducted within the Town. Fire ratings range from one to ten, with one representing the best rating.¹

In addition to MLFPD facilities, equipment, and personnel, the Town is also served by other fire protection agencies through a mutual aid agreement with MLFPD. Mono County alone contains eleven fire protection districts, all of which belong to a county fire service association and are party to a countywide mutual aid agreement. The agreement formalizes the procedure for each district to send personnel and equipment to fires and emergencies beyond district boundaries when needed. The districts have also established informal service areas for the unserved private lands that are outside of any local fire protection district. These informal service areas reflect a recognized moral – not legal – responsibility of the districts to assist in the protection of life and property in such areas. MLFPD maintains an automatic aid agreement with the Long Valley Fire Protection District (LVFPD) and a sphere of influence agreement with the Bishop Fire Department (BFD) covering areas located outside of both districts. MLFPD also maintains assistance by hire with the Bureau of Land Management (BLM), USFS, and CDF.

2. ENVIRONMENTAL IMPACTS

a. Methodology

(1) Wildland Fires

The analysis of impacts regarding wildland fires in the Project Area considers existing regulations that address fire hazards, future uses and activities in the Project Area that would occur as a result of TSMP implementation, and future fire management strategies and policies to be implemented in the Project Area as a result of the TSMP. Based on these considerations, a determination is made as to whether there would be an increased potential for wildland fire hazards to occur in the Project Area.

(2) Fire Protection Services

Potential impacts related to fire protection were evaluated based on the ability of existing and planned MLFPD staffing, equipment, and facilities to meet the additional demand for fire protection and emergency medical services resulting from implementation of the TSMP. The MLFPD evaluates service impacts of new development by assessing the net addition to the building stock (new construction minus demolition), the types of uses proposed, the types of structures proposed, as well as the adequacy of response times and fire flow requirements.

¹ Chief Harold Ritter, MLFPD, Personal Communication, November 5, 2004.

b. Thresholds of Significance

(1) Wildland Fires

Based on CEQA Guidelines Appendix G, the project would be considered to have a significant impact relative to wildland fire hazards if the project would:

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

(2) Fire Protection Services

Based upon CEQA Guidelines Appendix G, the project would be considered to have a significant impact on public services if the project were to:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire protection

c. Analysis of Project Impacts

(1) Wildland Fires

4.G-1 Implementation of the TSMP could incrementally increase exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

As noted above, the Project Area has been rated as having a very high fire potential. The implementation of the TSMP would improve the existing trails system and provide new trails and related facilities for existing and future users. The implementation of the TSMP is not, by itself expected to result in a significant increase in the number of users in the system as a whole, which will be more closely related to overall growth in resident and visitor populations. However, implementation of the TSMP may increase the frequency and amount of use of certain trails and recreational facilities within the Project Area, and/or change patterns of use as certain trail segments are improved or enhanced connectivity is provided. An increase in trail and recreational facility usage does not necessarily indicate an increase in wildland fire hazards; however, it is possible that increases in trail use and other activities in the Project Area may incrementally increase the potential for wildland fires due to cigarette smoking, summertime off-road vehicle use or other activities. While this increase in risk may not result in wildland fires, the additional risk posed by implementation of the TSMP is considered a potentially significant impact requiring mitigation.

It should be noted that the TSMP would be implemented over a long-term planning horizon, and would also accommodate, and be consistent with, the buildout of the Town's General Plan. Ongoing efforts to provide adequate levels of fire protection by the Town and other agencies including the USFS, CDF LVFPD, and MLFPD would help reduce risks associated with wildland fires.

Relevant measures provided in the Town's General Plan that are intended to reduce wildland fire risk include the following:

- S.3.L. Policy: All construction shall comply with wildland fire-safe standards, including standards established for emergency access, signing and building numbering, private water supply reserves available for fire use, and vegetation modification.
- S.3.M. Policy: Involve local fire department in the development review process.
- S.3.N. Policy: Minimize the incidence of fires by supporting the Mammoth Lakes Fire Protection District's (MLFPD) ability to respond to emergencies.
 - S.3.N.1. Action: Assist in establishment and implementation of appropriate funding sources so that the MLFPD is prepared to respond to and mitigate emergencies.
 - S.3.N.2. Action: Update Town-specific policies that further protect people and property from the risks of wildland and structural fire hazards.
- S.3.O. Policy: Support provision of adequate water flow throughout the town and provision of adequate water storage to meet peak fire demand during times of peak domestic demands.
- S.3.P. Policy: Maintain mutual aid agreements with other fire and emergency service agencies.
 - S.3.P.1 Action: Coordinate with other agencies to develop a Fire Hazards Response Plan for the urban-wildland interface.
- S.3.Q. Policy: Support creation and maintenance of firebreaks in coordination with Inyo National Forest and other land management agencies.

Additionally, in response to the 2002 fire season the ESRFSC prepared a handbook called the Fire Safe Plan, which is designed to help east side residents of Inyo and Mono Counties improve their defense against wildland fires. Further, with regard to property maintenance, Section 4291 of the California Public Resource Code (CPRC) requires property owners to reduce fire hazards by removing dead vegetation, creating a ten-foot clearance around propane tanks, removing tree limbs that are within ten feet of the residence, removing leaves and pine needles from roofs and rain gutters, installing a half-inch mesh screen on stovepipes or chimneys, installing spark arresters on all internal combustion engines, and by obtaining burn permits. These requirements serve to minimize risks to people and structures resulting from wildfires that could originate either within or outside the Town's UGB, including areas associated with proposed TSMP facilities.

In conclusion, although the General Plan includes the various measures discussed above in order to address the risk of exposure from wildland fires, and other measures required by ESRFSC and Section 4291 of the CPRC serve to minimize overall wildland fire risks in the Project Area, the incremental increase in trail and other recreational facility use would in turn increase the potential wildland fire risk resulting from the

implementation of the TSMP. As such, this impact is considered potentially significant, and mitigation is provided below to address this impact.

(2) Fire Protection Services

4.G-2 Implementation of the TSMP would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection.

Development associated with implementation of the proposed project would not result in a notable increase in the quantity of emergency calls received by the MLFPD or other agencies due to increased trail and other recreational facility usage. Although an increase in calls may result in additional strain on the current professional and volunteer staff and require the employment of additional full-time personnel, the nature of the proposed improvements and associated activities they accommodate are not correlated with increased fire protection service demands. Fire protection services and facilities are funded by, among other sources, developer impact fees that provide for additional or expanded facilities, equipment, and staffing. Staffing is estimated based on current service levels and the projected service needs of the Town upon build-out of the General Plan. As noted previously, the Town currently collects between \$745.00 and \$1,561.00 per unit of new residential development and between \$0.99 and \$2.02 per square foot for non-residential uses to fund the required fire suppression equipment: because the increased use of the trails system will principally be a function of broader growth in resident and visitor population, it is expected that staffing and facilities improvements for fire protection will be increased proportionately with that growth. Additionally, the other fire protection agencies that support MLFPD through a mutual aid agreement (i.e., CDF, LVFPD, BFD) also increase their fire protection capabilities commensurate with growth within their jurisdictions, such that their capacity to assist MLFPD during fires and other emergencies is adequately maintained. Since the proposed TSMP improvements would not result in the development of substantial amounts of active urban development, as the vast majority of improvements are trails and related facilities that operate passively, the proposed Project is not expected to result in substantial additional demand for fire protection services. Furthermore, as described above, the Town's General Plan includes a number of policies intended to reduce impacts to fire protection services.

The General Plan contains these Policies to ensure that new development adequately mitigates its impact on fire protection through proper design, materials, adequate water flow, and vegetation management (S.3.L), and adequate facilities and personnel are located in the most efficient locations to facilitate prompt response times (S.3.N). Further, the imposition of the development impact fee (Code Section 15.16.082) also would serve to further ensure that potential impact to fire protection services is reduced for the duration of TSMP implementation. Furthermore, implementation of Mitigation Measure 4.G-1.A, below, would further reduce impacts related to fire protection services.

Based on the above, Project implementation would not require new or physically altered fire protection facilities within the Town or elsewhere. As such, a less than significant impact regarding fire protection services would occur with Project implementation.

3. MITIGATION MEASURES

The following mitigation measure is provided in order to reduce risk associated with wildland fires due to increased recreational activities under the TSMP:

Mitigation Measure 4.G-1.A As individual projects are implemented under the TSMP, the Town shall undertake actions when applicable to reduce the risk of wildfires. On National Forest lands, these actions shall be coordinated with the USFS to ensure consistency with that agency's standards and guidelines. Specific actions may include but are not limited to : 1) maintain and incorporate design features to facilitate use of MUPs and other facilities, where feasible and appropriate to accommodate emergency vehicles ; 2) provide signage at trail heads and along trails relating to fire prevention (i.e., No Smoking signs, fire danger level signs); 3) provide fuel modification and other fuel treatment applications within Project Areas where appropriate; 4) ensure the maintenance and patrol of trails in the Project Area; and, 5) enforce curfews or other rules to limit unwanted activity in Project Areas during daylight hours and after-hours.

4. CUMULATIVE IMPACTS

(1) Wildland Fires

4.G-3 The Project combined with cumulative projects would not increase potential for wildland fires to the demand for fire protection services in the Project Area, or result new or physically altered fire protection facilities. Thus, cumulative wildland fire and fire protection impacts would be less than significant.

As discussed in Section 3.0, *Basis for Cumulative Analysis*, of this Draft EIR, there are 25 related projects identified in the vicinity of the Project Area, primarily located within the urbanized area of the Town of Mammoth Lakes. Given the geographic distribution and relative distances between these project sites the proposed recreational improvements and their incremental increase in development and population within the Town, the related projects would not increase the potential for wildland fire hazards within the Project Area. Given the passive or low-intensity nature of the majority of proposed Project improvements, the requirement that all development in the Project Area comply with applicable building and fire code requirements, including fuel modification requirements, and given implementation of Mitigation Measure 4.G-1.A, there is little potential for significant cumulative wildland fire impacts. As such, the cumulative wildland fire hazard impact would be less than significant and the Project's contribution to this impact would not be considerable.

(2) Fire Protection Services

The related projects, like the proposed Project, would comply with the applicable Town Fire Code and Building Code regulations related to fire safety, access, and fire flow. In addition to site plan review by the MLFPD, the MLFPD reviews Initial Studies and other informational documents for related projects and requires the implementation of mitigation measures, as applicable. The MLFPD has not indicated any deficiencies in the area's fire stations or expansion plans that may occur as a result of growth and new development. Further, the related projects are located within existing, accessible fire service areas; and no

deficiencies in the ability of the current stations to meet projected demand have been identified by the MLFPD. It should also be noted that the related projects would generate revenue to the Town's general fund in the form of net new property tax, direct (i.e., from on-site commercial uses) and indirect (i.e., from household spending) sales tax, utility user's tax, gross receipts tax, real estate transfer tax on residential initial sales and annual re-sales, and other miscellaneous household-related taxes (e.g., parking fines). This revenue could be used to fund MLFPD expenditures as necessary to offset cumulative impacts to fire protection facilities and services. Since the Project would not result in the construction of land uses that create demands for fire protection services and facilities and the related projects are not anticipated to result in relocation or construction or expansion of new fire facilities, cumulative impacts regarding fire protection services would be less than significant, and the Project's contribution to these impacts would not be considerable.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

(1) Wildland Fires

Project implementation would incrementally increase the potential for wildland fires to occur within the Project Area. However, with implementation of Mitigation Measure 4.G-1.A, impacts associated with wildland fire risk would be reduced to a less than significant level.

(2) Fire Protection Services

Project implementation would not notably increase demand for fire protection services within the Project Area. Thus, a less than significant impact relative to fire protection services would occur with Project implementation.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

H. HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section evaluates potential hydrology and water quality impacts to surface water resources within the Project Area that could occur with implementation of the TSMP. The section incorporates technical information from the *Hydrology and Water Quality Report* (March 2011) for the Project prepared by Triad-Holmes Engineering. This report is provided for reference in Appendix G of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

Water quality is regulated at the Federal, State, and local levels. The United States Environmental Protection Agency (USEPA), the United States Forest Service (USFS), the State Water Resources Control Board (SWRCB), the Lahontan Regional Water Quality Control Board (LRWQCB), and the Town of Mammoth Lakes regulate water quality in the Project Area.

(1) Federal Level

(a) Clean Water Act

The U.S. Army Corps of Engineers (USACE) regulates “discharge of dredged or fill material” into “waters of the U.S.,” which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable “waters of the U.S.,” as well as the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the Federal Clean Water Act (CWA). The USACE generally takes jurisdiction within rivers and streams to the “ordinary high water mark” determined by erosion, the deposition of vegetation or debris, and changes in vegetation. The USACE defines jurisdictional wetlands as areas that contain hydrophytic vegetation (i.e., aquatic vegetation), hydric soils (i.e., soils that are sufficiently wet in the upper part to produce anaerobic conditions), and wetland hydrology, in accordance with the procedures established in the USACE Wetland Delineation Manual.¹ On January 9, 2001, the United States Supreme Court ruling in the Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers (No. 99-1178) held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intrastate waters. As a result of this decision, some previously regulated depressional areas, such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which are not hydrologically connected

¹ U.S. Army Environmental Laboratory, *Wetlands Delineation Manual*, 1987 Edition.

to other intrastate or interstate “waters of the U.S.,” are no longer regulated by the USACE.² Potential impacts to designated “waters of the U.S.” are discussed in subsection 4.C, *Biological Resources*, of this EIR.

Section 401 of the CWA requires that any applicant for a federal permit that involves activities resulting in a discharge to “waters of the U.S.” shall provide a certification from the State in which the discharge is proposed. The State certification needs to conclude that the discharge will comply with the applicable provisions under the federal CWA. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a CWA Section 401 Water Quality Certification. In the State of California, the overall regulation, protection, and administration of water quality is carried out by the State Water Resources Control Board (SWRCB).

The SWRCB and the LRWQCB enforce State of California statutes, equivalent to or more stringent than the federal statutes. The LRWQCB is responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters in their region. The LRWQCB is also responsible for protecting surface and ground waters from both point and non-point sources of pollution.

Section 402(p) of the CWA mandates that municipal permits must effectively prohibit the discharges of non-stormwater to the stormwater system except under certain provisions, and requires controls to reduce pollutants in discharges from the stormwater system to the maximum extent practicable, including the use of Best Management Practices (BMPs), control techniques, and system, design, and engineering methods.³

Under Subsection 303(d) of the Clean Water Act, states, territories and authorized tribes are required to develop a list of water quality limited segments. These waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The Clean Water Act requires that these jurisdictions establish priority rankings for water on the lists and develop action plans, called as Total Maximum Daily Loads (TMDL), to improve water quality. Although it has been determined that the sources of pollution in Mammoth Creek are naturally occurring and not man-made, California’s 303d list includes Mammoth Creek, as discussed further below.

With regard to implementation of the federal Clean Water Act within USFS lands, the USFS Pacific Southwest Region developed comprehensive water quality BMPs for projects occurring within USFS jurisdiction in California. These BMPs are enumerated in the guidance document entitled *Water Quality Management for Forest System Lands in California Best Management Practices* (September 2000). This document represents a portion of the State of California’s Nonpoint Source Management Plan. The practices, procedures, and program are in conformance with, and comply with the provisions and requirements of Sections 208 and 319 of the federal Clean Water Act (PL 92-500) and the USEPA guidance for the Coastal Zone Act Reauthorization Amendment. They are also within the guidelines of the SWRCB Basin Plans (see discussion below under State Level) developed by the nine RWQCBs in the State. Pursuant to Section 208 of the Clean Water Act, all agencies responsible for carrying out any portion of a State Water Quality Management Plan must be designated as a Water Quality Management Agency (WQMA). Through the execution of a formal

² *These areas may still be regulated by CDFG under Fish and Game Code Section 1600 or by the RWQCB under the Porter-Cologne Act. Legislation has been introduced to the State Assembly to revise the Fish and Game Code to specifically regulate isolated waters affected by the SWANCC case.*

³ *State Water Resources Control Board Fact Sheet for Water Quality Order 99-08-DWQ.*

Management Agency Agreement (MAA) with the USFS in 1981, the SWRCB designated the USFS as the WQMA for National Forest Service (NFS) lands in California. It is through the proper installation, operation, and maintenance of these State certified and USEPA approved BMPs that the USFS will meet its obligations for compliance with water quality standards and fulfill its obligation as a designated WQMA.

More recently, in May 2011, the USFS released a draft water quality guidance handbook for NFS lands in California that furthers the guidance provided in the 2000 BMP guidance document discussed above. The latest document, the draft *Water Quality Management Handbook*, describes background, legal, and policy basis for the handbook (Chapter 1); BMPs that will be used for controlling nonpoint source pollution (Chapter 2); processes for implementing those BMPs (Chapter 3); an adaptive management system to continually improve BMPs (Chapter 4); restoration of legacy water-quality problems (Chapter 5), a monitoring plan to evaluate the success of the handbook (Chapter 6); specific measures for total maximum daily load (TMDL) implementation (Chapter 7); and needed future actions (Chapter 8). USFS will use these BMPs and processes to comply with provisions of:

- 1) Federal water-quality statutes and regulations, including the Clean Water Act, the Coastal Zone Act Reauthorization Amendments, and the related regulations of the EPA.
- 2) California's water-quality requirements, including the Porter-Cologne Water Quality Control Act; the five elements of implementation and enforcement for the SWRCB Non-point Source Pollution Control Policy; the Basin Plans of the RWQCBs; and water-quality control regulations, plans, policies, and program plans approved by the SWRCB pursuant to the foregoing federal and State statutes.

The provisions of the Water Quality Management Handbook are designed to conform and comply with all of these legal requirements, as well as with applicable USFS directives.

The objectives of this *Water Quality Management Handbook* are:

- 1) To ensure that the quality and beneficial uses of water are maintained where they are in good condition, consistent with the Federal and State anti-degradation/non-degradation policies, and the principles of conservation biology.
- 2) To protect the quality and beneficial uses of water from further degradation in water bodies that are trending toward impairment, as defined by Clean Water Act Section 303 (d).
- 3) To make substantial progress toward eventual delisting of water body segments listed pursuant to Clean Water Act Section 303(d).
- 4) To remediate legacy sources of pollution.
- 5) To ensure compliance with Federal and State water-quality objectives and legal requirements in the most efficient manner.

- 6) To enhance USFS performance as a water quality management agency, and increase and improve its responsibility, transparency and accountability in its relationships with the Water Boards and the public.

Section 313 of the Clean Water Act states that the federal government is subject to and will comply with all federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity. This means the USFS must use nonpoint source controls, including BMPs, approved by the State.

Several different relationships occur throughout the United States regarding State-specific BMPs and NFS lands. States usually have their own sets of BMPs, and when they do, the USFS adheres to them. A second situation occurs when the USFS has authored the BMPs and a state has agreed that those practices conform to state requirements. The use of USFS-authored BMPs is usually formalized through a memorandum of understanding. The third situation occurs when USFS-authored BMPs have gone through a formal public review process, been approved by the state and/or EPA, and the governor of the state has designated the USFS as the water-quality management agency for NFS lands within the state. In California, the State is the final authority on adequacy of BMPs.

(b) National Pollution Discharge Elimination System

The USEPA established the National Pollutant Discharge Elimination System (NPDES) Program as the primary implementation program for regulating surface water quality. The NPDES Program requires permits for storm water discharge from storm drain systems into “waters of the U.S.” The NPDES Program addresses storm water discharge during both pre- and post-construction activities. In California, the NPDES program is administered by the SWRCB, described below.

Construction activities disturbing one acre or more are required to comply with the SWRCB General Construction Activity Storm Water Permit, which requires the preparation and approval of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include the implementation of BMPs that would reduce the potential for discharge of accidental and/or implicit pollutants into the storm drain system during grading and construction. The BMPs should be designed to maintain construction areas in such a condition that storm flows do not carry wastes or pollutants off-site. The General Construction Activity Storm Water Permit requires that these BMPs be in place prior to issuance of a grading permit.

Under the General Construction Activity Storm Water permit, project applicants are also required to implement a Standard Urban Storm Water Mitigation Plan (SUSMP) during the operational life of a project to ensure that storm water pollution is addressed through the incorporation of BMPs in the design of the development. This requirement provides numerical water quality design standards to ensure that storm water runoff is managed for water quality concerns in addition to flood protection. Project applicants are required to select source control and treatment control BMPs from the list approved by the RWQCB. In combination, the treatment control BMPs must be sufficiently designed and constructed to treat, infiltrate, or filter the first ¾-inch of storm water runoff from a storm event.

(2) State Level

(a) State Water Resources Control Board

The Clean Water Act authorizes the USEPA to allow the State of California to serve as the NPDES permitting authority in lieu of the USEPA. The Porter-Cologne Water Quality Control Act authorizes the SWRCB to set statewide policy for the implementation of state and federal laws and regulations, through nine Regional Water Quality Control Boards (RWQCBs) which regulate and control the discharge of pollutants into waters of the State.

The SWRCB enforces State of California statutes, equivalent to or more stringent than the federal statutes and is responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters in their region. The SWRCB is also responsible for protecting surface and ground waters from both point and non-point sources of pollution.

As discussed above, the CWA allows the SWRCB to implement federal clean water regulations, which are, in turn, implemented and enforced through nine regional water boards. Enforcement procedures include mandatory stormwater management, wastewater treatment, water quality monitoring, wetlands protection, ocean protection, environmental education, environmental justice, contaminated sites cleanup, and low-impact development. Where water quality issues cross boundaries between different regional divisions, or have significant statewide application, the SWRCB may develop water quality control plans and policies, including standards, and general permits. The SWRCB also approves regional basin plans, reviews petitions of RWQCB actions, administers financial assistance programs (such as for water pollution control or cleanup), addresses enforcement, and provides administrative and other functions that support the Water Boards. The SWRCB is also responsible for allocating water rights and adjudicating water right disputes.

The SWRCB developed the *2008-2012 Strategic Plan* with the mission to preserve, enhance, and restore the quality of California's water resources. Implementation actions include the development of a standard total maximum daily load (TMDL) plan format that considers pollutant or TMDL groupings, and addresses impairment pollutants in priority watersheds. Where appropriate, the SWRCB considers possible amendment of water right permits where pollutant source control measures and a water body's capacity to receive pollutants is insufficient to meet water quality standards. The SWRCB also works with the CDFG and others to list priority streams and to develop minimum stream flow objectives. For priority streams where minimum flow objectives are not being met, the SWRCB mandates actions to protect the public trust.

(b) California Department of Fish and Game Code

Section 1602 of the California Fish and Game Code requires any entity (e.g., person, State or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake, it must first notify the California Department of Fish and Game (CDFG) of the proposed project. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support, or have supported, riparian vegetation. The CDFG's jurisdiction extends to the river, stream, or lake top-of-bank, or to the outer edge of the adjacent riparian vegetation (i.e. riparian "drip line"). If the CDFG determines that a proposed project may

substantially adversely affect existing resources, a Lake or Streambed Alteration Agreement (Section 1602 Permit) will be required. If an agreement is required, DFG may conduct an on-site inspection and submit a draft agreement to the applicant. The draft agreement includes measures to protect fish and wildlife resources during the conduct of a project.

(3) Regional and Local Level

(a) Regional Water Quality Control Boards

Regional Water Boards serve as the frontline for State and federal water pollution control efforts. Each Regional Water Board conducts activities and makes water quality decisions for the protection of the waters within its region. These activities include developing water quality control plans (basin plans) for their watersheds that establish water quality standards and strategies, issuing waste discharge requirements (permits) based on the basin plans and State Water Board plans and policies, monitoring water quality, determining compliance with requirements, and taking enforcement actions.

Under the Porter-Cologne Act, a RWQCB may choose to regulate discharges of waste (dredge or fill materials) by issuing Waste Discharge Requirements (WDR), a type of state discharge permit, instead of issuing a CWA Section 401 Water Quality Certification. The SWRCB must review the WDR and certify, condition, or deny any activity if it does not comply with state water quality standards. Each RWQCB may waive WDRs for a specific discharge or category of discharges as long as the conditions stated in the respective RWQCB's Water Quality Management Plan are followed. Processing of a WDR is similar to that of a Section 401 certification; however, the RWQCB has slightly more discretion to add conditions to a project under the Porter-Cologne Act than under the CWA.

(b) Lahontan Regional Water Quality Control Board

The Project Area is within the jurisdictional boundaries of the LRWQCB, which includes all of California east of the Sierra Nevada crest. The LRWQCB is responsible for establishing water quality standards and objectives that protect the beneficial uses of various waters in their region and for protecting surface and ground waters from both point and non-point sources of pollution. The duties of the LRWQCB include the development of implementation plans for its hydrologic area, issuing waste discharge requirements, taking enforcement action against violators, and monitoring water quality. In March 1995, a Water Quality Control Plan for the Lahontan Region, North and South Basins (the "Basin Plan"), adopted by the LRWQCB, took effect. The Basin Plan contains standards for the protection of water quality within the region. The Basin Plan sets forth a series of land development guidelines intended to afford water quality protection for surface and groundwater.

Under the Basin Plan, water quality objectives define the upper concentration or other limits that the LRWQCB considers protective of beneficial uses. The general methodology used in establishing water quality objectives involves, first, designating beneficial water uses; and second, selecting and quantifying the water quality parameters necessary to protect the most vulnerable (sensitive) beneficial uses. Water quality objectives for water bodies within the Owens hydrologic unit, in which the Mammoth Lakes area is located, are listed for total dissolved solids, chloride, nitrate, total nitrogen, and phosphate (see Appendix G, *Hydrology and Water Quality Report*, of this Draft EIR) for Lake Mary Basin, Old Mammoth (town areas tributary to Mammoth Creek), Murphy Gulch, Sherwin Creek, Casa Diablo and Hot Creek/Laurel Creek. Casa Diablo and Hot Creek/Laurel Creek are downstream from the Town of Mammoth Lakes. Beneficial uses for

these water bodies are listed in Appendix G of this Draft EIR. Water bodies within the TSMP and SHARP areas are shown in **Figure 4.H-1, Identification of Affected Water Bodies**, below.

The Basin Plan identifies a set of specific policies regarding construction activities for new development involving soil disturbance of ¼-acre or more. The guidelines stipulate the specific components of this submittal, including the identification of interim erosion control measures to be applied during construction and short- and long-term erosion control measures to be employed following the construction phase.

The LRWQCB encourages that a low-impact planning approach be used for each project. Low impact design (LID) provides opportunities to avoid and minimize impacts starting at the source at initial stages of planning and project design. Examples of LID include minimizing changes to grades, maintaining historic storm drainage characteristics, avoiding creating source pollutants, avoiding concentration of runoff, maintaining historic runoff conditions, encouraging users to follow paths such that natural areas are left undisturbed, and avoiding placing pollutants in path of runoff.

(c) Town of Mammoth Lakes Memorandum of Understanding

In 1991, the LRWQCB and the Town of Mammoth Lakes adopted a Memorandum of Understanding (MOU) regarding storm water objectives and control measures. Per the MOU, the Town was granted the authority to issue construction permits for all developments less than one acre in size and provide site inspection. This MOU includes the following guidelines for the control and prevention of pollution from storm water:

1. Drainage collection, retention, and infiltration facilities shall be constructed and maintained to prevent transport of the runoff from a 20-year, 1-hour design storm from the project site.
2. Surplus or waste material shall not be placed in drainage ways or within the 100-year flood plain of surface waters.
3. All loose piles of soil, silt, clay, sand, debris, or earthen materials shall be protected in a reasonable manner to prevent any discharge to waters of the State.
4. Dewatering shall be done in a manner so as to prevent the discharge of earthen material from the site.
5. All disturbed areas shall be stabilized by appropriate soil stabilization measures by October 15th of each year.
6. All work performed between October 15th and May 1st of each year shall be conducted in such a manner that the project can be winterized within 48 hours.
7. Where possible, existing drainage patterns shall not be significantly modified.
8. After completion of a construction project, all surplus or waste earthen material shall be removed from the site and deposited at a legal point of disposal.
9. Drainage swales disturbed by construction activities shall be stabilized by the addition of crushed rock or riprap as necessary or other appropriate stabilization methods.

10. All construction areas shall be protected by fencing or other means to prevent unnecessary disturbance.
11. During construction, temporary erosion control facilities (e.g., impermeable dikes, filter fences, hay bales, etc.) shall be used as necessary to prevent discharge or earthen materials from the site during periods of precipitation or runoff.
12. Revegetated areas shall be continually maintained in order to assure adequate growth and root development. Physical erosion control facilities shall be placed on a routine maintenance and inspection program to provide continued erosion control integrity.
13. Where construction activities involve the crossing and or alteration of a stream channel, such activities shall be timed to occur during the period in which streamflow is expected to be lowest for the year.

(d) Town of Mammoth Lakes Storm Drain Master Plan

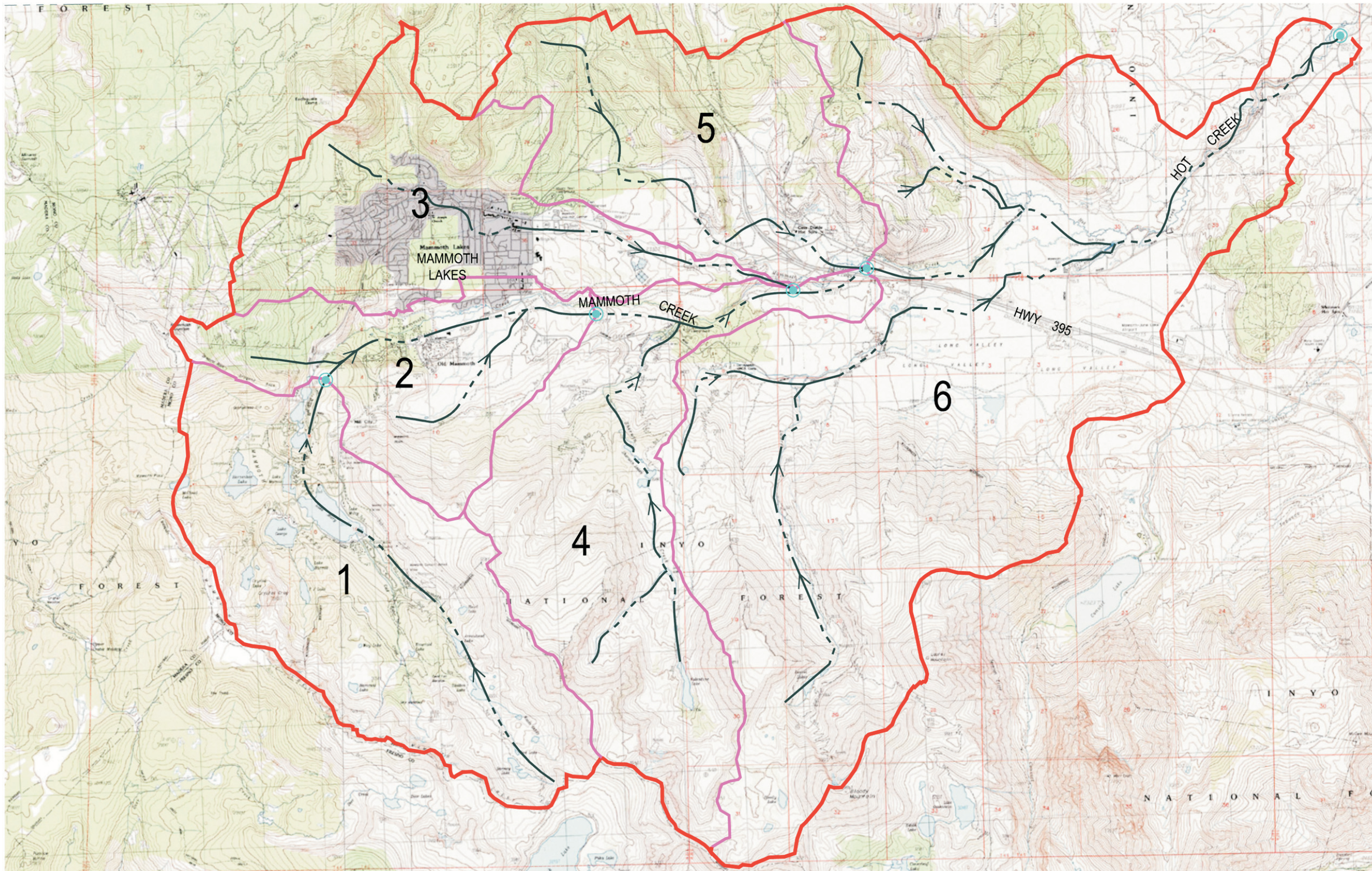
In response to potential erosion and flooding hazards as a result of increased urbanization, the Mono County Public Works Department prepared the Mammoth Lakes Storm Drain Master Plan (SDMP) dated July 1984, which included a Master Plan Report, Design Manual, and Implementing Ordinance. An update to the SDMP specific to the Town of Mammoth Lakes was completed on May 26, 2005. The 2005 SDMP was primarily formulated to control drainage and erosion problems by establishing a program to rehabilitate existing development areas, while also providing policies, standards, and procedures to guide future development.

The 2005 SDMP identifies several existing drainage problems in the Town including the following:

- Lack of a stable drainage system in much of the community located within the Urban Growth Boundary;
- Roadside and slope erosion due to uncontrolled runoff in poorly defined channels from steep areas;
- Drainage that crosses private property, and development in or near the natural drainage channels;
- Undersized culverts and channels; and
- Discharge of runoff from developed areas directly to Mammoth Creek resulting in high sediment loads to the creek and water quality degradation.

In response to these problems, the 2005 SDMP identifies general drainage improvements throughout the Town that would remedy existing drainage problems and accommodate Plan buildout development. Construction of the SDMP facilities can be spread out over a number of years. This would allow facilities to be built as they are needed or as further development occurs. Three priority levels have been established in the 2005 SDMP for construction of the improvements as summarized below:

- Priority 1 improvements focus primarily on eliminating existing drainage and erosion control problems;
- Priority 2 improvements include solutions to less critical drainage problems and facilities required to provide adequate drainage trunk capacity for the ultimate development; and



- WATERSHED BOUNDARY MAJOR
- WATERSHED BOUNDARIES
- FLOWLINE
- WATERSHED COLLECTION POINT



Watersheds and Affected Water Bodies in the Project Area

Trails System Master Plan Project
Source: Boyle, May 2005.

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- Priority 3 improvements include the remainder of SDMP facilities, which are principally improvements for local storm drainage.

The 2005 SDMP retains or improves natural streams, where possible, rather than replacing them with storm pipes (for aesthetic, economic, and functional purposes). Storm pipes would be placed in streets where feasible; however, some easements would be required on private property, primarily where existing development has occurred near stream zones. The updated SDMP recommends the Town replace corrugated metal pipelines that failed to transmit the required 20-year flows, with pipes of the same size made of concrete, PVC, HDPE, or other materials that do not have a rough texture.

The 2005 SDMP also includes guidelines for erosion control for the Mammoth Lakes area. In an effort to remedy drainage and erosion problems, the erosion guidelines prescribe requirements that must be followed during all phases of developments involving soil disturbance on one-quarter acre or more. The erosion guidelines also provide a basis for consistent design of storm drainage and erosion control facilities.

(e) Town of Mammoth Lakes Erosion, Drainage, and Flooding Project

The *Town of Mammoth Lakes Erosion, Drainage, and Flooding Project - Final Recommendations Report* (2008) was prepared to assist Town staff with the identification of existing erosion, drainage and flood related problem areas and to develop a prioritized list of localized solutions that would allow the Town to become proactive in the way it manages its stormwater. The work performed as part of this Report is intended to supplement and enhance work previously conducted for the 2005 SDMP. The Report addresses issues not presented in the SDMP, including:

- Discussion of flood prone areas;
- Impacts of erosion and sedimentation on the storm drain system;
- Existing condition of surface conveyance and capture facilities (i.e. earthen ditches, curb and gutter, AC dike, AC swale, drop inlets, catch basins, etc.);
- Impact of runoff from private impervious surfaces; and
- Issues related to snow removal activities or snow storage

Management strategies in the Report address existing erosion, drainage and or flooding problems in the Town. These include new or enhanced policies, the possible development of new ordinances, and program enhancements. The Final Recommendations Report recommends the Town apply erosion control and drainage improvement strategies to each flow path or area to ensure that adjacent projects are easily integrated and improvements constructed in one area do not create more or new erosion and drainage problems in another area.

According to the Final Recommendations Report, projects should be delineated so that either the entire project or a stand-alone phase can be implemented within the May 1 through October 15 construction season, as required by the Basin Plan and the existing MOU between the Town and the LRWQCB, unless provisions are in place to winterize the project within 48 hours.

The Final Recommendations Report recommends that, when feasible, urban runoff should be separated from upland runoff to minimize the volume of surface flow reaching the Town's storm drain infrastructure in some locations. Coordination with Caltrans, the USFS and Mammoth Mountain Ski Resort is recommended to attenuate and separate upland flows above the Forest Trail and Hillside Drive neighborhoods to address flooding in the North Village. The report also describes working with the USFS and Mammoth Mountain Ski Resort as an opportunity to implement erosion control and drainage improvements along the bike trail above the intersection of Minaret Road and Forest Trail.

The Final Recommendations Report places emphasis on reducing stormwater runoff peak flows and volumes through infiltration or detention. Recommendations include:

- Further evaluate open channels and earthen ditches in low gradient and highly developed areas (i.e. Sierra Valley Sites) to determine if they should be more frequently maintained, enhanced or replaced with storm drain to minimize the impacts of sedimentation, snow storage, parking, collection of residential garbage and the risk of flooding;
- Whenever possible, eliminate the discharge of concentrated surface flows to unprotected slopes greater than 2:1; and
- Identify opportunities to disperse flows at various locations eliminating concentrated discharge points to the maximum extent practicable.

The Final Recommendations Report also provides specific erosion control and flooding improvement measures. Erosion control measures address erosion from cut/fill slopes, eroding ditches, and unpaved parking areas. Controls include soil conditioning and revegetation, erosion control blankets, turf reinforced mats, retention systems, and rock slope protection. Other measures include turf reinforced mats, cobble or riprap lining, eco blocks, pavers, or porous pavement are recommended for unpaved parking areas. Devices also include prefabricated plastic channels.

Recommended drainage and flooding improvement measures primarily include infiltration devices such as shallow impoundments to infiltrate stormwater, infiltration trenches, drywells (subsurface structures that capture and slowly release stormwater, and level spreaders that reduce storm water velocity and encourage infiltration. Detention basins, which are ponds or low areas with an outlet designed to hold water for a specified period of time (generally 48 to 72 hours), are also recommended as flood improvement measures.

(f) Mammoth Lakes Drainage and Erosion Control Manual

The *Mammoth Lakes Drainage and Erosion Control Manual*,⁴ sets forth procedures for the planning and design of storm drainage and flood control systems and erosion control facilities. Procedures were developed specifically for application in the community of Mammoth Lakes and are used in conjunction with the Town of Mammoth Lakes SDMP and the *Town of Mammoth Lakes Erosion, Drainage, and Flooding Project - Final Recommendations Report* (2008). Requirements for project review and procedures for issuance of applicable grading and building permits include the calculation of runoff, evaluation of storm drainage systems, temporary runoff management, erosion control, temporary and permanent soil stabilization, and

⁴ *Brown & Caldwell and Triad Engineering, Design Manual – Mammoth Lakes Storm Drainage and Erosion Control, prepared for Mammoth Lakes Department of Public Works (July 1984).*

regulation procedures. The Manual provides the appropriate return period (exceedence intervals) for use in the design of storm drainage and erosion facilities. In all cases, the storm drain systems shall be sized to carry 100-year peak flows without damage to persons or property. Under the Manual, individual facilities in the system may have lower exceedence intervals, but should be designed to overflow to another portion of the storm drainage system when their capacity is exceeded. For example, if a storm drain overflows into the street, the capacity of the street, curb and gutter must be adequate to carry the 100-year peak flow without flooding adjacent property.

b. Existing Conditions

(1) Setting

The Project Area is located within the Mammoth Basin watershed, a distinct hydrologic area on the eastern slope of the Sierra Nevada. This approximately 71 square mile basin is part of the Long Valley Subunit of the Owens Valley Hydrologic Unit on the Lahontan Drainage Province. With the exception of approximately 2,600 acres of private lands which comprise the Mammoth Lakes community, the Basin consists primarily of wilderness and semi-wilderness lands under the jurisdiction of the Inyo National Forest. The Basin includes the entire watershed of Mammoth Creek, which is eventually tributary to the Owens River via Hot Creek. Mammoth Creek and Hot Creek are the same stream, but the name changes to Hot Creek downstream of the U.S. Highway 395 crossing due to historical precedent.

Watershed boundaries are physically defined by the Mammoth Crest divide of the Sierra Nevada on the south and west, by the Dry Creek drainage divide on the north, and by the Convict Creek drainage divide on the east. The total flow length of the Mammoth Creek/Hot Creek drainage system is approximately 18 miles. The Mammoth area drainage basin includes a complex drainage system comprised of lakes and interconnecting surface streams in the higher elevations of its southwestern portion. All of these lakes and streams are eventually tributary by either surface flow or underground flow to Mammoth Creek. The drainage basin eventually flows into the Owens River system. Within the Town limits there two watershed basins; (1) The southern portion of the community drains the Lakes Basin to Mammoth Creek; and (2) The northern portion of the community drains Mammoth Mountain and most of the drainage from Meridian Boulevard northward to Murphy Gulch. During high runoff periods, Murphy Gulch eventually flows into Mammoth Creek.

Past development within the Town, particularly prior to its incorporation, has created runoff and erosion problems by changing runoff volumes and flow patterns. Uncontrolled runoff has accelerated erosion and increased sediment and other pollutants in Mammoth and Hot Creeks. At present, only portions of the community are served by an integrated storm drainage system. Numerous natural or man-made surface channels traverse the community that contribute to runoff and erosion problems. The Town has been applying for grants to assist with the development of a plan to identify, prioritize and improve erosion, sedimentation and drainage problems.

Some areas along Mammoth Creek are located within Federal Emergency Management Agency (FEMA) designated 100-year flood zones.⁵ Mammoth Creek has a relatively small watershed (a total of

⁵ *Federal Emergency Management Agency Flood Insurance Study for the Town of Mammoth Lakes - Community Number 060724 (September 30, 1992).*

approximately 13.12 square miles) and a limited tributary system. As a result, flooding would be relatively shallow and, in some areas, would be expected to rise to only approximately one foot during a 100-year storm or flood event.⁶ However, because of Mammoth Creek's gradient most flooding would be of short duration. FEMA has designated several areas along Mammoth Creek as flood zones.

(2) Identification of Affected Waters and Beneficial Uses

Chapter 3 of the Basin Plan includes water quality objectives for certain water bodies within the Owens Valley hydrologic unit, which pertain to total dissolved solids, chloride, nitrate, total nitrogen, and phosphate.⁷ Watersheds addressed in the Basin Plan include Lake Mary Basin, Old Mammoth (town areas tributary to Mammoth Creek), Murphy Gulch, Sherwin Creek, Casa Diablo and Hot Creek/Laurel Creek. Casa Diablo and Hot Creek/Laurel Creek are downstream from the Town of Mammoth Lakes. **Table 4.H-1, Identification of Affected Waters, below,** describes these watershed areas.

Table 4.H-1

Identification of Affected Waters

Watershed	Descriptive Name	Description
1	Lake Mary Basin	Lakes Basin, tributary to Mammoth Creek
2	Old Mammoth	Town areas tributary to Mammoth Creek
3	Murphy Gulch	Town areas tributary to Murphy Gulch, then Mammoth Creek
4	Sherwin Creek	Downstream of town areas to Sherwin Creek, then Mammoth Creek
5	Casa Diablo	Downstream of town area north or Murphy Gulch, tributary to Mammoth Creek
6	Hot Creek/ Laurel Creek	Downstream of town areas tributary directly to Hot Creek/Laurel Creek

Source: Triad-Holmes Engineering, 2011 from LRWQCB, Water Quality Control Plan for the Lahontan Region (1995)

Watershed areas 1 through 5 in Table 4.H-1 are tributary to Mammoth Creek. Beneficial uses of Mammoth Creek are as follows:

- Municipal and Domestic potable water supply
- Agricultural Supply
- Ground Water Recharge
- Freshwater Replenishment
- Water Contact Recreation

⁶ Paul Rote, P.E., Triad-Holmes Engineering, Telephone Interview, April 4, 2011.

⁷ LRWQCB, Water Quality Control Plan for the Lahontan Region, Table 3-17 (1995).

- Non-contact Water Recreation
- Commercial and Sport fishing
- Cold Freshwater Habitat
- Wildlife Habitat
- Rare, Threatened, or Endangered Species
- Migration of Aquatic Organisms
- Spawning, Reproduction, and Development

Watershed area 6 is directly tributary to Hot Creek and Laurel Creek. Hot Creek includes the same beneficial uses as Mammoth Creek except it is not a Freshwater Replenishment source, but adds the following uses:

- Industrial Service Supply
- Aquaculture

Laurel Creek has the following beneficial uses:

- Municipal and Domestic potable water supply
- Water Contact Recreation
- Non-contact Water Recreation
- Commercial and Sport fishing
- Cold Freshwater Habitat
- Wildlife Habitat Spawning, Reproduction, and Development.

Further descriptions of these beneficial uses are included in Chapter 2 of the Basin Plan.

(3) EPA Total Maximum Daily Load

Mammoth Creek is on California's 303d list for metals and mercury. **Table 4.H-2, 2006 CWA Subsection 303(d) List of Water Quality Limited Segments Requiring TMDLs**, below, identifies the existing pollutants in a 12-mile segment of Mammoth Creek that currently exceed the TMDL for the respective pollutants. TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. Achievement of the TMDL for metals and mercury in Mammoth Creek is expected in 2019. According to the 2010 (Proposed) CWA Subsection 303(d) list, the following segment of Mammoth Creek are water quality limited segments requiring TMDLs: a six-mile segment of Mammoth Creek between Old Mammoth Road and Highway 395 contains manganese, mercury and total dissolved solids pollutants; a two mile segment of Mammoth Creek between Twin Lakes

Table 4.H-2

**2006 CWA Subsection 303(d)
List of Water Quality Limited Segments Requiring TMDLs**

<u>Region</u>	<u>Type</u>	<u>Name</u>	<u>Calwater Watershed</u>	<u>Pollutant/ Stressor</u>	<u>Potential Source</u>	<u>Estimated Size Affected</u>	<u>Proposed TMDL Completion</u>
6	R	Mammoth Creek	60310053	Mercury	Source Unknown	12 miles	2019
				Metals	Other Urban Runoff, Natural Sources	12 miles	2019

Source: Excerpt from the 303(d) list presented on the LRWQCB website. Triad-Holmes Engineering, 2011.

outlet and Old Mammoth Road contains manganese and mercury; and a two-mile segment of a Mammoth Creek unnamed tributary at a confluence near Old Mammoth Road contains arsenic and mercury pollutants.⁸

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the *CEQA Guidelines*, the Initial Study Environmental Checklist form, includes questions relating to hydrology and water quality that are utilized as the thresholds of significance in this section. Accordingly, the Project may create a significant environmental impact if it would result in one or more of the following:

- Threshold 1: Violate any water quality standards or waste discharge requirements (refer to Impact Statement 4.H-1).
- Threshold 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted) (refer to Section 6, *Other CEQA Considerations*, and the Initial Study contained in Appendix A. A less than significant impact would occur in this regard.).
- Threshold 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site (refer to Impact Statements 4.H-2 and 4.H-3).

⁸ *Hydrology and Water Quality Report (March 2011) for the Project prepared by Triad-Holmes Engineering. Refer to Appendix G of this EIR.*

- Threshold 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off the site (refer to Impact Statement 4.H-2 and 4.H-3).
- Threshold 5: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (refer to Impact Statement 4.H-2).
- Threshold 6: Otherwise substantially degrade water quality (refer to Impact Statement 4.H-1).
- Threshold 7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map (refer to Section 6, *Other CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard.).
- Threshold 8: Place within a 100-year flood hazard area structures which would impede or redirect flood flows (refer to Impact Statement 4.H-3).
- Threshold 9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam (refer to Impact Statement 4.H-3).
- Threshold 10: Expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow (refer to Section 6, *Other CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard.).

b. Methodology

The evaluation of hydrology and water quality impacts is based on the comparison of the Project to applicable regulatory policies and the analysis contained in the *Hydrology and Water Quality* technical report prepared by Triad-Holmes. The Triad-Holmes report is contained in Appendix G of this EIR. Future projects, including Priority Projects, described in the TSMP and SHARP are not designed to the extent that specific hydrological analyses for individual projects could be conducted at this time. Therefore, impact assumptions are, in part, based on the type of terrain and additional known hydrological conditions of the Project Area and are not site-specific, unless stated otherwise.

c. Project Features

Project features include policies and/or design standards of the TSMP or SHARP that relate to hydrology or water quality as further described below.

(1) Trails System Master Plan

The TSMP contains several policies and design standards that related to hydrology and water quality, including the issue of erosion. Chapter 6, *Design Guidelines*, and Chapter 7, *Operations and Maintenance*, of the TSMP describe the following policies and recommendations:

The TSMP's discussion of *Trail Management Objectives* (TMOs), require that TMOs must be established prior to designing or constructing a trail to ensure that it meets the overall goals of the TSMP and adheres to the highest principals of sustainability. TMOs include Best Routing Location (BRL) Principles to be implemented where possible, such as avoiding wet meadows and wetlands and avoiding routing trails too close to other trail systems to minimize trail proliferation.

Specific design measures under the TSMP that are intended to avoid erosion (which, respectively, affects water quality) include the TSMP's Soft-Surface Trail Design Guideline's, trail routing specifications by soil type and establishment of average and maximum grade to improve sustainability of soil-based trails, both in their resistance to use and water-based erosion.

TSMP Table 6-6, *Trail Specifications by Soil Type*, identifies USGS soils types, including soils with a high level of erosion hazard. The table establishes an average grade and maximum grade standards for each soils type to reduce erosion potential and provides guidance is trail routing in order to mitigate potential undesirable environmental impacts and maintain the TMO. According the TSMP, the first component of determining an appropriate trail grade is "The Half Rule." This concept states that for most soils the trail grade should not exceed half the grade of the slope that it traverses. The TSMP states that any alignment that does not conform to this standard is considered to be a fall-line trail and will funnel water down the tread, resulting in accelerated water-based erosion. The TSMP's Maximum Sustainable Grade is the steepest individual section of trail on the native soil, which should not exceed 200 linear feet to minimize trail erosion.

The TSMP's *Trail Design Considerations* state that proper design, construction, and maintenance must be used in the development of erosion resistant, sustainable trails. Design considerations are described in Sections 6.1.5, *At-Grade Cross-Country Ski Crossing - Design Guidance*; Section 6.6.2, *Trail Construction and Guidelines*; and Section 7.2.1, *Paved Multi-Use Path Maintenance*, of the TSMP.

Design policies under TSMP Section 6.1.5 regarding cross country ski crossings, list the cross-sloping of crossings to adequately drain any melted water away from the roadway. According to the TSMP, small channels could be added to facilitate drainage if necessary.

Section 6.6.2, *Trail Construction and Guidelines*, of the TSMP identifies trail types and their relationship in avoiding or reducing erosion. Among identified trails and trail-building techniques are:

- Contour trails: Contour trails are designed so that the grade does not exceed half the grade of the surrounding slope and, as such, is counter to the erosion-prone fall-line trail;
- Grade reversals: Grade reversals are undulations within the trail tread (a short dip followed by a rise). This grade change in the tread catches water at the low point and diverts it off the trail. Grade reversals are the preferred erosion prevention technique. They require little maintenance once installed;

- Climbing turns: Climbing turns are used to change direction where there is no constructed platform or landing. The upper and lower legs of a climbing turn are joined by a short section of trail (the apex) that lies in the fall line. Water is shed to the inside of the trail turn. Berming of turns may be appropriate on preferred mountain biking trails where there is adequate drainage control prior to the turn; and
- Switchbacks: Switchbacks are a technique for moving a trail up steep side slopes. The transition is made by way of a flat landing or pad. A correct switchback will shed water off the back of the landing, and there is an immediate separation of trail segments.

Section 7.2.1, *Paved Multi-Use Path Maintenance*, of the TSMP suggests that ruts and water damage to be repaired periodically. Under this policy, checks for erosion along the trails should be done immediately after any storm that brings flooding to the local area.

(2) SHARP

SHARP policies do not identify additional erosion control measures in the prioritized or non-prioritized projects set forth in that plan, beyond those that are specified in the broader TSMP. However, several facilities, including Priority Projects including 9B (stacked loop trail system in the meadow), and other future projects, call for doggie bag stations along the main trail, which would reduce animal waste in surface water runoff.

In addition, the USFS relies on a number of trail construction related documents that include the *Trail Construction and Maintenance Notebook* (2007 Edition) and the *Forest Service Trails Management Handbook* (FSH 2309.18) for guidelines on building almost any type of trail, including soft-surface trails. These USFS documents would be referred to during the construction of trails within the SHARP area. Soft-surface trails recommended in the SSTC and/or the SHARP area would be designed in consideration of a number of factors that include: the intended trail user, type of soil, and average and maximum grades, amongst others. Trails would be designed to follow natural land contours and topography to the maximum extent feasible. Surface water control features to control erosion such as grade reversals, knicks, rolling grade dips, and water bars would be incorporated into soft-surface trail designs. Trail surfaces and routing would be determined based on a project-by-project basis. BRL Principals are included in the TSMP Design Guidelines and the SSTC (similar trail design standards are provided in the USFS trail construction documents).

Soft surface trail facilities constructed in accordance with the TSMP Design Guidelines and/or USFS standards would not only be designed to meet the needs of the intended users, but would be constructed with appropriate surfacing or tread so that the trail would not deteriorate over time and won't be eroded away by water and use.

d. Analysis of Project Impacts

The analysis of Project impacts regarding hydrology and water quality below applies to all future trail components associated with the Project, including the Priority Projects, unless stated otherwise.

(1) Water Quality

4.H-1 Project construction and operation may result in water quality impacts due to sheet erosion of exposed soils and subsequent deposition of particles and pollutants in the area's water bodies. Analysis has concluded that potentially significant water quality impacts would be reduced to a less than significant level with compliance to applicable regulatory requirements and implementation of the prescribed mitigation measures.

(a) Priority Projects

Construction and operation of the Priority Projects would have potential effects on water quality related to surface water runoff, erosion, dust, and other characteristics associated with recreational uses. General construction activities requiring clearing, grubbing (removing vegetation) and excavation have the potential to expose soils to the wind and rain and to increase siltation in nearby water bodies. (Potential dust impacts are addressed in detail in Chapter 4.B, *Air Quality*, of this EIR). **Table 4.H-3, Priority Projects**, below, summarizes the potential proximity of the Priority Projects to creeks and streams, FEMA-designated flood zones, and wetlands.

(i) Construction

As shown in Table 4.H-3, Priority Projects No. 1 (MUP 2-1), No. 6 (a backbone trail also known as SHARP Summer Project No. 7) and No. 7 (a connector trail also known as SHARP Summer Project No. 12b) would be located in the proximity of Mammoth Creek and, potentially, in close proximity to wetland areas and FEMA-identified 100-year flood zones. The potential proximity of Priority Projects No. 1, No. 6, and No. 7 to Mammoth Creek could increase the potential for adverse water quality effects on the Creek during construction of these projects. Adverse effects may include siltation caused by dirt and other construction debris flowing or falling into the stream. Any location of Priority Projects No. 1, No. 6, and No. 7 in proximity to potential wetlands also has the potential to cause degradation or loss of wetland habitat that serves as natural filters for pollutants, which in turn, could increase pollutants entering Mammoth Creek. Development of the Priority Projects in close proximity to water bodies could require CWA Section 401 and 404 Certification from the LRWQCB and, if wetland vegetation is present, a Fish and Game Code Section 1602 permit from the CDFG. Furthermore, all construction activities occurring within USFS lands would be required to comply with and implement all applicable water quality BMPs pursuant to the provisions of the USFS *Water Quality Management Handbook*, given that the USFS is the LRWQCB-designated WQMA for NFS lands. Section 401 Certification requires a permit for any activities that may result in a discharge of runoff into any waters of the U.S. and Section 404 Certification requires a permit before dredged or fill material may be discharged into a water body of the U.S. Such permits require inspection by the LWRQCB and CDFG, respectively, and the implementation of specific erosion-control or avoidance measures to reduce impacts to jurisdictional waters. Section 1602 permits would control the loss or removal of any wetland habitat and may require avoidance of such areas or mitigation. In areas where there are braided and random trails, having one improved trail would be expected to reduce overall erosion and environmental degradation in the vicinity of sensitive habitat, such as wetlands or montane meadow areas.

Table 4.H-3

Priority Projects

Priority Project	Project No. (Sharp Summer except as noted MUP)	Project	Affected waters and beneficial uses		Avoidance and minimization	Characterization of impacts - future(Yes)								Hydrologic Analysis				Potential Permitting Requirements ^b
			Watershed	Potentially Adjacent to Creek or Stream (N =Not Expected)	Complete Avoidance (A) - Minimization (M)	Parking	Signage	Soft surface Non Motorized	Hard surface Non Motorized	Restroom	use existing trails	Creek Crossing	Bridge	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (n-not expected)	Potential Wetland (n-not expected)	Low impact development
1	MUP 2-1		2	Yes	M								2.3	8.3	Yes	Yes	Yes	401,404,1602
2	MUP 3-1		2/3	n	M								2.1/3.3	8.1/8.10	N	n	Yes	N
3	1	staging area	2	n	M	Yes	Yes			Yes			2.1	8.1	N	n	Yes	N
4	5b	connector trail	2	n	M			Yes					1, 2.3	None	N	n	Yes	N
5	6	connector trail	3	n	M				Yes				2.1	8.1	N	n	Yes	N
6	7	backbone trail	2	yes	M				Yes				2.1, 2.4, 2.5	8.6, 8.7	N	Yes	Yes	401/404/1602
7	12b	connector trail	2	yes	M			Yes				Yes	1	None	N	Yes	Yes	401/404/1602
8	13	connector trail	2	n	M			Yes					4	None	N	n	Yes	N
9	15	connector trail	2	n	M			Yes					2.3	None	N	n	Yes	N

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

^b Any project disturbing more than one acre requires submittal of a Notice of Intent to the Regional Water Quality Control Board.

Source: Triad-Holmes Engineering, 2011

Priority Projects that are not in direct proximity to Mammoth Creek have the potential to degrade water quality through the exposure of loose materials and exposed soils to wind and rain that enter a rill or are washed via sheet flow eventually to Mammoth Creek or one of its tributaries. In this regard, all development activities disturbing one acre or more are required to comply with the SWRCB's General Construction Activity Storm Water Permit, which requires the preparation and approval of an SWPPP that prescribes specific BMPs. BMPs, which must be approved and monitored by the LRWQCB, must reduce the potential for discharge of accidental and/or implicit pollutants into the storm drain system. The BMPs must be in place prior to issuance of a grading permit and designed to maintain construction areas in such a condition that storm flows do not carry wastes or pollutants off-site.

For Priority Projects under one acre, the MOU between the Town and the LRWQCB, described above, require the use of temporary erosion control measures during construction, soil stabilization at construction sites by October 15 of each year, elimination of waste material in drainage ways or 100-year flood plains, and similar measures. Additionally, Priority Projects occurring within National Forest lands would be required to comply with the provisions of the USFS *Water Quality Management Handbook*, which would also serve to minimize adverse water quality effects from construction activities. With the implementation of statutory erosion control measures (BMPs) or Section 1602 procedures, where required, water quality impacts during construction would be less than significant.

(ii) Operation

Priority Projects include paved and hard trails and a trailhead parking area that may increase point source pollutants (e.g., oil and grease in runoff). Unmitigated, this would be considered a potentially significant impact. Priority projects also include soft surface trails that may be subject to erosion as a result of their exposure to wind, rain, snow, and heavy non-vehicular traffic. The potential for erosion may be greater in areas in which gradient is steep or if exposed trails channel runoff from the surrounding area.

Because of their proximity to Mammoth Creek, CWA Section 402 and 404 Certification may also apply to the operation of Priority Projects No. 1, No. 6, and No. 7. If required, these projects would implement a SUSMP during operation to ensure that storm water pollution would not directly enter adjacent water bodies through the incorporation of BMPs approved by the LRWQCB. The SUSMP would provide numerical water quality design standards to ensure that storm water runoff is managed for water quality concerns.

Priority Projects that are not in proximity to a water body have the potential to indirectly degrade water quality through eroded materials, exposed soils, or pollutants from hard surfaces that are washed by sheet flow to Mammoth Creek or one of its tributaries. Individual projects of one acre or less may be required to maintain a SUSMP issued by the LRWQCB to control water runoff and any point source pollutants from entering groundwater or water bodies. MOU measures, including soil stabilization, removal of all surplus or waste earthen material from a site, routine inspection of physical erosion control facilities, and other maintenance requirements as implemented by the Mammoth Lakes Public Works Department, or as specified by USFS in accordance with applicable agency standards and guidelines would be required for Priority Projects under one acre.

In the case of Priority Projects carried out under Special Use Permit on National Forest lands, the USFS official responsible for permit issuance and administration will include in the special use permit under which the permittee must operate, details of the conditions that must be met including management requirements

and mitigation measures necessary to protect water quality. The permittee (Town) will be required to conform to all applicable State and local regulations governing water quality and sanitation. Accordingly, State water quality law may require that the permittee obtain a waste discharge requirement from the RWQCB. Failure on the part of the permittee to meet the conditions of the special use permit may result in the permit being revoked.

As described under *Project Features*, above, TSMP policies include TMOs for trail design that promote sustainability principals such as BRLs to avoid wet meadows and wetlands, trail routing according to soil type; and establishment of average and maximum grades to improve resistance to water-based erosion. The TSMP's *Trail Construction and Guidelines* promote drainage and flooding improvement measures such as infiltration devices, level spreaders that reduce storm water velocity and detention basins (ponds or low areas with an outlet designed to hold water for a specified period of time). In addition, as noted previously, projects occurring on NFS lands would be subject to relevant USFS standards and guidelines, such as those provided in the USFS's *Water Quality Management Handbook*, *Trail Construction and Maintenance Notebook*, and *Forest Service Trails Management Handbook*, including trail construction techniques and design features intended to minimize stormwater flow volumes and velocities in order to minimize erosion and associated water quality effects. These policies would support the reduction of erosion and the intention of the CWA to reduce pollutants to water bodies.

The Town's 2005 SDMP and *Erosion, Drainage, and Flooding Project - Final Recommendations Report* (2008) would also apply to the development of the Priority Projects within the UGB. These regulatory guidelines assist the Town in identifying erosion, drainage and flood related problem areas and establish hydrological standards and erosion control recommendations to ensure that improvements do not create more or new erosion and drainage problems. The SDMP relies strongly on detention basins to reduce sediment and nutrient load in the creek to improve beneficial use of the water. The Report also sets forth specific design features to reduce stormwater runoff peak flows and volumes through infiltration or detention and controls such as conditioning and revegetation, erosion control blankets, turf reinforced mats, retention systems, and rock slope protection.

(iii) Conclusion

The Priority Projects are those projects that would be developed first under the implementation of the TSMP. Drawings and surveys for each site to determine trail alignment, topography, scope of construction, areas of impermeability and other information needed for the determination of each project's water quality effects during construction and operation would require site-specific plans and drawings that would be prepared prior to initiation of each project. This information is not available at this time for evaluation in this EIR. However, implementation of BMPs, as required under CWA regulations and implementation of the applicable policies of the Town of Mammoth Lake's *Drainage and Erosion Control Manual*, 2005 *Storm Drain Master Plan*, 2008 *Erosion, Drainage, and Flooding Project*, TSMP, USFS-specified water quality BMPs, standards, and guidelines for trails construction, and proposed mitigation measures (see Subsection 3.C, *Mitigation Measures*, below) would provide regulatory conditions that would control practices relative to water quality. Several of these mitigation measures specifically address water quality; however, all mitigation measures that would control hydrological impacts and erosion would also address water quality issues. Enforcement of existing regulations and policies would also support LID policies to minimize changes to grades, to avoid creating source pollutants, and to avoid placing pollutants in path of runoff. With the implementation such regulations and measures, impacts to water quality during the construction and operation of Priority Projects are expected to be less than significant.

(b) TSMP Projects

The TSMP provides for a range of projects including MUPs, street crossings, bike lanes, and amenities at nodes. **Table 4.H-4, MUP Projects**, below, summarizes the water quality and hydrological implications of the respective MUP projects. As shown in Table 4.H-4, MUP 2-1 (a Priority Project), MUP 3-4, MUP 3-5, MUP 3-9, MUP 3-10, MUP 3-11, MUP 3-13, MUP 4-4, and MUP 4-5 would be located adjacent to or near a creek or stream and within a potential wetland area. MUP 2-1 (a Priority Project), MUP 3-4, MUP 4-4, and MUP 4-5 are also potentially located within a FEMA identified flood zone. The proximity of these future projects to existing creeks, streams, and wetlands would increase the potential for direct contamination of these adjacent water bodies during the construction and operation of these projects. Direct contamination may include siltation caused by construction debris or eroded materials flowing or falling into the water bodies. CWA Sections 401 and 404 Certification from the LRWQCB and, if wetland vegetation is present, a Section 1602 permit from the CDFG, may be required to reduce water quality impacts to a less than significant level. The construction of these facilities may result in siltation which would be addressed through the implementation of a SWPPP required for all projects greater than one acre in size. Furthermore, construction and operation of new facilities within NFS lands would be required to comply with all water quality provisions contained in the USFS *Water Quality Management Handbook*, which would serve to address construction activities and ongoing maintenance of proposed trails and other facilities. Because MUPs would be used for non-motorized transportation, point source pollution from MUPs is not anticipated. Respective mitigation measures that would apply to future TSMP projects are listed under Section 4.H.3, *Mitigation Measures*, below.

The TSMP outlines approximately 20 locations where trails (MUPs or bike paths) would cross existing public streets and roadways, including two crossings on Minaret Road, five crossings on Lake Mary Road, five crossings on Main Street, four crossings on Meridian Boulevard, and four crossings on Old Mammoth Road. The crossings, which are summarized in **Table 4.H-5, Street and Road Crossings**, below, would result in an increase in impermeable area in those locations where new pavement would be required (new pavement areas are shown in Table 4.H-4); however, no crossings are located in proximity to creeks, streams, or wetlands. The need for CWA Section 401 or 404 Certifications or CDFG permits for these projects is not anticipated. However, Mitigation Measures 4.H-5, 4.H-6, 4.H-17, and 4.H-18 to reduce dust and erosion during construction would be required for approximately 13 of the new crossings involving the construction of new pavement.

Approximately 24 bike lane projects outlined under the TSMP are summarized in **Table 4.H-6, Bike Lane Projects**, below. As shown in Table 4.H-6, bike lane B2-7 (Old Mammoth Road between Main Street and Mammoth Creek), bike lane B3-12 (South Majestic Pines between Meridian Road and Waterford Street) and bike lane B5-1 (Sherwin Creek Road between the Borrow Site trailhead and U.S. 395) would be located adjacent to or in the vicinity of a creek or stream. None of these bike lane segments would be located in proximity to wetlands or within a FEMA flood zone. Bike lane B2-7 would not require the need for the construction of new pavement and, as such, the need for CWA certification is not expected. Construction of bike lane B3-12 and B5-1 may require CWA Certification. No CDFG permits would be required for any of the bike lane projects since none of these projects are located within wetland areas. As shown in Table 4.H-6, approximately 12 of the new bike lane projects may require the construction of additional pavement. Mitigation measures, including Mitigation Measures 4.H-5, 4.H-6, and 4.H-17, to reduce dust and erosion during construction would be required for projects involving the construction of new pavement. **Table 4.H-7, Amenities at Recreation Nodes**, summarizes the potential relationship of amenity projects to creeks and streams, flood areas, and FEMA flood zones. As presented in Table 4.H-7, future projects No. 28

Table 4.H-4

Paved Multi-Use Paths

Priority Project	Project No.	Affected Waters and Beneficial Uses		Hydrologic Analysis				Potential Permitting requirements
		Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N = Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated
1	MUP 2-1	2	Yes	2.3	8.3	Yes	Yes	401,404,1602
	MUP 2-2	3	N	3.6	8.14	N	N	N
2	MUP 3-1	2/3	N	2.1/3.3	8.1/8.10	N	N	N
	MUP 3-2	3	N	3.3/3.4	8.10/8.11	N	N	N
	MUP 3-3	3	N	3.3	8.10	N	N	N
	MUP 3-4	2	Yes	2.3	8.3	Yes	Yes	401,404,1602
	MUP 3-5	3	Yes	3.6	8.13	N	Yes	401,404,1602
	MUP 3-6	3	N	3.2	8.1	N	N	N
	MUP 3-7	3	N	3.6	8.14	N	N	N
	MUP 3-8	3	N	3.6	8.14	N	N	N
	MUP 3-9	3	Yes	3.6	8.13	N	Yes	401,404,1602
	MUP 3-10	3	Yes	3.6	8.13	N	Yes	401,404,1602
	MUP 3-11	3	Yes	3.6	8.13/8.14	N	Yes	401,404,1602
	MUP 3-12	3	N	3.7	8.17	N	N	N
	MUP 3-13	3	Yes	3.6	8.16	N	Yes	401,404,1602
	MUP 4-1	3	N	3.4	8.11	N	N	N
	MUP 4-2	3	N	3.4	8.11	N	N	N
	MUP 4-3	3	N	3.4/3.7	8.11/8.17	N	N	N
	MUP 4-4	2	Yes	2.1	8.1	Yes	Yes	401,404,1602
	MUP 4-5	2	Yes	2.4	8.6	Yes	Yes	401,404,1602

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

Source: Triad-Holmes Engineering, 2011.

(Mill City), No. 34 (Twin Lakes Parking), No. 35 (Lake Mary Terminus), No. 36 (Tamarack Lodge), No. 80 (Horseshoe Lake), Nos. 88-90 (Coldwater Campground, No. 134 (Mammoth Creek Park East), and No. 152 (Mammoth Creek Park West) may be located adjacent to or near Mammoth Creek and potentially within wetland area. None of these are located within a FEMA-identified flood area.

(c) SHARP Projects

The SHARP provides for a range of summer and winter projects including trail heads, staging area, backbone trails, connector trails, dog walking area, interpretative trail, and other others. **Table 4.H-8, SHARP Summer Projects**, and **Table 4.H-9, SHARP Winter Projects**, below, summarizes the potential proximity of SHARP

Table 4.H-5
Street and Road Crossings

Project No.	Street	Location	Affected Waters and Beneficial Uses		Avoidance and Minimization	New Facilities			Hydrologic Analysis				Potential Permitting Requirements
			Watershed	Potentially Adjacent to Creek or Stream (N=Not Expected)	Complete Avoidance (A) - Minimization (M)	Fits on Existing Paving	Extra pavement Required	Comments - No Construction (NC) - Signage Only (SO)	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N =not Expected)	Potential Wetland (N = Not Expected)	N = Not Expected
X 2-1	Minaret Road	Forest Trail	3	N	A	Yes		Yes	3.7	8.17	N	N	N
X 2-2	Minaret Road	North Village (Mid Block)	3	N	A	Yes		Yes	3.7	8.17	N	N	N
X 2-3	Lake Mary Road	Davison Road	3	N	M		Yes		3.6	8.16	N	N	N
X 2-4	Lake Mary Road	Lakeview Road	3	N	A	Yes		Yes	3.6	8.18	N	N	N
X 2-5	Lake Mary Road	Canyon Boulevard	3	N	A	Yes		Yes	3.6	8.13	N	N	N
X 2-6	Lake Mary Road	Bridges Lane	3	N	A	Yes		Yes	3.6	8.16	N	N	N
X 2-7	Lake Mary Road	Lee road	3	N	M		Yes		3.6	8.16	N	N	N
X 2-8	Main Street	Minaret Road	3	N	M		Yes		3.6	8.13	N	N	N
X 2-9	Main Street	Mountain Blvd	3	N	A	Yes		Yes	3.6	8.13	N	N	N
X 2-10	Main Street	Sierra Blvd	3	N	M		Yes		3.6	8.13	N	N	N
X 2-11	Main Street	Forest Trail	3	N	M		Yes		3.4	8.11	N	N	N
X 2-12	Main Street	Sierra Park Road	3	N	A	Yes		Yes	3.4	8.11	N	N	N
X 2-13	Meridian Boulevard	Minaret Road	3	N	M		Yes		3.6	8.14	N	N	N
X 2-14	Meridian Boulevard	Sierra Park Road	3	N	M		Yes		3.5	8.12	N	N	N
X 2-15	Meridian Boulevard	College Parkway	3	N	M		Yes		3.3	8.10	N	N	N
X 2-16	Meridian Boulevard	Wagon Wheel Road	3	N	M		Yes		3.3	8.10	N	N	N
X 2-17	Old Mammoth Road	Chateau Road	2	N	M		Yes		2.2	8.2	N	N	N
X 2-18	Old Mammoth Road	Minaret Road	2	N	M		Yes		2.3	8.3	N	N	N
X 2-19	Old Mammoth Road	Ski Trail	2	N	M		Yes		2.3	8.3	N	N	N
X 2-20	Old Mammoth Road	Waterford Avenue	2	N	M		Yes		2.3	8.3	N	N	N

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

Source: Triad-Holmes Engineering, 2011

Table 4.H-6
Bike Lane Projects

Project No.	Location	From	to	Affected Waters and Beneficial Uses		Avoidance and Minimization	Characterization of impacts		Hydrologic Analysis				Potential Permitting Requirements
				Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Complete Avoidance (A) - Minimization (M)	Bike Lane on Existing Paving	Extra Pavement Potentially Required	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N = Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated
B 2-1	Minaret	Scenic Loop	Mammoth Knolls	3	N	A	Yes		3.7	8.17	N	n	N
B 2-2	Minaret	Mammoth Knolls	Main	3	N	A	Yes		3.7	8.17	N	n	N
B 2-3	Lake Mary	Davison	Minaret	3	N	A	Yes		3.6	8.16	N	n	N
B 2-4	Meridian	S. Majestic Pines	N. Majestic	3	N	A	Yes		3.6	8.16	N	n	N
B 2-5	Meridian	Sierra Park	203	3	N	A	Yes		3.3	8.10	N	n	N
B 2-6	Old Mammoth Road	Red Fir	Minaret	2	N	M		Yes	2.3	8.4	N	n	N
B 2-7	Old Mammoth Road	Main	Mammoth Creek	2/3	Yes	A	Yes		3.5/2.2	8.12/8.2	N	n	N (no extra pavement)
B 3-1	Forest Trail	Minaret	Canyon	3	N	M		Yes	3.7	8.18	N	n	N
B 3-2	Canyon	Lake Mary	Hillside	3	N	A	Yes		3.7	8.18	N	n	N
B 3-3	Lakeview Blvd	Rainbow	Canyon	3	N	A	Yes		3.7	8.18/8.19	N	n	N
B 3-4	Majestic Pines	Silver Tip	Lodestar	3	N	M		Yes	3.6	8.16	N	n	N
B 3-5	Chateau	Minaret	End	2	N	M		Yes	2.2	8.2	N	n	N
B 3-6	Sierra nevada	Azimuth	Sierra Park	3	N	A	Yes		3.5	8.12	N	n	N
B 3-7	Laurel Mountain	Main	Sierra Nevada	3	N	A	Yes		3.5	8.12	N	n	N
B 3-8	Tavern	Laurel Mountain	Sierra Park	3	N	A	Yes		3.5	8.12	N	n	N
B 3-9	Sierra Manor	Tavern	Meridian	3	N	A	Yes		3.5	8.12	N	n	N
B 3-10	Sierra Park	Main	end	3	N	M		Yes	3.5	8.12	N	n	N
B 3-11	Kelley	Lake Mary	Majestic Pines	3	N	M		Yes	3.6	8.16	N	n	N
B 3-12	South Majestic Pines	Meridian	Waterford	2	Yes	M		Yes	2.3	8.5	N	n	401,404,1602
B 4-1	Forest Trail	Canyon	Lakeview	3	N	M		Yes	3.7	8.19	N	n	N
B 4-2	Majestic Pines	Silver Tip	Lodestar	3	N	M		Yes	3.6	8.16	N	n	N
B 4-3	North Waterford	Majestic Pines	Old Mammoth	2	N	M		Yes	2.3	8.5	N	n	N
B 4-5	Davison Road	Lake Mary	Lakeview	3	N	M		Yes	3.6	8.16	N	n	N
B 5-1	Sherwin Creek Road	Borrow	395	2/4/6	Yes	M		Yes	2.1	8.1	N	n	401,404,1602

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

Source: Triad-Holmes Engineering, 2011

Table 4.H-7
Amenities at Recreation Nodes

Project No.	Project	Affected waters and beneficial uses		Avoidance and minimization	New Facilities (Existing = E)						Hydrologic Analysis					Potential Permitting requirements
		Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Complete Avoidance (A) - Minimization (M)	Parking	Restroom	Bus	Trail Access	Signage	Comments	Season	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N - Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated
13	staging area	3	N	A	E	E	E	E	Yes	signage only	Winter			N	N	N
14	Eagle Lodge - temp	2/3	N	A	E	Yes	E	E	Yes	part of Eagle lodge project	Year-Round	3.6	8.15	N	N	N
21	Uptown/Downtown	3	N	A			E	E	Yes	signage only	Summer			N	N	N
27	Tamarack Street	2	N	A				E	Yes	signage only	Year-Round	2.5	8.7	N	N	N
28	Mill City	2	Yes	M	E		Yes	E	Yes	added impervious surface	Winter	2.3	None	N	Yes	401/404/1602
34	Twin Lakes Parking	1/2	Yes	A	E		Yes	E	Yes	on existing paving	Summer	1	None	N	Yes	N (on existing paving)
35	Lake Mary Terminus	1	Yes	A	E		Yes	E	Yes	on existing paving	Winter			N	N	N
36	Tamarack Lodge	1	Yes	A	E	E	E	E	Yes	signage only	Year-Round	1	None	N	Yes	N (signage only)
38	MMSA at Austria Hof	3	N	A				E	Yes	signage only	Summer	3.7	8.19	N	N	N
41	Lake Mary Bike Path NE Terminus	1	N	M		Yes	Yes	Yes	Yes	on existing paving	Summer			N	N	N
42	Earthquake Fault	3	N	M	E	E	Yes	E	Yes	on existing paving	Year-Round			N	N	N
44	Power Plant	3	N	M	Yes	Yes	Yes	Yes	Yes	up to 15 new parking spaces	Winter			N	N	N
46	Main Lodge	3	N	A	E	E	E	E	Yes	signage only	Year-Round			N	N	N
52	Sledz	3	N	A	E	E	E			signage only	Winter			N	N	N
64	Sierra Blvd at Forest Trail	3	N	M	Yes	Yes	Yes	E	Yes	up to 15 new parking spaces	Year-Round			N	N	N
67	Highway 203 Motorized Access	3	N	M	Yes	Yes					Year-Round			N	N	N
80	Horseshoe Lake	1	Yes	M	E	E	Yes	E	Yes		Summer	1	None	N	Yes	401/404/1602
86-87	Lake George	1	n	M	E	E	Yes	E	Yes		Summer	1	None	N	Yes	401/404/1602
88-90	Coldwater Campground		Yes	M	E	E	Yes	E	Yes		Summer	1	None	N	Yes	401/404/1602
97	Shady Rest Park	3	N	M	E	E	Yes	E	Yes		Year-Round	3.4	8.11	N	N	N
124	Welcome Center	3	N	M	E	E	Yes	E	Yes		Year-Round	3.4	8.11	N	N	N

Table 4.H-7 (Continued)

Amenities at Nodes

Project No.	Project	Affected waters and beneficial uses		Avoidance and minimization	New Facilities (Existing = E)						Hydrologic Analysis					Potential Permitting requirements
		Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Complete Avoidance (A) - Minimization (M)	Parking	Restroom	Bus	Trail Access	Signage	Comments	Season	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N - Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated
134	Mammoth Creek Park, East	2	Yes	M	Yes	E	E	E	Yes	up to 15 new parking spaces	Year-Round	2.2, 2.3	8.3	Yes	Yes	401/404/1602
152	Mammoth Creek Park, West	2	Yes	A	E	E	E	E	Yes	signage only	Year-Round	2.2, 2.3	8.3	Yes	Yes	401/404/1602
158	Path along Snowcreek V Fenceline	2	N	M				Yes	Yes		Winter			N	Yes	401/404/1602
163	Sherwin Creek Road USFS gravel borrow pit	2	N	M	Yes	Yes	Yes	E	Yes	up to 15 new parking spaces	Year-Round			N	N	N
191	North Village	3	N	A	E	E	E	E	Yes	signage only	Year-Round	3.6, 3.7, 3.8	8.17	N	N	N
192	Shady Rest Sawmill Cutoff Road	3	N	M	E	Yes	Yes	E	Yes		Winter			N	N	N
193	Trails End Park	3	N	M	E	E	Yes	E	Yes		Year-Round	3.3	8.10	N	N	N
195	Community Center	3	N	M	E	E	Yes	Yes	Yes		Year-Round			N	N	N
200	Snowcreek 8 Access Egress Point	2	N	M				Yes	Yes		Year-Round	2.4	8.3	N	yes	N

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

Source: Triad-Holmes Engineering, 2011

Table 4.H-8
SHARP Summer Projects

Priority Project	Project No.	Project	Winter Designation	Affected waters and beneficial uses		Avoidance and minimization	New Facilities								Hydrologic Analysis				Potential Permitting requirements	
				Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Complete Avoidance (A) - minimization (M)	Parking	Signage	Soft Surface Non Motorized	Hard Surface Non Motorized	Restroom	Use Existing Trails	Creek Crossing	Bridge	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N = Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated	
3	1	staging area	1,2,3	2	N	M	Yes	Yes				Yes				2.1	8.1	N	N	N
	2	trailhead	5c	2	N	M	Yes	Yes								2.5	8.4	N	N	N
	3	access point	5a	2	yes	A		Yes								2.4	8.6	N	Yes	N (signage only)
	4	staging area	6	2	N	M	Yes	Yes			Yes					2.3	8.4	N	N	N
	5a	connector trail	7,8	2	N	M			Yes							2.5	8.4	N	N	N
4	5b	connector trail		2	N	M			Yes						1, 2.3	None	N	N	N	
	5c	connector trail		2	N	M			Yes						1, 2.3	None	N	N	N	
5	6	connector trail		3	N	M				Yes					2.1	8.1	N	N	N	
6	7	backbone trail		2	yes	M				Yes					2.1, 2.4, 2.5	8.6, 8.7	N	Yes	401/404/1602	
	8	stacked loop trail	9a	2	N	M				Yes					2.4	None	N	N	N	
	9a	convert USFS road		2/4	N	A			Yes			Yes			4	None	N	N	N	
	9b	stacked loop trail		4	N	A			Yes			Yes			4	None	N	N	N	
	10	connector trail		2/3	yes	M			Yes				Yes	Yes	3.2, 4	8.9	Yes	Yes	401/404/1602	
	11	consolidate existing trails		2	yes	A			Yes			Yes			4	None	Yes	Yes	401/404/1602	
	12a	staging area	16	2	yes	M	Yes	Yes							1	None	N	Yes	401/404/1602	
7	12b	connector trail		2	yes	M			Yes				Yes		1	None	N	Yes	401/404/1602	
8	13	connector trail		2	N	M			Yes						4	None	N	N	N	
	14	connector trail		2	N	M			Yes						2.3	None	N	N	N	
	15	connector trail		2	N	M			Yes						2.3	None	N	N	N	
9	16	connector trail	12a	2	N	M			Yes						2.3	None	N	N	N	
	17	access point		2	N	M			Yes						2.3	None	N	N	N	
	18	connector trail		2	N	A			Yes			Yes			2.4	None	N	N	N	
	19	study (no project)\		2	N	A									4	None	N	N	N	
	20	omitted			N	A									-	-	N	N	N	
	21	summer biathlon course		4	N	A						Yes			4	None	N	N	N	
	22	dog-leash policy	9b	All	N	A						Yes			-	-	N	N	N	
	23	omitted			N	A									-	-	N	N	N	
	24	interpretive trail		2	N	M			Yes						2.3	None	N	N	N	
	25	promote Hayden Cabin	10a	2	Yes	A						Yes			2.1	8.1	yes	yes	401/404/1602	
	26	trail		2	N	A			Yes			Yes			2.4	None	N	N	N	
	27	omitted			n	A									-	-	n	n	N	
	28	public transit stops		1/2/3/4	n	A									1, 2.1, 2.3, 2.4	8.1, 8.4, 8.6	n	n	N	

Table 4.H-8 (Continued)

SHARP Summer Projects

Priority Project	Project No.	Project	Winter Designation	Affected waters and beneficial uses		Avoidance and minimization	New Facilities							Hydrologic Analysis				Potential Permitting requirements			
				Watershed	Potentially Adjacent to Creek or Stream (N = Not Expected)	Complete Avoidance (A) - minimization (M)	Parking	Signage	Soft Surface Non Motorized	Hard Surface Non Motorized	Restroom	Use Existing Trails	Creek Crossing	Bridge	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (N = Not Expected)	Potential Wetland (N = Not Expected)	N = Not Anticipated		
	29	connector trail		2/4	n	M			Yes								4	None	n	n	N
	30	signage and wayfinding		All	n	M	Yes	Yes									-	-	n	n	N
	31	retain USFS system trails		All	n	M		Yes									-	-	n	n	N

^a "Drainage Basins" and "Drainage Exhibits" are found in the Town of Mammoth Lakes 2005 Storm Drain Master Plan (Exhibits)

Source: Triad-Holmes Engineering, 2011

Table 4.H-9
SHARP Winter Projects

Priority Project	Project No.	Project	Summer Designation	Affected waters and beneficial uses		Avoidance and minimization	New Facilities						Hydrologic Analysis				Potential Permitting Requirements	
				Watershed	Potentially Adjacent to Creek or stream (N = Not Expected)	Complete Avoidance (A) - minimization (M)	Parking	Signage	groomed	restroom	use existing trails	Comments - No Construction (NC) - Signage Only (SO)	Drainage Basin ^a	Drainage Exhibit ^a	Potential FEMA identified Flood Zone (n-not expected)	Potential Wetland (n-not expected)	Not Anticipated (N)	
3	1	staging area	1	2	N									2.1	8.1	n	n	N
	2	snowplay area	1	2	N	A								2.1	None	n	n	N
	3	Off loading	1	2	N	A		Yes						2.1	8.1	n	n	N
	4	omitted			N	A								-	-	n	n	N
	5a	access point	3	2	Yes	A		Yes						2.4	8.6	n	yes	N (signage only)
	5b	access point		2	N	A		Yes						2.5	8.7	n	n	N
	5c	trailhead	2	2	N	A		Yes						2.5	8.7	n	n	N
	6	staging area	4	2	N		Yes	Yes		Yes		added impervious surface		2.3	8.4	n	n	N
	7	connector	5a	2	N	M		Yes						2.4	None	n	n	N
	8	grooming		2	N	A			Yes					2.3	None	n	n	N
	9a	convert USFS road	8	2	N	A		Yes	Yes					2.4	None	n	n	N
	9b	dog policy			N	A		Yes						-	-	n	n	N
	10a	connector trail	25	2	Yes	M			Yes					2.1	8.1	yes	yes	401/404/1602
	10b	Off leash dog area		2	N	A		Yes						2.1	8.1	n	n	N
	11	omitted			N	A								-	-	n	n	N
	12	Public transit stops	28		N	A								1, 2.1, 2.3, 2.4	8.1, 8.4, 8.6	n	n	N
	13	Signage			N	A		Yes						-	-	n	n	N
	14	omitted			N	A								-	-	n	n	N
	15	omitted			N	A								-	-	n	n	N
	16	staging area	12a	1	Yes	M	Yes	Yes				added impervious surface		1	None	n	yes	401/404/1602
	17	Improved trail		1	N	A		Yes	Yes					1	None	n	n	N
	18	partly groomed zone		2	N	A			Yes					2.4, 4	None	n	n	N
	19	retain trails depicted as USFS trails on Summer Map	31		N	A					Yes			-	-	n	n	N

Source:

projects to creeks and streams, FEMA-designated flood zones, and wetlands. As shown in Table 4.H-8, Summer Project No. 3 (an access point also known as Winter No. 5a); Summer Project No. 7 (a Priority Project); Summer Project No. 10 (a connector trail); Summer Project No. 11 (a trail consolidation project); Summer Project No. 12a (a staging area also known as Winter Project No. 16); Summer Project No. 12b (a connector trail), and Summer Project No. 25 (Hayden Cabin also known as Winter Project No. 10a) are located adjacent to or in close proximity to a creek or stream. Of these, Summer Project No. 10 involves a creek crossing and bridge and Summer Project No. 12b involves a bridge. All of these projects are located within potential wetlands and Summer Projects No. 10, 11, and 25 are located within a potential FEMA-identified flood area. The proximity of these projects to existing creeks, streams, and wetlands increases the potential for direct contamination of these adjacent water bodies during the construction and operation of these projects. With the exception of Summer Project No. 3, which involves new signage only, all of the Summer and Winter projects in proximity to water bodies would require CWA Section 402 and 404 Certification from the LRWQCB and, if wetland vegetation is present, a Fish and Game Code Section 1602 permit from the CDFG in order to reduce direct impacts.

Trails projects that are not in proximity to a water body have the potential to indirectly degrade water quality through eroded materials, exposed soils, or pollutants that are washed by sheet flow into a rill or directly into the groundwater, from which it can eventually enter a water body. In this regard, all development activities disturbing one acre or more would require the preparation and approval of SWPPP and SUSMP programs that prescribe specific BMPs to eliminate the potential discharge of accidental and/or implicit pollutants into the storm drain system. Additionally, construction and operation of new facilities within NFS lands would be required to comply with all water quality provisions contained in the USFS *Water Quality Management Handbook*, which would serve to address construction activities and ongoing maintenance of proposed trails.

With the exception of Priority Projects, No. 3 through 9, SHARP projects represents future, long-range projects, which, to some extent, are uncertain. Information regarding potential non-permeable surfaces, site topography and other information required for the determination actual water quality effects would require site-specific plans and drawings that are not available for evaluation in this EIR. However, implementation of USFS-required BMPs and CWA Section 401 and 404 certification procedures, as required and enforced by the USFS and LRWQCB, respectively, and several of the mitigation measures provided below (see Subsection 3, *Mitigation Measures*) would provide regulatory conditions that would control practices relative to water quality during construction and operation of the eventual trail system. Enforcement of existing regulations, policies, and mitigation measures would also support LID policies to minimize changes to grades, to avoid creating source pollutants, and to avoid placing pollutants in path of runoff. Therefore, with the implementation of existing regulations and proposed mitigation measures, impacts related to water quality are expected to be less than significant.

(2) Hydrology/Surface Water Runoff

14.H.2 The Project would cause a minor increase in impermeable surfaces and the construction of some trails may change drainage patterns by creating potential channels for surface water runoff. However, with the implementation of the requirements of the Town of Mammoth Lakes 2005 Storm Drain Master Plan; the 2008 Erosion, Drainage, and Flooding Project; applicable standards and guidelines set forth by the USFS, and applicable SWPPP and SUSMP (intended to protect the water quality) the Project would not substantially increase runoff or alter the existing drainage patterns of the area. Therefore, the impact of the Project with respect to storm water and other drainage patterns would be less than significant.

(a) Priority Projects

Construction and operation of Priority Projects would increase impermeable surfaces associated with MUP 2-1 and MUP 3-1 (paved multi-use paths). The construction and long-term use of other Priority Projects, including the proposed Borrow Area staging site and hard and soft surface trails, would potentially change some existing vegetated areas to non-vegetated areas and allow the channeling of water through cleared trail surfaces. Table 4.H-3, Priority Projects, above, summarizes the hydrological areas corresponding to the 2005 SDMP, for each Priority Project. The SDMP, which applies to improvements within the Town's UGB, provides a hydrologic methodology that provides for the assessment of runoff and its effect on downstream conditions. It also outlines improvements needed for 20-year and 100-year storm events. Under the SDMP, control and retention of storm water is an important method of reducing the rate of surface water runoff and to avoid down-stream flooding. Implementation of the hydrological calculations provided in the SDMP would allow for the development of design features to reduce or appropriately channel runoff.

The *2008 Erosion, Drainage, and Flooding Project* provides drainage improvements strategy including separating, where feasible, upland runoff from urban runoff to minimize the volume of surface flow reaching the Town's storm drain infrastructure. Recommendations also include eliminating the discharge of concentrated surface flows to unprotected slopes greater than 2:1 and dispersing flows at various locations to eliminate concentrated discharge points to the maximum practical extent. Controls include the use of cobble or riprap for slope protection. Drainage and flooding improvement measures also include infiltration devices such as shallow impoundments to infiltrate stormwater, infiltration trenches, drywells (subsurface structures that capture and slowly release stormwater, and level spreaders that reduce storm water velocity and encourage infiltration. Detention basins, which are ponds or low areas with an outlet designed to hold water for a specified period of time are also recommended as flood improvement measures.

For projects less than one acre, the MOU between the Town and LRWQCB requires existing drainage patterns to not be significantly modified; stabilization of drainage swales disturbed by construction through the application of crushed rock or riprap; and, where construction activities involve the crossing and or alteration of a stream channel, the timing of such activities to occur when stream flow is expected to be lowest for the year.

The TSMP also contains policies and design standards policies that encourage LID and that would be applicable to Priority Projects. These include discouraging the proliferation of trails (locating trails too close to each other); establishing a maximum gradient not to exceed half the grade of the slope that it traverses to avoid a fall trail line that, otherwise, funnels water down the tread; maintaining steepest individual trail sections to 200 linear feet or less; cross-sloping of crossings to shed water; adding small channels to facilitate drainage, if necessary; using grade reversals (a short dip followed by a rise) to reduce flooding; and other measures to shed water from the trail surface.

The Priority Projects are those projects that would be developed first under the implementation of the TSMP and SHARP. Further study and analysis of each site to determine trail alignment, topography, scope of construction, areas of impermeability and other information required for the determination of each project's surface water runoff and hydrological effects during construction and operation would be required, including site-specific plans and drawings that would be prepared prior to initiation of each project. This information is not available at this time for evaluation in this EIR. However, implementation of BMP programs under SWPPPs and SUSMP's, where required under CWA regulations, and implementation of the

applicable policies of the Town of Mammoth Lake's *Drainage and Erosion Control Manual, 2005 Storm Drain Master Plan, 2008 Erosion, Drainage, and Flooding Project*, TSMP, and several of the mitigation measures provided below (see Subsection 3.C, *Mitigation Measures*) would provide additional measures to address hydrological impacts associated with these projects. Furthermore, as noted above, construction and operation of Priority Project new facilities within NFS lands would be required to comply with all water quality provisions contained in the USFS *Water Quality Management Handbook*, many of which would serve to minimize the volume and velocity of stormwater flows that could eventually be introduced into storm drainage facilities within the Planning Area. Enforcement of existing regulations, policies, and mitigation measures would also support LID policies to minimize changes to grades, maintain historic storm drainage characteristics, avoid concentration of runoff, maintain historic runoff conditions, and encourage users to follow paths such that natural areas are left undisturbed. With the implementation such measures, impacts to surface water runoff during the construction and operation of Priority Projects are expected to be less than significant.

(b) TSMP Projects

Future TSMP projects, including MUPs, street crossings, bike paths, and amenities at nodes, would increase impermeable surfaces in the area. The TSMP proposes approximately 20 MUP segments (paved multi-use paths) that total approximately 10.1 miles. Additional pavement would also be required at 13 of the approximately 20 street crossings and for 12 of the approximately 24 bike paths. It is also anticipated that some pavement or building foundations would be constructed for the approximately 30 amenities-at-nodes projects proposed under the TSMP. The increase in impermeable surfaces would increase storm water runoff to the existing Mammoth Lakes drain system. Although it is not possible to quantify the precise increase in runoff, increased uncontrolled, storm runoff has the potential to overwhelm the Town's existing and proposed drainage system and cause local flooding.

Tables H.4-4 through H.4-7, above, summarize the hydrological areas corresponding to the 2005 SDMP, for each TSMP project. The SDMP provides a hydrologic methodology for the assessment of runoff and its impact on downstream conditions. It also outlines improvements needed for 20 year and 100 year storm events. Under the SDMP, control and retention of storm water in is an important method of reducing the rate of surface water runoff. The *Erosion, Drainage, and Flooding Project* also contains drainage improvement strategies.

In addition, the MOU requires drainage improvement features for smaller projects and the TSMP provides design policies for trails that establish maximum gradient and the use of small channels and other features to control runoff.

It should be noted that the TSMP may have beneficial effects on existing conditions with regard to surface water runoff by consolidating and formalizing currently unauthorized dirt trails and use paths, or by improving areas used informally on an existing basis for parking and staging, including the provision of new storm drainage facilities that would control surface runoff.

With the exception of Priority Projects MUP 2-1 and MUP 3-1, the proposed TSMP represents future, long-range projects, which, to some extent, are uncertain. Information regarding potential non-permeable surfaces, site topography and other information required for the determination actual surface water runoff and hydrological effects would require site-specific plans and drawings that are not available for evaluation

in this program-level EIR. However, implementation of MOU policies for projects less than one acre and CWA Section 401 and 404 certification procedures, as required and enforced by the LRWQCB, several of the mitigation measures provided below (see Subsection 3, *Mitigation Measures*) would provide regulatory conditions that would control practices relative to hydrology and surface water runoff during construction and operation of the eventual trail system. Enforcement of existing regulations, policies, and mitigation measures would also support LID policies to minimize changes to grades, maintain historic storm drainage characteristics, avoid concentration of runoff, maintain historic runoff conditions, and encourage users to follow paths such that natural areas are left undisturbed. Therefore, with the implementation of existing policies, regulations and proposed mitigation measures, impacts related to surface water runoff and hydrology are expected to be less than significant.

(c) SHARP Projects

Future SHARP projects include trail heads, a staging area, backbone trails, connector trails, and other primarily soft-surface trails. The development of trails would potentially change some existing vegetated areas to non-vegetated areas and allow the channeling of water through cleared trail surfaces. Tables H.4-8 and H.4-9, above, summarize the hydrological areas corresponding to the 2005 SDMP, for each SHARP project. As shown in Table 4.H-8, Sharp Summer Projects No. 10 and 12b involve the construction of a bridge over a water body. Any development that would constrain the water flow during flood conditions has the potential to change the water course or cause other hydrological problems. Therefore, Mitigation Measure 4.H-3 to ensure adequate clearance above flood waters is recommended.

For the most part, SHARP represents future, long-range projects, which, to some extent, are uncertain. Information regarding potential non-permeable surfaces, site topography and other information required for the determination actual surface water runoff and hydrological effects would require site-specific plans and drawings that are not available for evaluation in this EIR. However, implementation of CWA Section 401 and 404 certification procedures, as required and enforced by the LRWQCB, and several of the mitigation measures provided below (see Subsection 3, *Mitigation Measures*) would provide regulatory conditions that would control practices relative to surface water and hydrology during construction and operation of the eventual trail system. Additionally, new facilities within NFS lands would be required to comply with all water quality provisions contained in the USFS *Water Quality Management Handbook*, which would manage stormwater flows from proposed trails and other SHARP project facilities. Projects constructed by the Town are required to comply with the SWRCB and have an NOI which certifies compliance with the general construction permit. Therefore, with the implementation of existing regulations and proposed mitigation measures, impacts related to surface water runoff and hydrology are expected to be less than significant.

(3) Flooding

4.H-3 The Project would locate trails and amenities within FEMA-designated 100-year flood zones and expose users to potential flood conditions. Any bridges placed across waterways could potentially exacerbate flood conditions. With trail design consistent with existing regulatory design manuals, location of facilities outside areas of flooding in excess of one foot and/or cautionary signage (mitigation measure), the risk of loss, injury or death involving flooding would be reduced to a less than significant level.

As discussed under Section 1.b, *Existing Conditions*, above, some areas along Mammoth Creek are located within FEMA-designated 100-year flood zones (Flood Insurance Study for the Town of Mammoth Lakes). This study indicates both the potential for flooding (A) and estimated water depth (E) for areas in excess of

one foot. Because Mammoth Creek has a relatively steep gradient and small watershed (a total of approximately 13.12 square miles) potential flooding would be of short duration and relatively shallow. In some designated zones, flood waters would be expected to rise to only approximately one foot during a 100-year storm or flood event. Priority Project (MUP2-1), which would fill in a gap on the Main Path along Old Mammoth Road between Mammoth Creek Park and Minaret Road, would potentially be located within a FEMA-designated 100-year flood zone in the vicinity of Mammoth Creek Park. The potential location of MUP 2-1 in a designated flood zone would expose users to potential hazards during flood conditions, including potential water-borne debris. Mitigation Measure 4.H-3 to reduce this potential impact to a less than significant level is recommended below.

If the trail were constructed on a berm or dike-like foundation within the flood zone, the facility would have the potential to block water flow and exacerbate flooding. However, standard engineering practices currently enforced by the Mammoth Lakes Department of Public Works prohibit the construction of facilities within flood areas that would block or affect the natural flow of flood water. With the enforcement of standard engineering practices and regulations, potential flood conditions caused by the MUP would be reduced to a less than significant level.

Future TSMP projects MUP3-4, MUP 4-4, MUP 4-5, No. 134 (amenities at Mammoth Creek Park East) and No. 152 (amenities at Mammoth Creek Park West) would potentially be located within FEMA designated 100-year-flood zones within the proximity of Mammoth Creek. In addition, SHARP Summer Project No. 10 (connector trail), SHARP Summer Project No. 11 (trail consolidation project), and SHARP Summer Project No. 25 (Hayden Cabin, also known as SHARP Winter Project No. 10a) would be potentially located within FEMA designated 100-Year flood zones. As previously discussed, if these trails and facilities were located directly within the designated flood zones, a potential for increased hazard to the public would occur. Mitigation measures are recommended to reduce flood hazard to a less than significant level.

Priority Project 7 (SHARP Summer Project 12b) would require the construction of a bridge across Mammoth Creek and SHARP Summer Project 10 may require a creek crossing and bridge over tributaries to Mammoth Creek (intermittent streams). Within flood zones, bridges have the potential to detain or divert flood water or to capture water-borne debris and, thus, worsen flood conditions. Under engineering practices currently regulated by the Mammoth Lakes Department of Public Works, bridge pilings and spans must provide a clear horizontal and vertical span of one foot above the high water line for a 100-year storm or 100-year-flood, whichever is greater (see Mitigation Measure 4.H-3). With the enforcement of standard engineering practices, including Mitigation Measure 4.H-3) and existing regulations, potential flood conditions caused by the MUP would be reduced to a less than significant level.

3. MITIGATION MEASURES

Mitigation measures are provided that would address potential water quality, surface water/hydrological, and flood impacts. In addition to mitigation measures, existing CWA regulations, including CWA 401 and 404 certification permits would be implemented on a site-by-site basis for individual projects, as applicable.

Mitigation Measure 4.H-1: Development and siting of individual projects shall avoid to the extent feasible modification of hydrologic conditions, including alteration of flow regimes and disruption of watershed levels.

- Mitigation Measure 4.H-2:** No structures, such as foundation berms, shall be designed or constructed in FEMA designated 100-year flood zones in such a way as to retain, divert or, otherwise exacerbate flooding conditions for adjacent properties. All bridges shall maintain a clear span of one foot, vertically and horizontally, from the high water mark of a 100-year storm or flood, whichever is greater.
- Mitigation Measure 4.H-3:** Placement of trails and trails-related facilities in areas subject to flooding depths in excess of one foot shall be avoided to the extent feasible. Where designated areas of flooding in excess of one foot cannot be avoided, signage shall be provided to warn of potential flood hazard.
- Mitigation Measure 4.H-4:** Measures to reduce erosion shall be implemented in the design of all trails. Measures shall include but not be limited to any of the following, as appropriate:
- a. Diversion and dissipation of standing water to adjacent landscape
 - b. Directing of concentrated flows to velocity dissipaters to control erosion or limit flows to overland sheet flow
 - c. Aligning paths to avoid concentration of runoff
 - d. Maintaining natural depressions to allow natural storm attenuation
- Mitigation Measure 4.H-5:** Where projects are not required to file a SWPPP on the Storm Water Multiple Application and Report Tracking System (SMARTS), each project shall install and maintain appropriate BMP's in conformance to the methods identified in the California Stormwater Quality Association (CASQA) handbook of Best Management Practices. The BMP's used shall relate to the type of work required for each project. All BMP's shall be considered for each project following the BMP checklist. A note shall be made as to the reason for not incorporating any specific BMP.
- Mitigation Measure 4.H-6:** Trail alignments shall be designed to the extent feasible to avoid wet areas, springs, wetlands, and the lower portions of slopes, especially those that are north facing. Where such features cannot be avoided, improvements such as boardwalks, turnpikes, puncheons, or other effective means of elevating the trail tread above sensitive resources, as determined appropriate by the Town and/or USFS, shall be implemented. Replacement, restoration or other suitable measures as required by CDFG, ACOE and the Basin Plan may also be required if avoidance of wetland areas is not feasible.
- Mitigation Measure 4.H-7:** Crossing structures shall be provided at year-round stream crossings to protect wetland areas. Necessary streams and wetlands crossings shall minimize channel crossing dimension by selecting narrow areas where root support is adequate for bridge footings, and spans are outside of flood waters or subject to floodplain dynamics, whenever possible.

- Mitigation Measure 4.H-8:** Prior to construction of trails facilities, engineering analysis shall be completed to determine the presence of water resources, including wetlands, streams, and riparian areas (i.e., areas along the banks of a stream or river). Any such resources located within 200 feet of any proposed trail or facility, shall be identified as “receiving resources” and mapped. Such mapping shall be consulted regarding potential for sediments deposits, placement of trail drainage structures, maneuvering of maintenance equipment, season of work, interception and infiltration of trail drainage, and disposal of earth materials generated during construction or maintenance activities. Design considerations such as placement of trail alignments away and down-gradient from sensitive resources, as well as erosion-minimizing features such as retaining walls, vegetation buffers, grade reversals, knicks, puddle drains, rolling grade dips, water bars, and pavers shall also be implemented, as appropriate, to protect water quality in such “receiving resources.”
- Mitigation Measure 4.H-9:** Throughout trail construction and maintenance activities, operation of heavy equipment on soft surface trails and unpaved areas shall be avoided when they are wet. During periods that trails are wet, alternative routes for heavy equipment shall be selected.
- Mitigation Measure 4.H-10:** Establish minimum 5 foot vegetation buffers between trails, streams and wetlands prior to trail construction activities, and provide ongoing maintenance of these buffer areas throughout the operational life of the trails. Create these buffers between trails and water resources by establishing riparian and streamside management zones, within which trail influences such as drainage, disturbance and trail width are minimized.
- Mitigation Measure 4.H-11:** In accordance with the trail design guidelines presented in Chapter 6 of the TSMP, avoid steep trail grades in excess of 10 percent where less steep alternative alignments are available and feasible. Where steep trail grades cannot be avoided, trail design features such as climbing turns, stairs/steps, and switchbacks shall be employed to minimize stormwater runoff velocities to appropriate levels of non-erosive flow for the soil type.
- Mitigation Measure 4.H-12:** Runoff control measures shall be implemented in the design of trails as follows:
- a. Maintain minimum trail gradients. Maintain positive surface drainage by means of out-sloped, in-sloped, or crowned sections having cross slopes of 3 percent to 5 percent for soft surfaced trails and 2 percent for hard surfaced trails. The trail surface should be graded to shed water before it can run very far down the trail. MUPs with significant cut-slopes shall be designed to eliminate drainage down or across fill slopes to prevent erosion.
 - b. Maintain the minimum trail width suitable for uses specified. Maintain only the width of trail necessary to support the designated uses.

- c. Avoid long sustained grades that concentrate flows by providing drainage at frequencies appropriate for soils and gradients. Roll grades or undulate the trail profile frequently to disperse water from the trail. Features such as rolling dips and water bars to provide essential drainage relief shall be incorporated into soft surface trail design.
- d. Prevent erosion at outlets of rolling dips and culverts through incorporation of measures that include but are not limited to: armoring of drainage outlets with rock to prevent erosion; spreading of brush or native organic debris in lead-off ditches to slow the velocity of the runoff and facilitate the deposition of sediments.
- e. Install pipes and ditches, including road and trail under-drains (culverts) and associated ditches, when other measures would not be effective, and only when maintenance funds are available to maintain them.
- f. Avoid discharging trail runoff onto fill slopes and unprotected slopes. Fill slopes should be armored where runoff is discharged onto them or the runoff should be conveyed in a down drain to a location where sediments can be deposited and flow infiltrated.
- g. Avoid concentrated runoff from flowing on to trails and paths.

Mitigation Measure 4.H-13: Prior to construction of trails and trails related facilities, complete more detailed engineering study to determine the appropriate design and sizing of storm drain facilities, based on hydrologic data. All culvert sizes shall be prescribed by a qualified engineer based on the size of the contributing watershed and best hydrologic data available.

Mitigation Measure 4.H-14: A Maintenance Plan for proposed trails shall be developed in conjunction with design that specifies the type and frequency of maintenance activities to be employed for the soil types and terrain of the trail or MUP. Trails and MUPS shall be designed to minimize the need for regading. The following provisions shall also apply to trail maintenance activities per the Maintenance Plan:

- Season of work. Maintenance work that results in disturbed earth should be conducted outside the wet season (typically October 15 to May 1). If necessary, blading shall be done when the trail surface materials are moist, but not dry, to the extent possible.
- Disposal/storage of excess earth materials. Areas for disposal of excess earth materials generated during maintenance activities shall be designated in the Maintenance Plan. Excess earth materials that must be stored shall be covered with plastic or a thick layer of wood chips.

Mitigation Measure 4.H-15: Areas of disturbed earth shall be seeded with native plant materials and mulched as soon as possible after disturbance. Also refer to Mitigation Measure 4.A-3, in Section 4.A, *Aesthetics and Visual Resources*, of this EIR. Wood chips shall not be used where improved drainage facilities are located, that could become clogged.

Mitigation Measure 4.H-16: In parking areas, avoid grades in excess of 5 percent where possible. Design of all parking areas shall adhere to the following:

- a. Design Parking areas to minimize concentration of runoff.
- b. Maintain the smallest paved area feasible to meet parking requirements.
- c. Install sand/oil separators to collect and contain pollutants from runoff from parking areas.
- d. Install infiltrators and oil/water separators to collect initial runoff from parking lots.
- e. Connect parking areas to existing storm drainage systems or install level spreaders. If necessary drainage outlets shall be armored with rock to prevent erosion. Brush or native organic debris can be spread in lead-off ditches to slow the velocity of the runoff and facilitate the deposition of sediments.
- f. Avoid discharging runoff onto fill slopes and unprotected slopes. Fill slopes receiving discharge shall be armored, or runoff shall be conveyed in a down drain to a location where sediments can be deposited and flow infiltrated.
- g. Parking areas shall be designed in accordance with the Town's drainage design manual, and sited so as to avoid water courses and adverse effects wetlands or water quality.

Mitigation Measure 4.H-17: At bathroom/restroom sites, areas that collect roof drainage shall be designed to be erosion resistant. Avoid conditions that allow runoff from roof to cause initiation of erosion. Runoff from roofs shall be directed to non erodible surfaces. Avoid discharging runoff onto fill slopes and unprotected slopes.

4. CUMULATIVE IMPACTS

4.H-4 Cumulative impacts occurring as a result of the build-out of the Project in combination with related projects within the Town or surrounding National Forest lands are expected to be reduced to less than significant levels with the implementation of the requirements of the Town of Mammoth Lakes 2005 Storm Drain Master Plan; and applicable SWPPP and SUSMP as required under State and federal regulations.

The project combined with cumulative projects may increase hydrology and water quality impacts. However, project-by-project analysis of hydrology and water quality impacts and compliance with State and federal regulatory requirements, as well as the requirements of the Town of Mammoth Lakes 2005 SDWP, USFS guidance documents, and other regulations including the MOU between the Town of Mammoth Lakes and the LRWQCB, where applicable, would ensure that potentially significant cumulative impacts regarding hydrology and water quality would be reduced to a less than significant level.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of existing regulations and recommended mitigation measures, impacts to water quality, impacts relative to hydrology and surface water runoff, and impacts related to FEMA designated 100-year flood zones would be reduced to a less than significant level.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

I. LAND USE AND PLANNING

INTRODUCTION

The purpose of this section is to provide an analysis of the Project's consistency with policies and regulations set forth in local and regional plans that are applicable to the development of trails or other improvements proposed as part of the Project. Applicable adopted plans include the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan (LRMP). The provisions set forth in these plans have been adopted for the purpose of administering land use and managing existing and future development within their jurisdictional boundaries. This section also evaluates the compatibility of the Project with surrounding or interfacing land uses in the Project Area. Potential physical effects that typically have an influence on land use compatibility include air emissions, noise, impacts to biological or cultural resources, visual impacts, and traffic. Accordingly, the assessment of land use compatibility in this section is partially based on analyses of physical impacts presented in the Aesthetics, Air Quality, Biological Resources, Cultural Resources, Noise, and Traffic sections of this EIR.

Three boundaries define the Town, including (1) the Urban Growth Boundary (UGB), an area encompassing approximately 4.5 square miles and forming the nucleus of the town, (2) the Municipal Boundary, an area encompassing approximately 25 square miles and including the Lakes Basin, Shady Rest, and most of the Mammoth Mountain Ski Area; and (3) the Planning Area or "sphere of influence," an area encompassing approximately 125 square miles that includes destinations such as Reds Meadow, Devils Postpile National Monument, the John Muir Trail, and the Pacific Crest Trail. The Sherwins Area is located to the south and east of the UGB, generally within the Municipal Boundary, and within the Mammoth Lakes Planning Area. The vast majority of lands outside of the UGB are National Forest lands of the Inyo National Forest, administered by the United States Forest Service (USFS).

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Town of Mammoth Lakes General Plan

The Town of Mammoth Lakes General Plan is made of a range of elements, or subject areas, that are integral to the unique identity of Mammoth Lakes. Elements that are applicable to the TSMP are Mobility and Parks and Open Space. Within the Mobility Element is the sub-topic of Walking and Bicycling that is applicable to the TSMP and within the Parks and Open Space Element is the sub-topic of Trail System that is applicable to the TSMP. Goals and policies that are specific to these sub-topics are listed below.

Walking and Bicycling

Policy M.4.A.: Improve safety of sidewalks, trails and streets.

Trail System

Goal P.3.: Create a Master Plan for an integrated trail system that will maintain and enhance convenient public access to public lands from town.

- Policy P.3.A.: Ensure public routes for access to public lands are provided in all developments adjacent to National Forest lands.
- Policy P.3.B.: Coordinate with multiple organizations, agencies and jurisdictions to plan, steward, interpret, promote and sustain trails, public access and outdoor recreation amenities in the Mammoth Lakes region.
- Policy P.4.B.: Provide an affordable and wide range of year-round recreational opportunities to foster a healthy community for residents and visitors. Applicable activities include but are not limited to walking interpretive trails & signage, touring, street & mountain biking.
- Policy P.4.C.: Ensure balance of use, enjoyment and separation where appropriate between motorized and non-motorized modes of recreation.
- Policy P.5.: Link parks and open space with a well-designed year round network of public corridors and trails within and surrounding Mammoth Lakes.
- Policy P.5.B.: Design and construct trails as components of a regional and local network for recreation and commuting.

(2) Inyo National Forest Land and Resource Management Plan

The purpose of the LRMP is to provide integrated multiple resource management direction for all Inyo National Forest resources. Chapter 2 of the LRMP identifies issues and concerns that came up in the development of the plan. Areas relevant to land use include the construction and maintenance of facilities and the construction of facilities where needed. Identified needs were the construction of trails and the improvement of existing trails; the need for trails specific to cross-country trails, hiking and handicapped trails; the need to locate, design, and construct trails to provide the desired experience while minimizing resource damage. The LRMP identifies the greatest need for new trails in concentrated recreation use areas and Nordic ski areas.

The LRMP includes monitoring of more than 20 broad resource categories ranging from air quality to wilderness. Chapter 5 (Management Direction) of the LRMP provides management goals, objectives, standards and guidelines, prescriptions and direction for each of the twenty management areas. The TSMP area is located in both LRMP Management Area No. 8 (Mammoth Escarpment) and Management Area No. 9 (Mammoth). A goal of the LRMP is to continue a land and resource management program with non-federal lands through special use administration, landownership adjustment, and other measures. Another goal is to provide a broad range of developed and dispersed recreational opportunities.

The LRMP's land use policies are to acquire lands with water frontage, key game management areas, lands needed to reduce fire risk, lands with easements to assure access to public lands and resources, lands with unique cultural or historical resources, and wilderness in-holdings. Lands to be disposed of through

exchange include the tracts inside or adjacent to communities that are suitable for private use; land under special use permit within or adjacent to communities; and small federal parcels that are intermingled with other non-federal parcels.

General objectives and guidelines related to trails include the following:

- Construct and maintain facilities to regional standards, design at least 10 percent for the physically limited;
- Develop day-use facilities and interpretive and informational sites and trails;
- Provide parking facilities for snow play and Nordic skiing; and
- Manage off-highway vehicle (OHV)/over-snow vehicle (OSV) use according to Forest-wide standards and guidelines.

Objectives and guidelines related to Management Areas No. 8 and No. 9 include the following:

Management Area No. 8:

- Identify and program dispersed trail facilities in the Mammoth Lakes Basin, including hiking and equestrian trail opportunities in all areas and bicycle trails in the Lakes Basin. Include opportunities for mountain bike trails within the Management Area. Interface the trail system with the community.

Management Area No. 9:

- Provide trail interface opportunities with the community of Mammoth Lakes.

b. Existing Conditions

(1) Town of Mammoth Lakes UGB and Municipal Boundary Areas

Existing Conditions are considered to be existing trails, recreation nodes and other related facilities within the Town and the Sherwins Area. Within the Town, paths and trails, which were categorized under the Town's adopted 1991 Trail System Plan, consist of the following:

- Paved Multi-Use Paths (MUPs): The Town's Main Path and other MUPs were generally constructed in conformance with the 1991 Trail System Plan. Existing MUPs implement the concept of a Main Path loop with connections to other paths extending inward or toward the center of Town and outward or away from Town. Some MUPs are located within National Forest lands, and were built and are managed under a Special Use Permit with the USFS.
- At Grade and Grade Separated MUP Crossings: There are 16 at-grade crossings and one grade-separated crossing along existing paved MUPs. Safety features and treatments at these crossings vary widely. The only grade-separated crossings currently in the Town consist of under crossings or tunnels. The Town's tunnels vary in width and height.

- **Bike Lanes (Class II)**: These consist of striped and stenciled lane for one-way travel on both edges of a roadway. Class II bike lanes are located on Minaret Road, Meridian Boulevard, Canyon Boulevard and the Mammoth Scenic Loop Road. Shorter segments are on Old Mammoth Road.
- **Bike Lanes (Class III)**: These bike routes share lanes with bicyclists and motor vehicle traffic and are typically identified only by signing. Bike routes exist on Main Street/SR-203, portions of Canyon Boulevard, Forest Trail, and Lakeview Boulevard, and along the length of Majestic Pines Drive and Kelley Road.
- **Soft-Surface Trails**: The walking trail through Snowcreek Meadow is the only soft surface trail in the UGB. Other soft surface trails are located within National Forest lands in the Lakes Basin and Shady Rest areas. These are used for walking and groomed in the winter for Nordic skiing. Groomed cross-country ski trails are also located to the east and west of Sawmill Cutoff Road.
- **Recreation Nodes and Activity Centers**: In addition to trail-related facilities described above, the TSMP identifies key areas where the trails network should facilitate access for in-town, short-distance recreation, linked recreational/utilitarian trip-making, and provide points of connection, access, egress and dispersion to the broader network of formal and informal recreational trails. Such locations are described in the TSMP as “recreational nodes” for which, in many cases, the TSMP identifies specific desired improvements and facilities. Recreation nodes are locations with existing or potential significance for outdoor recreation, which can facilitate recreational experiences. The TSMP also considers “activity centers,” which are existing, established locations that form a point of origin or destination for trails system users. Activity centers are locations that attract significant levels of human activity or trips (civic buildings, schools, shopping centers, areas of high employment, etc). Section 2.0, *Project Description*, provides further details on the recreation nodes and activity centers identified in the TSMP.

(2) Sherwins Area

The Sherwins Area is located on National Forest lands within the Town’s Planning Area, but outside the Municipal Boundary. It consists of a diverse high-desert landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. While recreation use in the Sherwins area has traditionally been high, no formal trailheads or facilities (benches, restrooms, parking, trash receptacles, etc.) exist at this time and the area receives no maintenance. The area has a mix of trails, some of which are part of the Inyo National Forest trail system, others that have been user created, and some that are remnants of historical use. Facilities in this area include USFS recognized trails (such as the Mammoth Rock Trail), USFS and Town roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to land use and planning. The Initial Study Environmental Checklist questions relating to land use and planning have been utilized as the thresholds of significance in this section. According to the land use and planning questions listed in CEQA Guidelines,

Appendix G, a project may create a significant environmental impact if it causes one or either of the following to occur:

- Threshold 1: Physically divide an established community (refer to Impact Statement 4.I-2).
- Threshold 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect (refer to Impact Statement 4.I-1); and
- Threshold 3: Conflict with any applicable habitat conservation plan or natural community conservation plan (refer to Section 4.C, *Biological Resources*, Impact Statement 4.C-5).

b. Methodology

The analysis of land use impacts considers the consistency of the Project with adopted plans and policies that regulate land use in the Town and Sherwins Area and that relate specifically to the characteristics of the Project as a trails master plan. The analysis also takes into consideration the compatibility of the Project with the existing physical environment and the extent to which incompatibilities or other land use changes could result in physical impacts to the environment or division of the community. With the exception of Priority Projects, which have near-term completion dates and known components, the TSMP and SHARP are primarily conceptual guides for future trails and related improvements. Therefore, the evaluation of the compatibility of these programs with land uses that would be adjacent to trails and recreational facilities or with the overall character of the Town and surrounding National Forest lands is general in nature. Any inconsistencies with the policies of adopted plans that would result in significant physical impacts would be considered potentially significant. Applicable policies are those considered directly relevant to the components of the Project. Priority Projects are components of both the TSMP and the SHARP and the evaluation of these plans applies to the Priority Projects as well as long-term projects envisioned under these plans, unless stated otherwise.

c. Project Components

(1) Town of Mammoth Lakes Trail System Master Plan

The three primary goals of the TSMP are as follows:

- Goal 1: Develop a plan for an integrated year-round trail network that provides for a seamless transition between the Town of Mammoth Lakes, the Mammoth Mountain Ski Area Mountain Bike Park, and the surrounding federal lands overseen by the USFS.
- Goal 2: Develop a plan that provides guidance for enhancing year-round mobility in a way that is consistent with the Town's "Feet First" strategy.
- Goal 3: Create a plan that clearly identifies the projects and programs necessary for implementation.

Components of the TSMP that relate directly to objectives of the General Plan include: (1) access to public lands, (2) Town of Mammoth Lakes “Feet First” strategy, (3) safety, (4) public easements, (5) coordination with other agencies and entities, and (6) local and regional network for recreation and commuting. The approach of the TSMP to these topics is summarized below.

(a) Access to Public Lands

The first goal of the TSMP (Goal 1) is to develop a plan for an integrated trail network between the Town and surrounding public lands. The TSMP includes seven objectives (Objectives 1.1 to 1.7) to support and implement this goal. These objectives are list in sub-section 2, *Project Objectives* (refer to Section, 2.0, *Project Description*). In addition, the following recommendations would support and implement this goal:

- Recommendation G1: *Consistent Naming Conventions* - For recreation nodes, paved paths, on-street bikeways, and soft-surface trails.
- Recommendation G2: *Updated Trail Maps* - Provide updated trail maps for each season that cover the primary recreational opportunities available in the Mammoth Lakes area. G3: *Uniform Trail Signage* General consistency for signage along multi-use paths and soft-surface trails.
- Recommendation G4: *Interpretive Signage* - Identify opportunities for interpretive signage and work with local experts to develop content.
- Recommendation G5: *Trail-Oriented Development* - Make MUPs more viable for both recreation and utilitarian purposes by requiring new development to provide strong connections to adjacent paths.

(b) Town of Mammoth Lakes “Feet First” Strategy

Goal 2 of the TSMP is to develop a plan that provides guidance for enhancing year-round mobility in a way that is consistent with the Town’s “Feet First” strategy. Objectives of the TSMP are to provide connecting trails between summer and winter activity centers, which the TSMP considers vital for “feet first” mobility (see Objectives 2.2 to 2.4 in sub-section 2.2, *Project Objectives*, of Section, 2.0, *Project Description*). Recommendations to implement the “feet first” goal include the following:

- Recommendation P1: *Sidewalk to Major Roadway Ratio* - The Town of Mammoth Lakes should achieve a minimum sidewalk to major roadway Ratio of 1.6 to 1 over the next five years. The minimum ratio could be achieved by including sidewalks on both sides of all arterial streets and at least on one side of all collector streets. According to the TSMP, the construction of mid-block sidewalks where no roads currently exist would allow the Town to improve the ratio and greatly enhance the pedestrian experience and encourage “feet first” mobility.
- Recommendation P2: *Sidewalks along Major Roads* - Construct sidewalks on all primary and secondary major roads or arterials where they do not already exist. Existing MUPs directly adjacent to roadways, may substitute for a

sidewalk facility on that side of the road. A sidewalk or MUP should be located on both sides of all major roadways within the UGB except in areas there are significant physical constraints and low-levels of pedestrian activity. This will add approximately 5.6 miles of sidewalk.

- Recommendation P3: *Sidewalks along Collector or Local Streets* - Collector streets should have a sidewalk on at least one side whenever possible. Sidewalks may or may not be feasible or desirable on local streets as they may require tree removal or roadway widening that would significantly impact the character of the roadway.
- Recommendation P4: *Mid-Block Pedestrian Connectors* - Mid-block pedestrian connectors should be considered in areas where pedestrian activity is high and where key destinations are located. These connectors are not roadway crossings, but pedestrian-only shortcuts that exist where vehicular roadways do not. In areas where existing streets end, pedestrian connectors that allow pedestrians to continue through to a nearby roadway or commercial area are highly desirable. These facilities can improve pedestrian mobility in general and shorten the distance between one's home and recreational trail facilities. These should be established as opportunities arise through new developments and the Neighborhood District Plan (NDP) process.
- Recommendation G6: *Pedestrian-Oriented Development* - Improving the pedestrian environment can improve overall mobility and create a more seamless transition between the recreational experience and in-town economic activities. Pedestrian-oriented developments have buildings that are situated adjacent to the sidewalk and parking that is situated behind the building and away from the major thoroughfares.

(c) Safety

TSMP Chapter 9 provides measurable benchmarks and evaluation measures related to trail, bicycle, and pedestrian safety. The TSMP also provides goals and recommendations to improve safety for trail and path users, including the following:

- Mobility Objective 2.1: Identify necessary improvements to improve pedestrian safety, convenience and comfort.
- Mobility Objective 2.2: Update the General Bikeway Plan and develop an on-street bikeway network that enhances bicyclist safety, convenience and comfort.
- Recommendation E3: *Safe Routes to School* - Work with local schools to develop Safe Routes to School infrastructure and programs.

Recommendation MUP5: *Lighting on Multi-Use Paths* - Lighting should be considered for segments of multi-use paths that are not currently illuminated by adjacent street lighting. Due to the cost of installing and maintaining lighting, segments should be prioritized based on their potential demand for nighttime use.

Recommendation X1: *Design of At-Grade MUP Crossings* - The basic design elements of at-grade crossings should be uniform wherever possible. Particular locations may require additional safety measures and/or unique treatments based on context (see Design Guidelines in Chapter 6 of the TSMP). At-grade MUP crossings should be limited to crossings of local or collector streets.

(d) Public Easements

The TSMP supports the acquisition of easements to facilitate access to public lands and areas within the trails system. Chapter 4, *Future Trail System Recommendations*, of the TSMP states that the “Town should aggressively pursue additional opportunities for the further development of multi-use paths, bikeway, trails and trail access easements as they arise.” Objective 1.4 of the TSMP is to identify locations for potential recreation nodes and public access easements that will enhance connections between Town and surrounding public lands for summer and winter recreation. Recommendation G10 (*Future Access Easements*) states that the Town should study the potential to acquire additional easements to improve recreational access to public lands. According to the TSMP, an analysis of land ownership and recreational access potential at all GIC points along the UGB would be an important first step in this process.

(e) Coordination with Public and Private Entities

The TSMP recognizes the need to coordinate with multiple organizations, agencies and jurisdictions to plan, steward, interpret, promote and sustain trails, public access and outdoor recreation amenities as envisioned in the TSMP. The TSMP states: “The relationship between the Town of Mammoth Lakes and the United States Forest Service is critical to the success of the Trails Master Plan, as are the various means used to coordinate their efforts, including special use permits and MOUs. These include accessibility, community character, community engagement, cooperation, environmental stewardship and sustainable economics.” The TSMP also recognizes the “important innovative public, private and non-profit partnerships to address these needs and recognizes that, without a coordinated effort, critical points of public access could be at risk.”

The incorporation of the SHARP, which is the product of a diverse coalition of volunteer citizens, the Town and the USFS, demonstrates the commitment of the TSMP to coordinate with multiple agencies and jurisdictions.

TSMP recommendations for that also support coordination with public and private entities include Recommendations G12 and M1. Recommendation G12 (*Coordination with Local Non-Governmental Organizations*) recommends that the Town seek opportunities to form partnerships with local non-governmental organizations that may be able to assist in the planning, development and/or maintenance of the trail system. Recommendation M1 (*Development of Coordinated Year-Round Maintenance Plan*) supports coordination between the Department of Tourism and the Department of Public Works to develop a year-round maintenance plan. Coordination with Caltrans to install, improve and maintain bike routes on rural

highways is also recommended. Furthermore, Recommendation G15 (*Trail System Management MOU*) encourages the development of a management partnership through any appropriate combination of informal and/or formal agreement(s) or other governance structure, such as an amendment to the MLTPA MOU, clearly identifying roles and responsibilities of each of the participating agencies for the further development and management of the Mammoth Lakes Trail System. Similarly, Recommendation G16 (*Mammoth Lakes Trail System [MLTS]*) suggests recognition of and support for—through technical support, funding, inter-jurisdictional cooperation, and adherence to uniform standards and conventions—the development of an integrated regional Mammoth Lakes Trail System that incorporates the components identified in this Trails System Master Plan; this Recommendation also indicates that the components and boundaries of this system should be developed in cooperation with the USFS/INF and other relevant jurisdictional partners.

(f) Local and Regional Network for Recreation and Commuting

The TSMP supports a local and regional network for recreation and commuting through a variety of MUPs and bikeways. Regional commuter routes considered under the TSMP are the Mammoth Creek Path and the Sherwin Creek Road Bike Lanes. The Mammoth Creek Path could be constructed on or adjacent to Mammoth Creek Road. This route has potential to extend the reach of the recreational network and to provide an alternative to SR-203 for long distance road rides, and a potential commuter route for Crowley residents. The Sherwin Creek Road bike lanes would provide a more scenic alternative to SR-203 for road bicycling and potentially for long-distance commuting from out-of-town locations such as Crowley Lake. Recommendations that support the objectives of the TSMP to provide a local and regional network include the following:

Recommendation MUP3: *In-Town Multi-Use Path Connectors* - Multi-use path connectors can reduce the distance of trips while improving mobility and providing enjoyment for non-motorized users. The Town should pursue opportunities for non-motorized connectors in new development projects, especially in locations that provide shortcuts connecting residential, civic and commercial land uses. Areas where bikeways or low-volume vehicular streets end are generally advisable locations for multi-use path connectors because they will improve non-motorized connectivity without bringing additional vehicular through-traffic to an area.

Recommendation MUP4: *Multi-Use Paths Outside the UGB* - According to the TSMP, the Town and its partners should implement the following multi-use paths outside the UGB: Shady Rest Park Path Extension, Forest Trail to Shady Rest Connector, Knolls Path (south route), and Mammoth Creek Path.

Recommendation B2: *Bike Lanes on Major Streets (Arterials)* - Bike lanes are recommended on the following major streets: Minaret Road, Mammoth Scenic Loop, Mammoth Knolls, Main Street, Lake Mary Road, Davison Road, Meridian Boulevard, Majestic Pines Drive, Meridian Boulevard, Sierra Park Rd Highway, Old Mammoth Road, and Red Fir Road. Bike lanes on major streets are considered necessary to provide separation from high-speed, high-volume motor vehicle traffic, and to provide access to major commercial areas.

- Recommendation B3: *Bike Lanes on Collector Streets* - Bike lanes are recommended on all collector streets. According to the TSMP, collector streets generally have moderate traffic volumes and provide continuous routing between residential and commercial or civic land uses. Bike lanes on collector streets can provide a more comfortable alternative to using bike lanes along higher volume arterial roadways and can also serve schools and higher-density residential areas.
- Recommendation B4: *Bike Routes* - Bike lanes are recommended on segments of eight local streets, including: Forest Trail, Hillside Drive, Lakeview Boulevard, Majestic Pines Drive, Silver Tip Lane, Lodestar Drive, North Waterford Avenue, and Old Mammoth Road.

(2) Sherwins Area Recreation Plan

The goal of the SHARP related to land use is to “provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding” (Goal No. in sub-section 2, *Project Objectives*, in Section, 2.0, *Project Description*). Projects and programs under the SHARP that are specifically relevant to the policies of the LRMP are summarized below.

(a) Projects Accommodating the Physically Limited

The 2006 USDA Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and the 2006 Forest Service Trails Accessibility Guidelines (FSTAG) require accessibility for the physically limited for all new or altered facilities and trails on National Forest lands. The FSTAG applies only to trails that: (1) are new or altered; (2) have a designed use of hiker/pedestrian under the Interagency Trail Data Standards (ITDS) and Forest Service Trail Planning and Management Fundamentals; and (3) connect directly to a currently accessible trail or a trailhead. FSTAG maximizes accessibility of trails in the National Forest System while protecting the natural setting and recognizes that it doesn’t necessarily apply to most portions of existing primitive, long-distance trails and contains exceptions that will prevent accessibility from being pointlessly applied in a piecemeal fashion along a trail when access between trail segments is not possible. Areas accessible to the physically limited are shown on the SHARP’S Summer Map.¹ New recreational development within National Forest lands as part of the Project would implement the FSORAG and FSTAG Guidelines, as appropriate.

In addition, a number of SHARP projects are specifically intended for ADA (American with Disabilities Act of 1990) access, such as SHARP No. 1, No. 2 (summer)/Project No. 5c (winter), No. 4 (summer), No. 6 (summer), No. 7 (summer), and No. 16 (summer).

(b) Day Use Facilities and Recreational Sites

The SHARP recommends a variety winter and summer projects regarding trails, public access, and recreation facilities that would be suitable for day use. Interpretive sites identified by SHARP include: Projects Nos. 1, 5b, 7, 13, 14, 24, and 25. SHARP Project No. 1 would provide an education/interpretive area at the Borrow

¹ The SHARP Summer Map can be found in Appendix A of the Initial Study. The Initial Study is included in Appendix A of this EIR.

pit site; No. 5b (South Trail) would offer historical/interpretive opportunities as the trails pass through the Mammoth City site; No. 7 (Meadow Trail/Backbone Trail) would provide historical/interpretive opportunities as the trails pass through the Kerry Meadow; No. 13 would provide a comprehensive signage and wayfinding system that would be installed throughout the study area and include educational and interpretive opportunities; No. 14 would present interpretive opportunities at the Mill City historical site; No. 24 would include a walking/interpretive trail at the Old Mill site; and No. 25 would promote historic elements at Hayden Cabin.

(c) Snowplay and Nordic Skiing Opportunities

Included within the SHARP projects would be opportunities for snowplay and Nordic skiing at several sites as part of its winter projects. The borrow pit site (SHARP Project No. 1) would serve as a major multi-use staging area with access to Nordic skiing and snowplay. SHARP Project No. 2 is a non-motorized snowplay and sledding area located in proximity to, and visible from, the borrow pit site. Under the SHARP, the parking lot at the borrow pit site is intended to serve the adjacent snow play area (Project No. 2). Expanded parking at the Old Mammoth Road winter closure would be provided at the multi-use staging area at Mill City (SHARP Project No. 6), and parking would be provided at the multi-use staging area at the Lake Mary Road winter closure (SHARP Project No. 16). Both of these areas provide snowplay and Nordic skiing opportunities, which would be accommodated by expanded parking area. SHARP Project No. 18 includes a developed, partially groomed non-motorized recreation zone, including a snowplay area, that would extend from the borrow pit staging area to Old Mammoth Road. New parking would be available to serve this recreation zone at both the borrow pit site and Old Mammoth Road winter closure site.

(d) OHV/OSV Use Opportunities

The SHARP would provide opportunities for and control OHV and OSV use. Sharp Project No. 1 (summer), the borrow pit site, would be a major multi-use staging area and would provide opportunities for OHV. The development of this project would require changes in the maintenance level on Sherwin Creek Road to allow OHVs to travel eastbound along the entire length of Sherwin Creek Road to US-395 (across both USFS and LADWP land) to access appropriate OHV routes. OHV use is currently prohibited in open areas and on some routes within the Sherwins area, including much of Sherwin Creek Road. No other OHV use is permitted in the SHARP area. The OHV area is designated on the SHARP Summer Map.

Sharp Project No. 1 (winter) the borrow pit staging area, would provide for OSV staging, as well as OSV use of Sherwin Creek Road. SHARP Project No. 3 (winter) would provide additional off-loading area for OSV users near the borrow pit staging area. Project No. 3 would extend a spur from the borrow pit staging area along Sherwin Creek Road that would be able to accommodate a pickup truck with a trailer. However, this spur would not be limited to or reserved strictly for OSV users.

SHARP Project No. 6 (winter) would be a multi-use staging area at Mill City. Located at the Old Mammoth Road winter closure, this staging area would be closed to OSV uses until after April 17, when snowmobiles are permitted in the Lakes Basin. SHARP Project No. 8 (winter) involves the grooming of Old Mammoth Road from the Mill City staging area to the Lakes Basin and SHARP Project No. 16 (winter) would be a multi-use staging area at the Lake Mary Road winter closure. Project No. 8 and No. 19 would also be closed to OSV uses until after April 17.

SHARP No. 18 (winter) would be a partially groomed recreation zone extending from the borrow pit staging area to Old Mammoth Road that is specifically designed for non-motorized use (no OSVs permitted). The project would encompass a formal non-motorized access/egress point at Snowcreek VIII, a formal non-motorized access/egress point at the Snowcreek golf course, a non-motorized trailhead at Tamarack Street, a multi-use staging area at Mill City, a non-motorized connector from the Mill City staging area to Hidden Lake meadow, and a non-motorized stacked-loop trail system in the meadow.

(e) Inyo National Forest Management Area No. 8 Trail System

The SHARP identifies and programs dispersed trail facilities in the Mammoth Lakes Basin, including hiking and equestrian trail opportunities throughout that extend from the Town of Mammoth Lakes to the Lakes Basin. These include opportunities for mountain bike trails within the Inyo National Forest Management Area No. 8. One of the primary purposes of the SHARP is to create interfacing trails between National Forest lands and the Town. Specific projects under SHARP that serve the Lakes Basin include SHARP Project No. 5c (summer), a soft-surface pedestrian and bike connections from the intersection of Old Mammoth Road and Lake Mary Road to the Lake Mary Road MUP. SHARP projects in the vicinity of the Lakes Basin also include Project No. 12a (summer), a non-motorized staging area at the Lake Mary Road winter closure. This project would provide a soft-surface, non-motorized trail from the end of the Lake Mary Road Bike Path to connect to the Panorama Dome trail. A bridge would be constructed to connect to the Lake Mary Road MUP. Other Projects that would enhance connectivity to the Lakes Basin from the Town include SHARP Project No. 15 (summer), the Old Mammoth Road soft-surface, non-motorized safe crossing; and, SHARP Project No. 17 (summer and winter), the Sherwin Ridge soft-surface, non-motorized trail leading out from Mill City. This trail would improve access between the Sherwins and Lake Mary Road. Access between the Town and the Lakes Basin during the winter would also be facilitated by SHARP Project No. 16 (winter), which would provide a formal non-motorized staging area at the Lake Mary Road winter closure, above the bridge. The staging area at the Lake Mary Road winter closure would alleviate existing pressure on the current Lake Mary Road, which is used to access the Lakes Basin recreational amenities.

(f) Inyo National Forest Management Area No. 9 Trail System

The SHARP would provide trail interface opportunities between National Forest lands in the Sherwins Area and the Town of Mammoth Lakes. SHARP Project No. 6 (summer) also known as 10a (winter) would provide a hard-surface or paved non-motorized connector from the borrow pit staging area to Mammoth Creek Park East at the bridge. During winters this trail would be groomed in the winter months (but no Nordic track). This trail would provide connectivity between the park, the borrow pit staging area, the stacked-loop trail system, and formal access/egress points along the meadow's northern boundary. It would also provide a direct connection to the Mammoth Lakes Library, Cerro Coso Community College, and will facilitate access to the Hayden Cabin near Mammoth Creek Park East. Other trails that provide interface opportunities between USFS lands in Management Area No. 8 and the Town include SHARP Project No. 2 (summer), also known as No. 5c (winter), would be non-motorized trailhead at Tamarack Street. This trailhead would create an important link within the stacked-looped trail system in the meadow. Specific access/egress points are also planned at Snowcreek VIII. This point, known as SHARP Project No. 3 in the summer and Project No. 5a in the winter, would allow residents and visitors to the residential development non-motorized access to the borrow pit site.

d. Analysis of Project Impacts

The analysis of Project impacts regarding land use and planning below applies to all future trail components associated with the Project, including the Priority Projects, unless stated otherwise.

(1) Consistency of the Proposed Project with Applicable Plans and Policies

4.I-1 The Project would be substantially consistent with applicable adopted plans, including the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan. Land use impacts with respect to adopted plans would be less than significant.

(a) Town of Mammoth Lakes General Plan

The purpose of the TSMP is to update the 1991 Trail System Plan, in accordance with the policies of Town of Mammoth Lakes General Plan. As previously described, the General Plan includes several policies that are specific to the development of trails and similar facilities. The Project is compared to the policies of the General Plan in **Table 4.I-1, Consistency of the Project with Applicable Policies of the General Plan**, below. As discussed in the detailed comparison of the TSMP to applicable land use policies of the General Plan, the Project would be consistent with the Walking and Bicycle policies and the Trail System goals and policies of the General Plan. Therefore, land use impacts with respect to this plan would be less than significant.

Table 4.I-1

Consistency of the Project with Applicable Policies of the Town of Mammoth Lakes General Plan

General Plan Policy	Consistency Analysis
Walking and Bicycling Policy	
M.4. Goal: Encourage feet first by providing a linked year-round recreational and commuter trail system that is safe and comprehensive.	Consistent. Goal 2 of the TSMP is to develop a plan that provides guidance for enhancing year-round mobility in a way that is consistent with the Town’s “Feet First” strategy. Objectives of the TSMP are to provide connecting trails between summer and winter activity centers, which the TSMP considers vital for “feet first” mobility. With the addition of bicycle, pedestrian and trail facilities, the TSMP would connect nodes to the Town’s network of non-motorized infrastructure and improve “feet first” access to and from nodes. The addition of amenities such as signage, restrooms, bus stops and parking would enhance the user experience by making recreation nodes more user-friendly. Recommendations to implement the “feet first” goal include Recommendation P1 - <i>Sidewalk to Major Roadway Ratio</i> , Recommendation P2, <i>Sidewalks along Major Road</i> , Recommendation P3 - <i>Sidewalks along Collector or Local Streets</i> , Recommendation P4 - <i>Mid-Block Pedestrian Connectors</i> , Recommendation G6 - <i>Pedestrian-Oriented Development</i> . Improving the pedestrian environment would improve overall mobility and create a more seamless transition between the recreational experience and in-Town economic activities. Pedestrian-oriented developments have buildings that are situated adjacent to the sidewalk and parking that is situated behind the building and away from the major thoroughfares (also see response to Policy P.5.B in Table 4.K-1 in Chapter 4.K, <i>Recreation</i> , of this EIR).

Table 4.I-1 (Continued)

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

General Plan Policy	Consistency Analysis
<p>M.4.A. Policy: Improve safety of sidewalks, trails and streets.</p>	<p>Consistent: TSMP Chapter 9 provides measurable benchmarks and evaluation measures related to trail, bicycle, and pedestrian safety. Goals and recommendations related to safety include Mobility Objectives 2.1 and 2.2 to improve pedestrian and cyclist safety and Recommendations MUP5 and X1 to provide lighting on MUP segments based on potential demand and provide additional safety measures for at-grade MUP crossings, respectively.</p>
<p>Trail System Goals and Policies</p>	
<p>P.3. Goal: Create a Master Plan for an integrated trail system that will maintain and enhance convenient public access to public lands from Town.</p>	<p>Consistent: The first goal of the TSMP (Goal 1) is to develop a plan for an integrated trail network between the Town and surrounding public lands. Although the purpose of the range of policies, recommendations, and benchmarking and evaluation strategies in the TSMP is to carry out this goal, specific objectives and recommendations that would support and implement this goal include Objectives 1.1 through 1.7 and Recommendations G.1 and G.5. These objectives are to close gaps in the network, expand the network, identify locations for recreational nodes, identify preferred summer and winter uses, provide uniform signage and wayfinding, updating of trail maps, coordinate with governmental and non-governmental entities, and other procedures that would enhance the use of trails.</p>
<p>P.3.A. Policy: Ensure public routes for access to public lands are provided in all developments adjacent to National Forest lands.</p>	<p>Consistent: The TSMP supports the acquisition of easements to facilitate access to public lands and areas within the trails system. Chapter 4, <i>Future Trail System Recommendations</i>, of the TSMP states that the “Town should aggressively pursue additional opportunities for the further development of multi-use paths, bikeway, trails and trail access easements as they arise.” Objective 1.4 of the TSMP is to identify locations for potential recreation nodes and public access easements that will enhance connections between Town and surrounding public lands for summer and winter recreation and Recommendation G10 (<i>Future Access Easements</i>) states that the Town should study the potential to acquire additional easements to improve recreational access to public lands. According to the TSMP, an analysis of land ownership and recreational access potential at all GIC points along the UGB would be an important first step in this process.</p>
<p>P.3.B. Policy: Coordinate with multiple organizations, agencies and jurisdictions to plan, steward, interpret, promote and sustain trails, public access and outdoor recreation amenities in the Mammoth Lakes region.</p>	<p>Consistent: The TSMP states, “The relationship between the Town of Mammoth Lakes and the United States Forest Service is critical to the success of the Trails Master Plan, as are the various means used to coordinate their efforts. These include accessibility, community character, community engagement, cooperation, environmental stewardship and sustainable economics.” The TSMP also recognizes the “important innovative public, private and non-profit partnerships to address these needs and recognizes that, without a coordinated effort, critical points of public access could be at risk.” The incorporation of the SHARP, which is the product of a diverse coalition of volunteer citizens, the Town and the USFS, demonstrates the commitment of the TSMP to coordinate with multiple agencies and jurisdictions. Recommendation G12 of the TSMP is that the Town</p>

Table 4.I-1 (Continued)

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

General Plan Policy	Consistency Analysis
<p>P.4.B. Policy: Provide an affordable and wide range of year-round recreational opportunities to foster a healthy community for residents and visitors. Applicable activities include but are not limited to walking interpretive trails & signage, touring, street & mountain biking.</p>	<p>should seek opportunities to form partnerships with local non-governmental organizations that may be able to assist in the planning, development and/or maintenance of the trail system.</p> <p>Consistent: The TSMP envisions a broader range of walking paths, interpretative trails and signage, and biking paths and trails that currently existing in the Town of Mammoth. Chapter 3 of the TSMP (<i>Needs Analysis</i>) recognizes that trail system would be an affordable recreational option, both in the development costs and to the users. The TSMP also considers that the trail system would accrue health benefits to the community and would allow people to integrate healthy activities into their daily lives. Chapter 9 (<i>Benchmarking and Evaluation</i>) provides a methodology by which health benefits of the trail system can be assessed and the determination made that it would result in a health cost savings to the community.</p>
<p>P.4.C. Policy: Ensure balance of use, enjoyment and separation where appropriate between motorized and non-motorized modes of recreation.</p>	<p>Consistent: The TSMP provides an expanded program of MUP development, which represents a separation between motorized and non-motorized transportation. According to conceptual design guidelines set forth in Chapter 6 of the TSMP, the implementation of MUPs provides a service for novice riders, recreational riders, and cyclists of all skill levels preferring separation from traffic. MUPs can also potentially provide safe alternatives for winter pedestrian travel. Multi-use paths may be considered along roadways when bicycle and pedestrian use is anticipated to be high, in order to provide continuity for an existing path through a roadway corridor, when the path can be terminated at each end onto streets with good bicycle and pedestrian facilities, or onto another safe, well-designed path, when there is adequate access to local cross-streets and other facilities along the route.</p>
<p>P.5. Goal: Link parks and open space with a well-designed year round network of public corridors and trails within and surrounding Mammoth Lakes.</p>	<p>Consistent: Figures 2-1 to 2-7 in Section 2.0, <i>Project Description</i>, identify the Town’s existing and proposed trail facilities. As shown therein, the proposed trail facilities would help link the Town’s parks and open space facilities.</p>
<p>P.5.B. Policy: Design and construct trails as components of a regional and local network for recreation and commuting.</p>	<p>Consistent: The TSMP supports a local and regional network for recreation and commuting through a variety of MUPs and bikeways and has developed recommendations to include in-town MUP connectors, MUPs outside the UGB, bikeways on major and collector streets, and bike routes. Regional commuter routes considered under the TSMP are the Mammoth Creek Path and the Sherwin Creek Road Bike Lanes. Recommendations that support the network of MUPs and trails are Recommendation MUP 3- <i>In-Town Multi-Use Path Connectors</i>, Recommendation MUP4 - <i>Multi-Use Paths Outside the UGB</i>, Recommendation B2 - <i>Bike Lanes on Major Streets (Arterials)</i>, Recommendation B3 - <i>Bike Lanes on Collector Streets</i>, and Recommendation B4 - <i>Bike Routes</i>.</p>

Source: PCR Services Corporation, 2011.

(b) Inyo National Forest Land and Resource Management Plan

The LRMP includes policies that would apply to the National Forest lands contained within the Project Area. The Project is compared to the land use policies of the LRMP in **Table 4.I-2, Consistency of the Project with Applicable Policies of the Inyo National Forest Land and Resource Management Plan**, below. The analysis in Table 4.I-2, indicates that the Project would be consistent with applicable LRMP policies, which include handicapped access, interpretive and informational sites and trails, parking facilities for snow play and Nordic skiing, OHV/OSV management, trail opportunities in the Lakes Basin, and trails connecting national Forest lands to the Town. Because trail improvements on National Forest lands would be consistent with the LRMP, land use impacts associated with plan consistency would be less than significant.

Table 4.I-2

**Consistency of the Project with Applicable Policies
of the Inyo National Forest Land and Resource Management Plan**

LRMP Policy	Consistency Analysis
Construct and maintain facilities to regional standards, design at least 10 percent for the physically limited.	Consistent: The SHARP is an organized program for future recreational development in the Sherwin Area that provides a concept and rationale for a range of recreational facilities and trails. Exact specifications for development would occur under USFS administration and would be required to comply with current government standards and regulations for development on National Forest lands. The 2006 FSORAG and the 2006 FSTAG require accessibility for the physically limited for all new or altered facilities and trails. SHARP Project No. 1 would be developed in compliance with FSORAG guidelines for restrooms, parking, interpretive areas, trash receptacles, and any other constructed facilities. The Project would be consistent with FSTAG guidelines in that it would provide a paved surfacing of Sherwin Creek Road for OHV vehicles. Trails projects that are specifically designed as ADA accessible include SHARP Project Nos. 1, 2, 6, 7, and 16. Because new recreational development is required to implement the FSORAG and FSTAG Guidelines, all applicable components of the Project would be consistent with this policy.
Develop day-use facilities and interpretive and informational sites and trails.	Consistent: The SHARP identifies 31 summer and 19 winter recreational projects suitable for day use and interpretive sites. Interpretive sites identified by SHARP include: Projects Nos. 1, 5b, 7, 13, 14, 24, and 25. These projects are described in the Project Components section above.
Provide parking facilities for snow play and Nordic skiing.	Consistent: Several SHARP winter projects would provide opportunities for snowplay and Nordic skiing at several sites, including SHARP Project Nos. 1, 2, 6, 16 and 18. These projects are described in the Project Components section above.
Manage OHV/OSV use according to Forest-wide standards and guidelines.	Consistent: The SHARP would provide opportunities for and control for OHV and OSV use as part of SHARP Project Nos. 1 (summer and winter) and winter Project Nos. 3, 6, 8, 16, 18, and 19. These projects are described in the Project Components section above.

Table 4.I-2 (Continued)

**Consistency of the Project with Applicable Policies
of the Inyo National Forest Land and Resource Management Plan**

LRMP Policy	Consistency Analysis
<p><u>Management Area No. 8:</u></p> <p>Identify and program dispersed trail facilities in the Mammoth Lakes Basin, including hiking and equestrian trail opportunities in all areas and bicycle trails in the Lakes Basin. Include opportunities for mountain bike trails within the Management Area. Interface trail system with the community.</p>	<p>Consistent: The SHARP identifies and programs dispersed trail facilities in the Mammoth Lakes Basin, including hiking and equestrian trail opportunities throughout that improve opportunities in the Lakes Basin and provide improved access between the Town and the Basin. These include opportunities for mountain bike trails within the Inyo National Forest Management Area No. 8. These project include Sharp Project No. 7 (summer), No. 5c (summer), No. 12a and 12b (summer), No. 15 (summer), No. 16 (winter) and No. 17 (summer and winter). These projects are described in the Project Components section above.</p>
<p><u>Management Area No. 9:</u></p> <p>Provide trail interface opportunities with the community of Mammoth Lakes.</p>	<p>Consistent: The SHARP would provide trail interface opportunities between National Forest lands in the Sherwins Area and the Town of Mammoth Lakes. These projects include SHARP Project No. 6 (summer)/No. 10a (winter); No. 2 (summer)/No. 5c (winter); and No. 3 (summer)/No. 5a (winter). These projects are described in the Project Components section above.</p>

Source: PCR Services Corporation, 2011.

(2) Land Use Compatibility

4.I-2: The variety of trails and improvements that would be implemented under the Project would be consistent with and contribute to the predominant land uses of the Town and surrounding National Forest lands. The Project would cause no physical divisions of the Town. Therefore, land use impacts would be less than significant.

The predominant land uses of the Town are related to recreation and tourism, and residential uses that house the Town’s permanent and seasonal residents and visitors. During the peak visitor seasons, seasonal residents increase the Town’s population approximately five-fold. The implementation of the Project, including soft-surface trails, bikeways, MUPs, recreational nodes, staging areas, and respective facilities, such as identification and wayfinding signage, educational and interpretive signage, and certain safety features, such as regulated street crossings, would contribute to the Town’s existing range of recreational resources and trails.

In addition, the Town is surrounded by National Forest lands. The components of the Project, particularly the SHARP, would be consistent with the type of recreational development encouraged on National Forest lands. The TSMP and SHARP were developed through a collaborative effort that included Town and USFS Staff to determine the type of recreational facilities, as well as specific trail projects on National Forest lands.

With the exception of restrooms at the borrow pit staging area (SHARP Project No. 1) and Mill City staging area [SHARP Project No. 4 (summer) and Project No. 6 (winter)], no permanent or habitable structures would be developed under the Project on National Forest Lands. The restrooms would be developed according to federal guidelines.

Overall, the recreational-based components of the Project would be consistent with the predominant land uses of the community, which is based largely on the recreation industry. Because the Project would be consistent with the existing land uses of the Town and consistent with the type of land use encouraged on National Forest lands, the Project result in less than significant land use compatibility impacts.

The Project's proposed trail system components would be located in various locations throughout the Project Area and are intended to provide recreational, as well as alternative transportation amenities that would encourage neighborhood residents and community members to interact and participate in recreational activities. Given that the proposed facilities are anticipated to increase social interactions among Town residents as well as visitors, no impact related to the physical division of an established community would result from Project implementation. To note, the existing USFS 4S100 road would be closed to motorized use to allow the alignment of the non-motorized, hard-surface paved trail under Sharp Project No. 7 (summer). Service and maintenance vehicles would continue to be allowed access to Kerry Meadows via this route for special events, such as weddings. Because this road does not currently serve any neighborhoods, provide connection between neighborhoods and services, or serve as an emergency access route, the closure of this road would not cause any physical divisions of the community.

3. MITIGATION MEASURES

No mitigation measures are necessary.

4. CUMULATIVE IMPACTS

4.I-3 The build-out of the Project in combination with cumulative development within the Town or surrounding National Forest lands would result in less than significant cumulative land use impacts.

The Project would have a beneficial land use effect in that it would increase the Town's non-motorized facilities such as MUPs, bike lanes, bike routes, and servicing features, such as recreation nodes. These facilities would improve convenience, contribute to the livability of the Town, and strengthen the Town as a destination area for recreationists. The on-going development of the trails, recreational nodes, signage, and other associated components under the Project would not, in itself, be considered cumulative. Other cumulative development that would result in additional recreational resources would also likely benefit the community. Because the Project would not result in adverse land use impacts, the build-out of Project, in combination with other cumulative development, including recreational projects, would result in less than significant cumulative land use impacts.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The Project would result in less than significant land use impacts. Thus, no mitigation measures are necessary.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

J. NOISE

INTRODUCTION

The section analyzes potential noise and vibration impacts that could result from Project implementation. The analysis describes the existing noise environment within the Project Area, estimates future noise and vibration levels at surrounding land uses resulting from construction and operation of the proposed TSMP, identifies the potential for significant impacts, and provides, where feasible, mitigation measures to address significant impacts. Noise calculation and data sheets for the Project are included in Appendix H of this Draft EIR.

1. ENVIRONMENTAL SETTING

a. Noise and Vibration Basics

(1) Noise

Noise is usually defined as sound that is undesirable because it interferes with speech/communication and hearing, or is otherwise annoying (unwanted sound). The decibel (dB) is a conventional unit for measuring the amplitude of sound because it accounts for the large variations in sound pressure amplitude and reflects the way people perceive changes in sound amplitude.¹ The human hearing system is not equally sensitive to sound at all frequencies. Therefore, to approximate this human frequency-dependent response, the A-weighted system is used to adjust measured sound levels (dBA). The term “A-weighted” refers to a filtering of the noise signal in a manner corresponding to the way the human ear perceives sound.

People judge the relative magnitude of sound sensation by subjective terms such as “loudness” or “noisiness.” A change in sound level of 3 dB is considered “just perceptible,” a change in sound level of 5 dB is considered “clearly noticeable,” and a change of 10 dB is recognized as “twice as loud.”²

Community noise levels usually change continuously during the day. The equivalent sound level (Leq) is normally used to describe community noise. The Leq is the equivalent steady-state A-weighted sound level that would contain the same acoustical energy as the time-varying A-weighted sound level during the same time interval. For intermittent noise sources, the maximum noise level (Lmax) is normally used to represent the maximum noise level measured during the measurement.

To assess noise levels over a given 24-hour time period, the Community Noise Equivalent Level (CNEL) descriptor is used. CNEL is the time average of all A-weighted sound levels for a 24-hour period with a 10 dBA adjustment (upward) added to the sound levels which occur in the night (10 P.M. to 7 A.M.) and a 5 dBA adjustment (upward) added to the sound levels which occur in the evening (7 P.M. to 10 P.M.). These penalties attempt to account for increased human sensitivity to noise during the quieter nighttime periods,

¹ All sound levels, measured in decibel (dB), in this study are relative to $2 \times 10^{-5} \text{ N/m}^2$.

² *Engineering Noise Control*, Bies & Hansen, 1988.

particularly where sleep is the most probable activity. CNEL has been adopted by the State of California for development of the community noise element of general plans.³

(2) Ground-Borne Vibration

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The response of humans, buildings, and equipment to vibration is more accurately described using velocity or acceleration.⁴ Vibration amplitudes are usually described as either peak, as in peak particle velocity (PPV) or root-mean-square (RMS). The peak level represents the maximum instantaneous peak of the vibration signal and the RMS represents the average of the squared amplitude of the vibration signal. In addition, vibrations can be measured in the vertical, horizontal longitudinal, or horizontal transverse directions. Ground vibrations are most often greatest in the vertical direction.⁵ Therefore, the analysis of ground-borne vibration associated with the Project is addressed in the vertical direction.

b. Regulatory Framework

Many government agencies have established noise regulations and policies to protect citizens from potential hearing damage and various other adverse physiological and social effects associated with noise and ground-borne vibration. The Town has adopted a number of policies, which are based in part on federal and State regulations and are intended to control, minimize or mitigate environmental noise effects. The regulations and policies that are relevant to Project construction and operation noise are discussed below.

(1) Applicable Town Regulations and Policies

(a) Town of Mammoth Lakes Noise Ordinance

Chapter 8.16 of the Mammoth Lakes Municipal Code (Town Noise Ordinance) controls unnecessary, excessive and annoying noise in the Town. However, this chapter does not control noise sources that are preempted by other jurisdictions including in-flight aircraft and motor vehicles operating on public rights-of-way. According to Section 8.16.020 of the Town Noise Ordinance, "vibration perception threshold" means the minimum ground-borne or structure-borne vibrational motion necessary to cause a normal person to be aware of the vibration by such direct means as, but not limited to, sensation by touch or visual observation of moving objects. The perception threshold shall be presumed to be a motion velocity of 0.01 inches per second (RMS) over the range of one to one hundred Hz. The vibration perception threshold of 0.01 inches per second RMS would be 0.04 inches per second PPV. As outlined in Section 8.16.070 of the Town Noise Ordinance and presented in **Table 4.J-1, Town Exterior Noise Ordinance Standards**, the Town has established maximum exterior noise levels based on land use zones. Noise levels in excess of the levels indicated in Table 4.J-1 are conditionally permitted, depending on the intensity of the noise and the duration of exposure.⁶ The Town Noise Ordinance also states that interior noise levels resulting from outside sources

³ State of California, *General Plan Guidelines, 2002*.

⁴ Federal Transit Authority, *Transit Noise and Vibration Impact Assessment, Final Report, page 7-3, April 1995*.

⁵ California Department of Transportation (Caltrans), *Transportation Related Earthborne Vibrations, page 4, February 2002*.

⁶ Noise levels may not exceed the exterior noise standard for a cumulative period of more than thirty minutes in any hour; or plus five decibels for a combined period of more than fifteen minutes in any hour; or plus ten decibels for a combined period of more than five (Footnote continued on next page)

Table 4.J-1

Town Exterior Noise Ordinance Standards

Receiving Land Use	Time Period	Noise Zone Classification ^a Maximum Noise Levels (dBA) L50		
		Rural/ Suburban	Suburban	Urban
One and Two Family Residential	10 P.M. to 7 A.M.	40	45	50
	7 A.M. to 10 P.M.	50	55	60
Multiple Dwelling Residential/Public Space	10 P.M. to 7 A.M.	45	50	55
	7 A.M. to 10 P.M.	50	55	60
Limited Commercial/Some Multiple Dwellings	10 P.M. to 7 A.M.		55	
	7 A.M. to 10 P.M.		60	
Commercial	10 P.M. to 7 A.M.		60	
	7 A.M. to 10 P.M.		65	
Light Industrial	Anytime		70	
Industrial	Anytime		75	

- ^a The classification of different areas of the community in terms of environmental noise zones shall be determined by the noise control officer, based upon assessment of community noise survey data. Additional area classifications should be used as appropriate to reflect both lower and higher existing ambient levels than those shown. Industrial noise limits are intended primarily for use at the boundary of industrial zones rather than for noise reduction within the zone.
- ^b Noise levels may not exceed the interior noise standard for a cumulative period of more than five minutes in any hour; or plus five decibels for a combined period of more than one minute in any hour; or plus ten decibels for any period of time (maximum noise level).
- ^c If the existing interior or exterior ambient noise level exceeds that permissible within the noise limit categories above, the allowable noise exposure standard is increased in five dBA increments in each category as appropriate to encompass or reflect the ambient noise level.

Source: Town Noise Ordinance, Municipal Code Section 8.16.070

within residential units shall not exceed 45 dBA L50 between 7 A.M. and 10 P.M., and 35 dBA L50 between 10 P.M. and 7 A.M.⁷ If the existing interior or exterior ambient noise level exceeds that permissible within the noise limit categories, the allowable noise exposure standard is increased in five dBA increments in each category as appropriate to encompass or reflect the ambient noise level (Section 8.16.070 and 8.16.080 of the Town Noise Ordinance).

The Town Noise Ordinance identifies specific restrictions regarding construction noise. As outlined in Section 8.16.090 of the Town Noise Ordinance and presented in **Table 4.J-2, Town Construction Noise**

minutes in any hour; or plus fifteen decibels for a combined period of more than one minute in any hour; or plus twenty decibels for any period of time (maximum noise level).

⁷ *Noise levels may not exceed the interior noise standard for a cumulative period of more than five minutes in any hour; or plus five decibels for a combined period of more than one minute in any hour; or plus ten decibels for any period of time (maximum noise level).*

Table 4.J-2

Town Construction Noise Standards				
Construction Equipment ^a	Type I Areas Single-Family Residential	Type II Areas Multi- Family Residential	Type III Areas Semi-Residential Commercial ^a	Business Properties
Mobile Equipment ^b				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	75 dBA L ₅₀	80 dBA L ₅₀	85 dBA L ₅₀	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	60 dBA L ₅₀	64 dBA L ₅₀	70 dBA L ₅₀	----
Daily, including Sunday and legal holidays, all hours	----	----	----	85 dBA L ₅₀
Stationary Equipment ^c				
Daily, except Sundays and legal holidays; 7:00 A.M. to 8:00 P.M.	60 dBA L _{eq}	65 dBA L _{eq}	70 dBA L _{eq}	----
Daily, 8:00 P.M. to 7:00 A.M. and all day Sunday and legal holidays	50 dBA L _{eq}	55 dBA L _{eq}	60 dBA L _{eq}	----
Daily, including Sunday and legal holidays, all hours	----	----	----	75 dBA L ₅₀

^a All mobile or stationary internal combustion engine-powered equipment or machinery shall be equipped with suitable exhaust and air intake silencers in proper working order.

^b Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment (e.g., excavator, backhoe, dozer, etc.).

^c Maximum noise levels for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment (e.g., generators, compressors, etc.).

Source: Town Noise Ordinance, Municipal Code Section 8.16.090.

Standards, the Town has established maximum exterior noise levels from the operation of equipment used in construction, drilling, repair, alteration or demolition work. All mobile and stationary internal-combustion-powered equipment and machinery is also required to be equipped with suitable exhaust and air-intake silencers in proper working order. Chapter 15.08 of the Municipal Code sets limits on construction hours. Operations permitted under a building permit shall be limited to the hours between seven A.M. and eight P.M., Monday through Saturday. Work hours on Sundays and town recognized holidays shall be limited to the hours between nine A.M. and five P.M. and permitted only with the approval of the building official or designee.

(2) Ground-Borne Vibration

The Town has established a vibration threshold within the Noise Ordinance. According to Section 8.16.090 of the Ordinance, operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at one hundred fifty feet (forty-six meters) from the source if on a public space or public right-of-way.

c. Existing Conditions

(1) Noise-Sensitive Receptor Locations

Some land uses are considered more sensitive to intrusive noise than others due to the amount of noise exposure and the types of activities typically involved at the receptor location. Specifically, residences, schools, libraries, religious institutions, hospitals and nursing homes are generally more sensitive to noise than are commercial and industrial land uses. The Project consists of several construction sites spread throughout the TSMP Project area; due to the long-range scope of the TSMP, it is unlikely that construction activities would be occurring simultaneously on a multiple sites at any given time. Sensitive land uses exist in the general vicinity of many of the trails and system amenities.

Implementation of the proposed TSMP is expected to result in potential short-term or long-term increases in emissions at a number of specific locations. The nearest sensitive populations to the TSMP Priority Projects are listed below:

- The nearest sensitive receptors to the SHARP Priority Project #1, Borrow Pit/Staging Area, are existing residential uses located approximately 2,345 feet to the northwest, along Meadow Lane. Additional existing residential sensitive receptors are also located 2,485 feet to the west of the Project site, along Fairway Court. Future single family residences within the Snowcreek VIII Tract are expected to be occupied by 2017, located along Fairway Drive and Old Mammoth Road, 1,050 feet west of the proposed staging area improvement.
- The nearest sensitive receptor to the future Multi-Use Path (MUP) 2-1, Town Loop (4a), which starts from Mammoth Creek Park to Minaret Road are the multi-family residential units located on Meadow Lane, 135 feet north of the proposed path improvement.
- The nearest sensitive receptor to the future MUP 3-1, College Connector, which starts from Sierra Park Road to the Town Loop are the Cerro Coso Community College Dorms located on College Parkway, 55 feet south of the proposed path improvement.

The nearest noise sensitive receptor to a Trail Improvement Project under the TSMP not identified as a Priority Project is listed below:

- The nearest sensitive receptors to the proposed Recreation Node, GIC 64 (Trailhead), Sierra Boulevard at Forest Trail are the single-family residential units located on Sierra Boulevard and Forest Trail, approximately 80 feet south of the proposed trailhead improvement.

Other trails segments and facilities are located outside of the urbanized area, at significant distances from any uses considered to be sensitive.

(2) Ambient Noise Levels

Ambient noise measurements were conducted at twelve locations within the Project Area. Ambient sound measurements were conducted on Friday, November 19, 2010, to characterize the existing noise environment in the Project Area. The noise measurements, which were made at twelve locations, represent sites at which improvements are likely to occur near existing noise receptors under the TSMP and Priority Projects. Measurement sites are identified in **Figure 4.J-1, Noise Measurement Locations**, as Locations R1

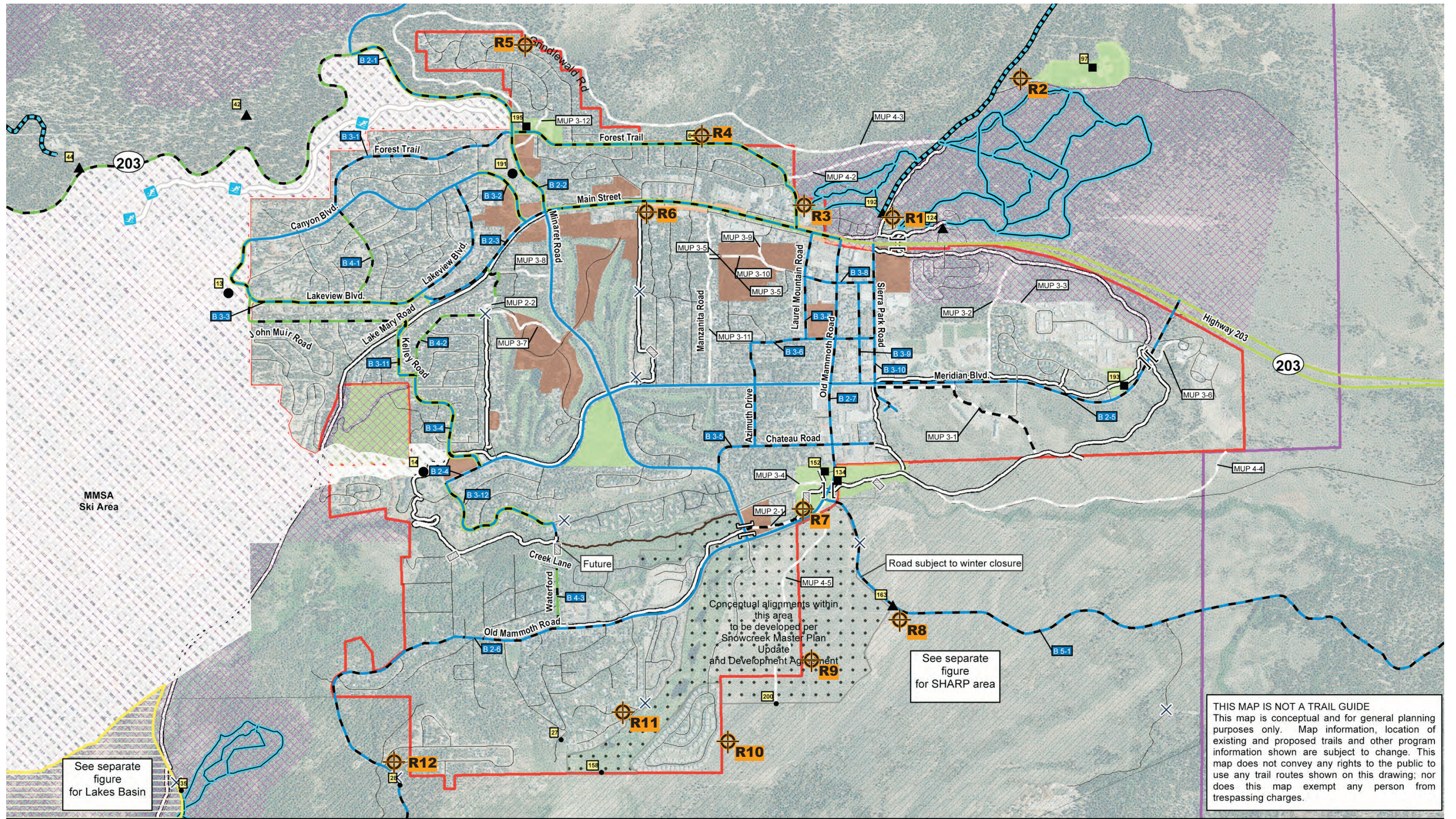
through R12. Locations R1 through R6 involve non-priority projects and Locations R7 through R12 are located in Priority Project areas.

Descriptions of the measurement locations for the Trail Improvement Projects are described below:

- Measurement Location R1: This measurement was taken at approximately 500 feet north from northwest corner of Sawmill Cutoff and Main Street. The measurement is reflective of the noise environment of the residential uses along Sawmill Cutoff.
- Measurement Location R2: This measurement was taken at approximately 15 feet west of the parking lot boundary at Shady Rest Park (west of the Ballpark). The measurement is reflective of the noise environment of the Shady Rest area along Sawmill Road.
- Measurement Location R3: This measurement was taken at approximately 250 feet south from southwest corner of Forest Trail and Pinecrest Avenue. The measurement is reflective of the noise environment of residential uses along Forest Trail.
- Measurement Location R4: This measurement was taken at approximately 100 feet northeast from southwest corner of Forest Trail and Sierra Boulevard. The measurement is reflective of the noise environment of single-family residential uses along Forest Trail near the proposed Recreation Node, GIC 64 (Trailhead).
- Measurement Location R5: This measurement was taken at approximately 100 feet north from northwest corner of Grindlewald Road and Megeve Way. The measurement is reflective of the noise environment of residential uses along Grindlewald Road.
- Measurement Location R6: This measurement was taken at the southwest corner of Frontage Road and Joaquin Road. The measurement is reflective of the noise environment of residential uses along Frontage Road.

Descriptions of the measurement locations for the Priority Projects are described below:

- Measurement Location R7: This measurement was taken near Old Mammoth Road approximately 200 feet west of southwest corner of Old Mammoth Road and Sherwin Creek Road. The measurement is reflective of the noise environment of multi-family residential uses along Meadow Lane.
- Measurement Location R8: This measurement was taken near Sherwin Creek Road at the Borrow Pit site. The measurement is reflective of the noise environment of the future Snowcreek VIII.
- Measurement Location R9: The sound meter was located along Motocross Access.
- Measurement Location R10: The sound meter was located near east boundary of the Snowcreek V. The measurement is reflective of the noise environment of the Snow Creek V.



See separate figure for Lakes Basin

Conceptual alignments within this area to be developed per Snowcreek Master Plan Update and Development Agreement

See separate figure for SHARP area

THIS MAP IS NOT A TRAIL GUIDE
 This map is conceptual and for general planning purposes only. Map information, location of existing and proposed trails and other program information shown are subject to change. This map does not convey any rights to the public to use any trail routes shown on this drawing; nor does this map exempt any person from trespassing charges.

Measurement Location

Winter Recreation Nodes

- Portal
- Park
- ▲ Trailhead
- Access/Egress Point
- Key GIC Point

Bicycle Facilities

- ⊗ GIC Numbers
- ⊗ Gates, Barriers, Closures
- ⊗ Bridges
- ⊗ Tunnel Proposed
- ⊗ Tunnel Existing

Paved Off-Road Facilities

- Existing Paved Multi-Use Paths (Class I)
- Planned MUP
- Planned MUPs - Long Term (Conceptual Alignment)
- Existing Promenade (10' Sidewalk)
- Near-Term Promenade (10' Sidewalk)

Winter Use_Rebuild

- Groomed: Non-Motorized
- Snowmobile / Ski
- Ski Back Trail
- Closed to Motorized

Parks & Open Space

- Parks & Open Space
- Planned Development
- Snowcreek 8 Master Plan
- Urban Limit
- Town Boundary
- SHARP Study Area
- Lakes Basin Study Area



Noise Measurement Locations

FIGURE 4.J-1



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- **Measurement Location R11:** The sound meter was located at approximately 200 feet west of southwest corner of Woodcrest Trail and Ranch Road. The measurement is reflective of the noise environment of residence along Woodcrest Trail.
- **Measurement Location R12:** The sound meter was located at the northeast corner of Old Mammoth Road and Le Verne Street. The measurement is reflective of the noise environment of residences along Le Verne Street.

The ambient noise measurements were conducted using Larson-Davis 820 Precision Integrated Sound Level Meter (SLM). The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute (ANSI) S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. In accordance with the Town Noise Ordinance (Section 8.16.060) and with industry practice, the microphone was placed at a height of 5 feet above the local grade.

A summary of noise measurement data is provided in **Table 4.J-3, Summary of Ambient Noise Measurements**. As shown in Table 4.J-3, the existing ambient noise levels at the noise sensitive receptors R3, R4, R8, R10, and R11, single- and multi-family residential units exceed the Town's exterior noise limits presented above in the Table 4.J-1 during the day. Because no construction and no significant use of the trails is expected to occur at night, analysis of ambient noise levels during the night time hours is not needed.

2. ENVIRONMENTAL IMPACTS

The following thresholds of significance were developed based on industry standards and the Town Noise Ordinance and guidelines described above.

a. Significance Thresholds

Appendix G of the *CEQA Guidelines* contains the Initial Study Environmental Checklist form used during preparation of the Project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist questions relating to noise have been utilized as the thresholds of significance in this section. Accordingly, a project may create a significant environmental impact if it would result in one or more of the following:

- Threshold 1: Exposure of persons to or generation of noise level in excess of standards presumed in the local general plan or noise ordinance, or applicable standards of other agencies (*refer to Impact Statement 4.J-3*).
- Threshold 2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (*refer to Impact Statements 4.J-2 and 4.J-4*)
- Threshold 3: A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project (*refer to Impact Statement 4.J-3*).
- Threshold 4: A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (*refer to Impact Statement 4.J-1*).

Table 4.J-3

Summary of Ambient Noise Measurements

	Measurement Location	Measurement Date / Start Time	Measured Ambient Noise Levels, dBA (Leq)
R1	Northwest corner of Sawmill Cutoff and Main Street	11/19/10 Friday (9:42 A.M.)	54
R2	Parking lot boundary at Shady Rest Park (west of the Ballpark)	11/19/10 Friday (9:55 A.M.)	50
R3	Southwest corner of Forest Trail and Pinecrest Avenue	11/19/10 Friday (10:12 A.M.)	57
R4	Northeast from southwest corner of Forest Trail and Sierra Boulevard	11/19/10 Friday (10:21 A.M.)	57
R5	Northwest corner of Grindlewald Road and Megeve Way	11/19/10 Friday (10:29 A.M.)	51
R6	Southwest corner of Frontage Road and Joaquin Road	11/19/10 Friday (11:05 A.M.)	55
R7	Southwest corner of Old Mammoth Road and Sherwin Creek Road	11/19/10 Friday (11:18 A.M.)	54
R8	Sherwin Creek Road at the Borrow Pit site	11/19/10 Friday (11:27 A.M.)	62
R9	Motocross Access	11/19/10 Friday (11:40 A.M.)	55
R10	East boundary of the Snowcreek V	11/19/10 Friday (11:53 A.M.)	58
R11	Southwest corner of Woodcrest Trail and Ranch Road	11/19/10 Friday (12:17 P.M.)	58
R12	Northeast corner of Old Mammoth Road and Le Verne Street	11/19/10 Friday (12:47 P.M.)	55

Source: PCR Services Corporation, 2011.

Threshold 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (refer to Section 6, *Other Mandatory CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard)

Threshold 6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (refer to Section 6, *Other Mandatory CEQA Considerations*, and the Initial Study contained in Appendix A. No impact would occur in this regard).

b. Methodology

(1) Construction Noise and Vibration

(a) Construction Noise

On-site construction noise impacts were evaluated by determining the noise levels generated by the different types of construction activity, calculating the construction-related noise level at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise). More specifically, the following steps were undertaken to determine construction-period noise impacts.

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (see Table 4.J-3);
2. Typical noise levels for each type of construction equipment were obtained from the Federal Highway Administration (FHWA) roadway construction noise model (RCNM);
3. Distances between construction site locations (noise source) and surrounding sensitive receptors were measured using Google Earth and figures included in Section 2.0, *Project Description*; and
4. Construction noise levels were then calculated in terms of hourly L_{eq} for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance.

The threshold for construction noise impacts is based on the Town noise ordinance. Therefore, the project would have a significant impact on noise levels, during construction if:

- *For single-family residential uses, construction activity related noise levels would exceed 75 dBA L_{eq} during the daily hours of 7:00 A.M. to 8:00 P.M. except Sundays and legal holidays.*
- *For multi-family residential uses, construction activity related noise levels would exceed 80 dBA L_{eq} during the daily hours of 7:00 A.M. to 8:00 P.M. except Sundays and legal holidays.*

(b) Construction Vibration

As described earlier, the Town's vibration perception threshold is 0.01 inches per second (RMS) over the range of one to one hundred Hz. The vibration perception threshold of 0.01 inches per second RMS would be equal to 0.04 inches per second PPV. Therefore, impacts relative to ground-borne vibration would be considered significant future event were to occur:

- Project construction activities cause a PPV ground-borne vibration level to exceed 0.04 inches per second at any off-site residential uses.

(2) Operation Noise and Vibration

(a) On-Site Noise Sources

For noise sensitive receptors, based on the Town noise ordinance described above, the project would have a significant noise impact if:

- *Project-related activities result in noise levels at an offsite sensitive receptor to exceed the presumed ambient noise levels indicated in Table 4.J-1 (if the exterior ambient noise level exceeds the permissible level within the noise limit category, the allowable noise exposure standard is increased in five (5) dBA increments in each category as appropriate to encompass or reflect the ambient noise level), or*
- *Project-related activities result in noise increases at an offsite sensitive receptor in excess of the standards in Section 8.16.070 of the Town Noise Ordinance (refer to Table 4.J-1).*

(b) Off-Site Roadway Noise

The Project related traffic would cause ambient noise levels to increase by 3 dBA CNEL or more.⁸

(c) Vibration

Ground-borne vibration impacts were evaluated by identifying potential vibration sources, measuring the distance between vibration sources and surrounding structure locations, and making a significance determination. As described earlier, the Town's vibration perception threshold is 0.01 inches per second (RMS) over the range of one to one hundred Hz, or 0.04 inches per second PPV. Therefore, impacts relative to ground-borne vibration would be considered significant future event were to occur:

- Project operational activities generate a ground-borne vibration level equivalent to or exceeding the perception threshold of 0.04 inches per second PPV at any off-site uses.

c. Project Features

Project features are requirements or components incorporated into the Project that serve to reduce or avoid impacts. Other than the Project being subject to Town code requirements related to noise, the proposed TSMP does not include noise related project features, such as specific policies or guidelines.

d. Analysis of Project Impacts

The analysis of noise impacts below applies to all future trail components associated with the Project, including the Priority Projects, unless stated otherwise.

⁸ *The Town does not have a noise threshold for traffic noise impacts. Thus, a conservative threshold of an increase in 3dBA CNEL or more is utilized as a threshold, as this increase would represent a perceivable increase to humans over the existing ambient noise level.*

(1) Construction Activities

(a) On-site Construction Noise

4.J-1 *Construction activities associated with Project implementation would be conducted within the daytime hours specified in the Town's noise ordinance. Construction noise impacts would be less than significant for the Priority Projects but would be potentially significant for the Recreation Nodes and Trail Enhancements.*

Construction activities for individual projects would be completed over the course of 10 years or greater. In order to provide a conservative but realistic analysis, it is assumed that construction activities would be completed in approximately 6 months per Project component. Construction on at least some projects could begin as early as summer 2011, though ultimately would be contingent on funding. For other Project-related trail components, construction of individual projects would occur as funding and resources become available over time with the duration of construction dependent on individual project types.

Noise from construction activities would be generated by vehicles and equipment involved during various stages of construction operations: grading, paving, building construction, and paving. The noise levels created by construction equipment will vary depending on factors such as the type of equipment, the specific model, the operation being performed and the condition of the equipment. Construction noise associated with the Project was analyzed using a mix of typical construction equipment, estimated durations and construction phasing for the Borrow Pit/Staging Area and the Recreation Node 64, which represent a worst-case construction scenario since it is located closest to sensitive receptors. The project construction noise model is based on construction equipment noise levels as published by the FHWA⁹.

In an outdoor environment, sound levels attenuate through the air as a function of distance. Such attenuation is called "distance loss" or "geometric spreading" and is based on the source configuration, point source or line source. For a point source such as construction equipment, the rate of sound attenuation is 6 dB per doubling of distance from the noise source. For example a noise level of 85 dBA at a reference distance of 50 feet from the equipment would attenuate to 79 dBA at 100 feet, and 73 dBA at 200 feet.

In order to construct TSMP projects, portions of the some existing sites would be graded. Site preparation activities typically involve the use of heavy equipment, such as dozers, tractors, loaders, paver etc. Trucks would also be used to deliver equipment and building materials, and to haul away landscape and construction debris. Smaller equipment, such as a trencher and/or a forklift could also be used during the construction phases. This equipment would generate both steady-state and episodic noise that could be heard both on and off the project site.

Priority Projects: Individual pieces of construction equipment that would likely be used for construction of the Borrow Pit/Staging Area produce maximum noise levels of 77 dBA to 85 dBA at a reference distance of 50 feet from the noise source, as shown in **Table 4.J-4, Construction Equipment Noise Levels**, below. This would be representative of a worst case scenario since the Borrow Pit/Staging Area would be the largest and most construction intensive of the Priority Projects. These maximum noise levels would occur when equipment is operating under full power conditions. However, equipment used on construction sites often

⁹ *Roadway Construction Noise Model, Federal Highway Administration, 2006*

Table 4.J-4

Construction Equipment Noise Levels

Equipment	Estimated Usage Factor, %	Typical Noise Level at 50 feet from Equipment, dBA (L_{max})
Crane	40	81
Dozer	40	82
Forklift	10	75
Graders	40	85
Other Equipment	50	85
Paver	50	77
Tractors/Loaders/Backhoes	25	80
Water Trucks	10	80

Source: FHWA Roadway Construction Noise Model, 2005.

operates under less than full power condition, or partial power. To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with each construction stage is provided in **Table 4.J-5**, *Estimate of the Borrow Pit/Staging Area Construction Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations*, below. These average noise levels are based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage, and is typically attributable to multiple pieces of equipment operating simultaneously. As shown in Table 4.J-5, the average construction-period (i.e., various construction stages) noise level is expected to range from 41 dBA to 53 dBA.

Table 4.J-5 provides the estimated worst-case construction noise levels at nearby noise sensitive receptors. Detailed noise calculations for construction activities are provided in Appendix H. The estimated noise levels represent a conservative scenario because construction activities are analyzed as if occurring along the perimeter of the construction area; whereas, construction would typically occur throughout the site, farther from noise-sensitive receptors. As shown therein, construction noise levels at the nearest noise sensitive receptor location (Location R7, approximately 2,345 feet from the Borrow Pit area) would range from 41 to 53 dBA Leq. Because this would be less than the significance threshold of 75 dBA Leq for single-family residences, construction noise impacts at the single-family neighborhood along Meadow Lane (Location R7) would be less than significant.

Recreation Nodes: Construction of improvements at recreation nodes would not occur simultaneously since construction of the various components of the TSMP would occur over an approximate 10 year period, contingent on funding and Town planning priorities. However, construction noise from improvements at Recreation Nodes would be localized, potentially affecting areas within 500 feet of the construction sites. As shown above in Table 4.J-4, noise levels generated by construction equipment would range from 75 to 85 dBA Leq at a distance of 50 feet from construction equipment. Recreation Node GIC 64, which is located approximately 80 feet from residential uses, is the nearest to sensitive uses among the Project's Recreation Nodes. It is estimated that the maximum construction related noise levels at the nearest residential receptors in the vicinity of Recreation Node 64 would range from 73 dBA to 81 dBA.

Table 4.J-5

Estimate of the Borrow Pit/Staging Area Construction Noise Levels (L_{eq}) at Off-Site Sensitive Receiver Locations

Receptors	Construction Phase	Sound Level in dBA (L _{eq}) at Indicated Distance			
		Nearest Distance between receptor and Construction Site, feet	Estimated Construction Noise Levels at the Noise Sensitive Receptor by Construction Phase, L _{eq} (dBA)	Significance Threshold	Exceeds Significance Threshold?
R7	Mass Grading	2,345	51	80 dBA	No
	Fine Grading	2,345	53		No
	Paving	2,345	41		No
	Construction	2,345	50		No

Source: PCR Services Corporation, 2011.

Noise levels usually diminish at a rate of approximately 6 dBA per doubling of distance. Thus, a noise level of 81 dBA at 80 feet to the nearest residential uses would be about 75 dBA at 160 feet at the center of the Recreation Node 64 construction site. As heavy equipment passes near the project boundary of the construction site, the peak construction noise level at a given moment in time could reach 81 dBA; however, as the equipment travels near the center of the project site, it would be approximately 160 feet from the closest residential uses and generate a lower noise level of approximately 75 dBA.

Construction activities are expected to occur only during daytime hours as described by Section 8.16.090 of the Town Noise Ordinance. However, without incorporation of mitigation measures, the construction-period noise levels at Recreation Node 64 would likely exceed 75 dBA at the nearest single-family residential uses. This is considered a short-term potentially significant impact. Implementation of Mitigation Measures 4.J-1.A, 4.J-1.B, and 4.J-1.C would ensure that potentially significant construction noise impacts are reduced to a less than significant level when noise sensitive receptors are located within 160 feet of any Recreation Node construction site.

Trail Enhancements: Single-family residential uses would be located within 50 feet of certain of the proposed Multi-Use Paths (MUPs). For future MUPs, construction activities would be generally limited to clearing and grubbing of vegetation, and paving. Equipment used for these activities would result in construction related noise levels up to 77 dBA at the residential uses in proximity to Future MUP construction sites. The construction noise levels would be up to approximately 2 dBA above the allowable 75 dBA noise standard. Therefore, construction noise impacts, while temporary, would be potentially significant at noise sensitive receptor locations in close proximity to proposed MUPs. Therefore, Mitigation Measures 4.J-1.A, A.J-1.B, and A.J-1.C are recommended to reduce potential significant noise impacts to less than significant when any noise sensitive receptors are located within 80 feet of a MUP construction site.

(b) Ground-Borne Vibration during Construction

4.J-2 Construction activities would have a minimal effect on the existing vibration environment within and adjacent to the Project Area. Thus, construction vibration impacts would be less than significant.

Construction activities can generate varying degrees of ground vibration, depending on the construction procedures and the construction equipment used. The operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receptor buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach the levels that damage structures. The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. The peak particle velocities for construction equipment pieces anticipated to be used during project construction are listed in **Table 4.J-6, Typical Vibration Velocities for Potential Project Construction Equipment.**

Table 4.J-6

Typical Vibration Velocities for Potential Project Construction Equipment

Equipment	Reference Vibration Velocity Levels at 25 ft, inch/second
	PPV ^a
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

^a FTA's "Transit Noise and Vibration Impact Assessment", Table 12-2.

Source: USDOT Federal Transit Administration, 1995

Project construction activities would generate ground-borne vibration during site clearing and grading activities or large bulldozer operation where heavy construction equipment would be required. Based on the vibration data provided in Table 4.J-6, vibration velocities from the operation of project construction equipment would range from approximately 0.003 to 0.089 inches per second PPV at 25 feet from the source of activity. Recreation Node GIC 64, which is located approximately 80 feet from residential uses, is the nearest of the Recreation Nodes to sensitive uses and represents a worst case vibration scenario. At Recreation Node 64 then nearest sensitive uses could be exposed to vibration velocities ranging from 0.001 to 0.016 inches per second PPV. Since this value is below the 0.04 inches per second (PPV) threshold, vibration impacts during construction would be less than significant.

(2) Operational

(a) Operational Noise

4.J-3 Project implementation would have a minimal effect on the existing noise environment within and adjacent to the Project Area. Thus, long-term noise impacts would be less than significant.

Potential new sources of long-term noise associated with Project implementation include: increased activity on trails and at staging areas, recreational nodes and related facilities within the Project Area; and long-term maintenance activities. These potential noise sources are discussed below.

Priority Projects: The nearest sensitive receptors to the Priority Projects are residential uses located along Meadow Lane, approximately 2,345 feet to the northwest of the Borrow Pit site. Existing residential sensitive receptors are also located 2,485 feet to the west of the Borrow Pit site, along Fairway Court. Future single family residences within the Snowcreek VIII Tract on Fairway Drive and Old Mammoth Road located 1,050 feet to the west of the Borrow Pit site. Occupancy of Snowcreek VIII is projected for 2017. Because other priority projects are not located close to sensitive receptors, noise impacts associated with implementation of these projects would not be significant.

The Borrow Pit Site's contemplated improvements include parking, bathrooms, an education/interpretive area. The education/interpretive related activities at the Borrow Pit Site are likely to be similar to that of educational uses such as lectures or instruction of expanded environmental curriculum programs. This equates to a noise level of 14 dBA at 1,050 feet. Therefore, the operational noise levels related to the education/interpretive area would not exceed noise threshold in Table 4.J-1 at the future Snowcreek VIII since the future Snowcreek VIII would be located 1,050 feet away from the proposed education/interpretive area. Therefore, operational noise impacts related to the education/interpretive area would be less than significant.

Changing the USFS Maintenance Level on Sherwin Creek Road would allow off-highway vehicle (OHV) users to ride directly from the Borrow Pit staging area and then along Sherwin Creek Road to routes open to the east, without needing to stage farther down the road. The OHV staging area would be located approximately 1,050 feet from the future Snowcreek VIII, which would be the nearest sensitive use to the OHV staging area. Noise level generated by OHV would be approximately 94 dBA Leq at a distance of 6 feet from an OHV. The noise level of 94 dBA at a reference distance of 6 feet would attenuate to 49 dBA at 1,050 feet from OHV users, which would not exceed the noise threshold in Table 4.J-1 at the future Snowcreek VIII. In addition, noise sensitive receptors are not located along Sherwin Creek Road. Therefore, OHV related noise impacts would be less than significant.

During the winter, this area would allow for a separate parking area for over-snow vehicles (OSVs). The OSV parking area could increase the frequency of noise levels along the trail system. However, based on analysis provided in the traffic report, increased OSV volumes would not be significant and the trails are currently being used for OSV. Accordingly, the incremental increase in trail usage related noise levels associated with OSVs would not be substantial enough to exceed noise the threshold in Table 4.J-1 at the future Snow Creek VIII. As such, impacts would be less than significant.

As discussed above, the OHV staging area and the OSV parking area could increase the frequency of noise levels along the trail system audible to non-motorized trail users. Although no specific quantitative

threshold is in place to determine impacts to these users, noise from motorized vehicles can be disruptive to the experience and enjoyment of recreation areas. However, the trails are currently being used by OHVs and OSVs and, based on analysis provided in the traffic report, increased OHV and OSV volumes would not be significant. The TSMP does not propose to expand areas open to motorized vehicle use, or to designate additional trails or roadways for motorized use.¹⁰ Accordingly, the incremental increase in trail usage related noise levels associated with OHVs and OSVs would not be substantial enough to exceed noise thresholds in Table 4.J-1. As such, impacts would be less than significant.

The major Multi-Use Staging Area at the Borrow Pit is currently used for parking. However, the improved parking area could increase the activity and respective noise levels in the vicinity of the parking lot area. According to the Traffic Study, the increase in parking demand generated by the proposed soft-surface trails is expected to be minimal. Therefore, the improved parking area would have a minimal effect on the existing noise environment within the local vicinity. The nearest future residential uses, Snow Creek VIII, would be located approximately 1,050 feet from the parking area. A slamming car door would generate an intermittent noise level of approximately 70 dBA at a distance of 25 feet, which equates to a noise level of 38 dBA at 1,050 feet. Because this would not exceed the noise impact threshold at the nearest sensitive receptor location, impacts would be less than significant.

Recreation Nodes: Many of the trail and bikeway projects would increase access and use of the Town's activity centers and recreation nodes. Thus, the TSMP recommends improvements and projects that are specific to individual recreation nodes. Improvements at specific recreation nodes include amenities such as signage, parking, and restroom facilities. Various noise events would occur periodically from the parking lots. Such periodic events may include activation of car alarms, sounding of car horns, slamming of car doors, engine revs, and tire squeals. Moving automobile noise would comprise the highest continuous noise source and would generate a noise level of approximately 65 dBA at a distance of 25 feet.¹¹ This equates to a noise level of 55 dBA at 80 feet at the nearest noise sensitive receptor locations at the proposed Recreation Node, GIC 64. A noise level of 55 dBA at 80 feet would be below the significance threshold of 65 dBA for automobile noise.¹²

A slamming car door would generate an intermittent noise level of approximately 70 dBA at a distance of 25 feet.¹³ This equates to a noise level of 60 dBA at 80 feet. A noise level of 60 dBA at 80 feet would be below the significance threshold of 75 dBA.¹⁴ Since all new facilities, including parking lot facilities, would be located at least 80 feet from the nearest residence, less than significant parking lot related noise impacts would occur to nearby noise sensitive receptors (i.e., single-family residences).

¹⁰ *Sherwin Creek Road is open to motorized vehicles other than OHV/OSVs.*

¹¹ *Noise measurements conducted for a moving automobile in a parking lot, PCR, May 1998.*

¹² *The 65 dBA noise threshold is based upon the allowable noise levels in Table 4.J-1. It is assumed that moving automobile noise would occur for approximately 5 minutes per hour in the parking lot of the Node, GIC 64. Thus, the permitted noise increase would be 10 dBA over the allowable noise level of 55 dBA for daytime hours (refer to Table 4.J-1).*

¹³ *Noise measurements conducted for a car door slamming in a parking lot, PCR, May 1998*

¹⁴ *The 75 dBA noise threshold is based upon the allowable noise levels in Table 4.J-1. Since it is assumed that car door noise would occur for less than one minute per hour in the parking lot of the Node, GIC 64, the permitted noise increase is 20 dBA over the allowable noise level of 55 dBA for daytime hours (refer to Table 4.J-1).*

Trail Enhancements: Trail activity related noise could be generated from enhanced trail system. As indicated above, the ambient noise levels in the Project Area (measurement locations R1 through R12) range from 50 to 62 dBA. The TSMP implementation would not increase trail use by non-motorized users. Therefore, future trail activity related maximum noise levels along trails network would be similar to the current ambient noise levels ranging from 50 to 62 dBA. Therefore, trail related activity noise levels would not exceed the noise threshold in Table 4.J-1. As such, trail activity related noise impacts would be less than significant.

The TSMP identifies a number of bike lane projects on arterial, collector and local streets to be included as part of the trail system network. Increased bike lanes use could increase the frequency of noise levels along the bike lanes. However, bicycles do not generate significant amounts of noise, and increased bike lane usage would be expected to change the ambient noise levels by less than 1 dBA. Therefore, impacts would be less than significant.

As discussed in the Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum, the Project would not significantly change traffic volumes at any one location.¹⁵ Although traffic volumes in Mammoth are generally expected to increase in the future, the Project is not expected to result in a significant impact on traffic operations under future cumulative conditions. The maximum increase in project-related traffic noise levels would be less than 1 dBA, which fall below the conservative 3 dBA CNEL significance threshold and, as such, would result in a less than significant impact. The traffic analysis also projects potential beneficial impacts to traffic volumes town-wide by offering alternatives to private automobile use through a better integrated and functioning trail network; this may result in an improvement to projected noise levels from traffic.

Maintenance Activities: Management and maintenance activities may include activities such as vegetation clearing, sweeping, surface repair, and winter grooming or clearing of existing and proposed trails. It is generally assumed that trails, bike facilities and MUPs located within the Urban Growth Boundary, and within Town rights-of-way on easements within private property would be managed and maintained by the Town of Mammoth Lakes. These activities would result in short-term noise similar to noise generated by existing, on-going maintenance activities in the Town of Mammoth Lakes that are subject to the limitations set forth in the Town's Noise Ordinance. As with other on-going activities within the Town of Mammoth Lakes, it is presumed that maintenance activities associated with the Project would be subject to the same regulatory constraints and would not be permitted to exceed the Town's noise limits or substantially change existing ambient noise levels. Maintenance activities on trails segments within National forest lands would be subject to applicable USFS standards and guidelines for noise, consistent with use permit or other requirements imposed by USFS. Therefore, impacts would less than significant.

(b) Operational Vibration

4.J-4 *Project implementation would not generate excessive vibration levels to nearby sensitive receptors. Thus, long-term vibration impacts would be less than significant.*

¹⁵ Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum, LSC Transportation Consultants, Inc., March 4, 2011.

The Project includes an enhanced in-town network of multi-use paths, trails and bikeways and improved access to trails and backcountry experiences beyond the Town's UGB. The primary sources of transient vibration would include passenger vehicle circulation within the proposed parking lots. Ground-borne vibration generated by each of the above-mentioned activities would be similar to the existing sources (i.e., traffic on adjacent roadways and existing parking along streets) within the Project Area. The potential vibration impacts from all future individual project sources at the nearest sensitive receptor locations would be less than the significance threshold of 0.04 inches per second PPV for perceptibility since ground-borne vibration generated by each of the above-mentioned activities would be similar to the existing sources. As such, vibration impacts associated with operation of the Project would not exceed the significance threshold and impacts would be less than significant.

3. MITIGATION MEASURES

The following mitigation measures address the potentially significant noise impacts from the Project.

a. Construction Noise and Vibration

As noise associated with on-site construction activity would have the potential to result in a significant impact at noise sensitive receptor uses located within 160 feet from Recreation Nodes and 80 feet from MUPS construction sites, the following measures are prescribed to minimize construction-related noise impacts.

Noise

Mitigation Measure 4.J-1.A: Engine idling from construction equipment such as bulldozers and haul trucks shall be limited, to the extent feasible.

Mitigation Measure 4.J-1.B: The construction staging areas shall be located as far as feasible from sensitive receptors.

Mitigation Measure 4.J-1.C: All construction activities shall comply with the Town's Noise Ordinance.

Vibration

No mitigation measures are necessary.

b. Operational Noise and Vibration

No mitigation measures are necessary.

4. CUMULATIVE IMPACTS

4.J-7 *The project combined with cumulative projects would not impact noise sensitive uses in the vicinity of the project area.*

As discussed above, the Snow Creek VIII is expected to be occupied by 2017, located 1,050 feet west of the Major Multi-Use Staging Area at the Borrow Pit. Noise from construction of the Project and the Snowcreek VIII would be localized, thereby potentially affecting areas immediately within 500 feet from the construction site. Due to distance attenuation (more than 2,300 feet away), construction noise from one site would not result in a noticeable increase in noise at sensitive receptors near the other site, which would preclude a cumulative noise impact.

Noise from on-site construction activities are localized and would normally only affect areas within 500 feet from individual construction sites. Since the timing of the construction activities for related projects cannot be defined and are beyond the control of the Town, any quantitative analysis that assumes multiple, concurrent construction projects would be speculative. However, short-term cumulative impacts could occur at the noise sensitive receptors where trucks from the Project Area and related projects are using the same roadways that have adjacent sensitive uses. Thus, even with proposed mitigation measures, if nearby related projects were to be constructed concurrently with the Project Area, significant and unavoidable cumulative construction noise impacts could result. However, those noise levels would be intermittent, temporary and would cease at the end of the construction phase. In addition, activities associated with related projects would be required to comply with time restrictions and other relevant provisions in the Town's noise ordinance. Noise associated with cumulative construction activities would be reduced to the degree reasonably and technically feasible through proposed mitigation measures for each individual project and compliance with the Town's noise ordinances. As such, cumulative impacts associated with construction noise would be less than significant.

Due to the rapid attenuation characteristics of ground-borne vibration and distance of the related projects to the Project Area, there is no potential for a cumulative construction - or operational-period impact with respect to ground-borne vibration.

Urbanized portions of the project area have been developed with uses that generate noise from lawn maintenance activities, mechanical equipment (e.g., air conditioning, heating, and ventilation systems), and vehicle movements, among other community noise sources. Outside of the urbanized area, noise from motorized vehicles, including OHV and OSVs, is generated under existing conditions, since these uses are permitted and common throughout the study area. As demonstrated above in operational noise analysis, noise impacts related to the Project Area from the Project would be less than significant. Each of the related projects within the Project Area would generate stationary-source and mobile-source noise due to on-going day-to-day operations. The related projects would be consistent with the existing land uses in the vicinity of the Project Area and not typically associated with excessive exterior noise. Due to the Town's provisions that limit exterior noise levels, noise levels would be less than significant at the property line for each related project. For this reason, on-site noise produced by any related project would not be additive to the Project-related noise levels. In addition, the Snowcreek VIII is of sufficient distance approximately 1,050 feet from the proposed project such that operational noise levels from these projects would not be audible noise at the project site. As such, cumulative noise impacts related to long-term project operations would be less than significant.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Noise level reductions attributable to mitigation measures Mitigation Measure 4.J-1.A, Mitigation Measure 4.J-1.B, and Mitigation Measure 4.J-1.C are not easily quantifiable. However, implementation of such

measures would reduce construction noise impacts associated with development of TSMP and SHARP projects to the extent practicable. Although the 75 dBA noise level may be exceeded at points in the construction process of Recreational Nodes and trail improvements, it may not be considered feasible to maintain noise below this level throughout construction for every individual project, even with incorporation of noise reduction measures. While construction noise levels could exceed allowable noise standards, such noise would be short-term and would occur only on an intermittent basis during project construction. Further construction activities would be expected to occur only during daytime hours as described by Section 8.16.090 of the Town Noise Ordinance. Based on these considerations, construction-related noise impacts are concluded to be less than significant for the construction of Recreational Nodes and trail improvements.

Noise and vibration impacts associated with project operations would be less than significant and no mitigation measures would be required.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

K. RECREATIONAL RESOURCES

INTRODUCTION

The purpose of this section is to provide an analysis of the Project's effect on the Project Area's existing recreational resources and whether the Project's proposed recreational components would result in secondary physical impacts. In addition, this section analyzes the Project's consistency with the policies and regulations set forth in local and regional plans that are applicable to recreational resources. In the Town and respective planning area, applicable, adopted plans include the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan (LRMP). The provisions set forth in these plans have been adopted for the purpose of administering recreational resources.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Town of Mammoth Lakes General Plan

The Town of Mammoth Lakes General Plan is made of a range of elements, or subject areas, that are integral to the unique identity of Mammoth Lakes. The *Parks, Open Space and Recreation* element of the General Plan applies to the recreational opportunities provided under the TSMP. Within the *Parks, Open Space, and Recreation* element are the *Trail System, Recreational Opportunities, and Connected Throughout* components. The goals of the *Trail System* component are addressed in Chapter 4.I, *Land Use and Planning*, of this EIR. The other recreational policies of the General Plan, including *Recreational Opportunities* and *Connected Throughout*, are described and addressed in this section. Applicable goals and policies of the General Plan to the Project are listed below.

Recreational Opportunities

P.4. GOAL: Provide and encourage a wide variety of outdoor and indoor recreation readily accessible to residents and visitors of all ages.

P.4.A. Policy: Expand recreational opportunities by proactively developing partnerships with public agencies and private entities.

P.4.B. Policy: Provide an affordable and wide range of year-round recreational opportunities to foster a healthy community for residents and visitors. Activities include but are not limited to:

- Downhill skiing & snowboarding
- Day & backcountry hiking
- Cross-country skiing
- Walking
- Fishing
- Sleigh rides
- Fall-color viewing
- Tennis

- Back-country skiing & snowboarding
- Interpretive trails & signage
- Snowshoeing
- Climbing
- Sledding
- Touring
- Dog sledding
- Street & mountain biking
- Ice skating
- Camping
- Snowmobiling
- Birding
- Swimming
- Health & fitness
- Soccer
- Off-highway vehicles
- Racquetball
- Equestrian activities
- Snow play
- BMX
- Skateboarding

P.4.C. Policy: Ensure balance of use, enjoyment and separation where appropriate between motorized and non-motorized modes of recreation.

P.4.C.1. Action: Specifically address use, needs and operations of motorized and non-motorized recreation users in a year round comprehensive recreation plan.

Connected Throughout

P.5. GOAL: Link parks and open space with a well-designed year-round network of public corridors and trails within and surrounding Mammoth Lakes.

P.5.A. Policy: Create open space corridors by combining open space on neighboring properties.

P.5.B. Policy: Design and construct trails as components of a regional and local network for recreation and commuting.

P.5.C. Policy: Require development to incorporate linked public trail corridors identified in the Mammoth Lakes Trail System Plan into overall project site plan.

P.5.C.1. Action: Prepare an expanded Master Plan to link trails, parks and open space.

(2) Inyo National Forest Land and Resource Management Plan

The LRMP prescribes management direction for the multiple use and sustained yield of public benefits for the Inyo National Forest. According to the LRMP, recreation is the most significant resource on the Inyo National Forest, and the Forest is expected to continue in providing recreational opportunities for the foreseeable future. The LRMP states that the economic stability of all Eastern Sierra communities rests heavily on recreation-based income and that most of the major attractions that bring recreationists to the area are located on Inyo National Forest land.

According to the LRMP, on lands with potential for both recreation and other resources, current practice usually emphasizes recreational values. The LRMP further states that an opportunity exists in which it can be decided which areas will be managed for varying recreational opportunities, how those opportunities will be enhanced, and what types of resource management are consistent with a recreation emphasis. According to the LRMP, the demand for recreation in the Mammoth area is heavily tied to the population of Southern

California. The LRMP expects demand to exceed the existing capacity of many USFS recreational facilities and that the current emphasis on destination-oriented camping in the Forest will continue. LRMP recreational policies are as follows:

- Construct and maintain facilities and sites to regional standards.
- Construct and maintain sites and associated water systems and wastewater treatment plants to Facility Condition Class 1 as defined in the recreation resource inventory.
- Emphasize permitted activities rather than prohibited ones on signs to lessen recreation use conflicts.
- Provide screening and shade, using vegetation and/or artificial structures, to increase use on less attractive sites.
- Develop new campsites in concentrated recreation areas before other locations to generate increased use and higher return to the U.S. Treasury.
- Develop associated day-use facilities and interpretive and informational sites and trails, together with overnight campgrounds, to achieve a balanced facility package.

The Project Area includes Management Area No.8, the Mammoth Escarpment, and Management Area No. 9, Mammoth. Management Area No. 8 incorporates Mammoth Lakes Basin and Management Area No.9 contains private land within the Town of Mammoth Lakes and USFS land adjacent to the Town, to the east of Lake Mary Road. The LRMP sets forth policies for the management of recreational resources in the designated Management Areas. Recreational resources prescriptions/policies that are applicable to Management Area No.8, a designated Concentrated Recreation Area, include the following:

- Develop recreation campsite plans to inventory, coordinate and program the full summer and winter recreation development potential in the area in Prescription No.12 (Lakes Basin).
- Identify and program dispersed trail facilities in the areas in the Lakes Basin.
- Include hiking and equestrian trail opportunities in all areas and bicycle trails in the Lakes Basin. Include opportunities for mountain bike trails within the Management Area.
- Interface trail systems with the community.
- Maintain levels of reservoirs in Mammoth Lakes Basin to desirable levels for recreation use and scenic enhancement during the entire summer use season.
- Emphasize day-use activities within the Mammoth Lakes Basin by developing needed day-use facilities to complement overnight campgrounds.
- Limit resort capacity in the Mammoth Lakes Basin to 10 percent above 1985 levels. Emphasize development of front county trails, particularly those linking Mammoth to the Forest.
- Maintain current use patterns and open space on National Forest Service System lands adjacent to Valentine Reserve.

Recreational policies related to Management Area No.9 include the following:

- Provide trail interface opportunities with the community of Mammoth Lakes.

- Maintain open space access adjacent to the Town of Mammoth Lakes for passive recreation use.
- Prohibit dispersed camping throughout the Management Area.
- Prohibit development of Shady Rest beyond existing perimeter roads and north of the power line right-of-way.
- Allow development of Mammoth Creek Park by the Town of Mammoth Lakes.
- Identify and program the expansion potential of the Shady Rest and Sherwin Creek Campground complexes and develop as funds become available.
- Fully develop the interpretive potential of Hot Creek geologic site as funds become available.

b. Existing Conditions

The Town of Mammoth Lakes is currently developing a “Parks and Recreation Master Plan” in addition to the TSMP, as directed under the Town’s General Plan. The intention of the Town with these plans is to enhance and expand public access to trails and enhance other recreational facilities to accommodate existing public need. Existing parks operated by the Town and/or located in the vicinity of the Project Area are listed below:

- Mammoth Creek Park (East and West) – This 5-acre park is located off Old Mammoth Road near Meridian Boulevard and includes the Hayden Cabin museum, picnic tables, restroom facilities, children's play area, art sculpture, walking and biking trails, and paved parking. In addition, the park has trailheads for paved MUPs that connect to the Town’s Main Path. Mammoth Park East is located on National Forest land and is operated by the Town under a USFS Special Use Permit.
- Shady Rest Park – This 12.5-acre park is located on Sawmill Cutoff Road to the north of SR-203 and is the main active sports municipal park in the Town. It includes a soccer field, softball fields, restrooms, BMX park, two sand volleyball courts, picnic areas, a play area, and paved parking. This park is located on National Forest land and is operated by the Town under a USFS Special Use Permit.
- Community Center Park – This 4.5-acre park is located at 1000 Forest Trail and includes the Community Center, library, children's play area, six tennis courts, picnic tables, walking paths, restrooms, and paved parking. The Community Center includes a kitchen, stages, and other facilities and is primarily used for public meetings including Town Council meetings.
- Whitmore Park - This 18.66-acre park is located along US-395 at Benton Crossing and contains three baseball/softball diamonds, restrooms, picnic facilities community swimming pool, and paved parking. The park is operated jointly by the Town and Mono County on land leased from the Los Angeles Department of Water and Power. An all-weather track facility has been proposed for this park and is currently undergoing project and environmental review.
- Trails End Park - This 2-acre park is located along Meridian Boulevard south of Commerce Drive and includes Brothers Skate Park, and restroom facilities. Expansion of this park to include a playground area is expected in the next one to two years.

The USFS operates numerous campgrounds within the vicinity of the Town including the following:

- Sherwin Creek Campground - This facility is located just to the south of the Town, via Sherwin Creek Road, near the confluence of Sherwin and Mammoth Creeks. The campground offers 87 campsites, a convenience store, fishing supplies and opportunity for fly fishing in Sherwin and Mammoth Creeks.
- Lake Mary Campground - This 48 campsite facility is located near and along the shore of Lake Mary. Lake Mary has no boat ramps, but carry-down access for non-motor and motor boats is available.
- Coldwater Campground, - This 77 campsite facility is located to the south of Lake Mary along upper Mammoth Creek and is within walking distance to Lake Mary.
- Pine City Campground - This 10-campsite facility is located on the southeast shore of Lake Mary.
- Twin Lakes Campground - This 92-campsite facility is located on the shores of Twin Lakes, and offers rustic cabins, a lodge, a store, and rental canoes and rowboats.
- Shady Rest Campgrounds - The Old Shady Rest and New Shady Rest campgrounds are located north of Highway 203 at the east entry to town. The campgrounds together offer 130 campsites.

In addition to these facilities, the Town includes a network of bike paths and trails, as described in Chapter 2, *Project Description*, of this EIR.

The Sherwins Area is located on National Forest lands within the Town's Planning Area, but outside the Municipal Boundary. It consists of a diverse high-desert landscape that contains such features as Mammoth Rock, the Sherwin Range, Hidden Lake, Panorama Dome, Solitude Canyon, and Mammoth Meadows as well as forests, wetlands, bodies of water, and wildlife. While recreation use in the Sherwins area has traditionally been high, no formal trailheads or facilities (benches, restrooms, parking, trash receptacles) exist at this time and the area receives no maintenance. The area has a mix of trails, some of which are part of the Inyo National Forest trail system, others that have been user created, and some that are remnants of historical use. Facilities in this area include USFS recognized trails (such as the Mammoth Rock Trail), USFS and Town roads (such as 4S100 and Sherwin Creek Road), a portion of the legacy Blue Diamond Trail System, and unofficial social trails.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Appendix G of the CEQA Guidelines contains the Initial Study Environmental Checklist form used during preparation of the project Initial Study, which is contained in Appendix A of this EIR. The Initial Study Environmental Checklist includes questions relating to recreation. The Initial Study Environmental Checklist questions relating to recreation have been utilized as the thresholds of significance in this section. An additional threshold has been added to address the Project's consistency with adopted plans, policies, and regulations to determine whether the Project could impede the recreational goals of such plans and policies in a manner that could result in a significant physical impact. Accordingly, a project may create a significant environmental impact if it causes one or more of the following to occur:

Threshold 1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (refer to Impact Statement 4.K-1);

- Threshold 2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment (refer to Impact Statement 4.K-1); and
- Threshold 3: Inconsistent with adopted plans, policies, and regulations in a way that would impede the recreational goals of such plans and policies in a manner and result in a significant physical impact (refer to Impact Statement 4.K-2).

b. Methodology

The analysis of impacts to recreational resources considers the effects of the Project on existing parks and recreational facilities with respect to potential increases in demand and use of existing facilities. In addition, the analysis discusses whether the Project could result in any secondary physical impacts on the environment, particularly with respect to National Forest lands. The analysis also addresses the consistency of the project with adopted plans and policies that regulate these resources. Any inconsistencies with the policies of adopted plans are identified, and inconsistencies that would result in significant physical impacts are considered significant impacts. Applicable policies are those considered directly relevant to the components of the TSMP and SHARP. Because of the recreational character of the Project, Chapter 4.I, *Land Use and Planning*, of this EIR addresses applicable plans and regulatory measures specifically related to trails. Recreational policies, such as the *Recreational Opportunities* and *Connected Throughout* components of the *Parks, Open Space, and Recreation* element of the General Plan were not previously addressed in the Chapter 4.I. The policies of the Town of Mammoth Lakes Draft Parks and Recreation Master Plan (PRMP) is not evaluated in this chapter, since PRMP policies applicable to the TSMP are identical to those set forth in the General Plan.

c. Project Components

As discussed in detail in Section 2.0, *Project Description*, of this EIR, the Project would expand upon the existing trails system within the Town and adjacent National Forest lands by providing additional MUPs, Class I and II bike lanes, soft-surface trails, and improvements to recreational nodes. These components are considered as recreational resources to be provided by the Project. Please refer to Section 5, *Description of the Proposed Project*, in Section 2.0, *Project Description*, for a detailed discussion of the Project's proposed components that would provide new recreational resources within the Town and adjacent National Forest lands.

d. Analysis of Project Impacts

The analysis of Project impacts regarding recreational resources below applies to all future trail components associated with the Project, including the Priority Projects, unless stated otherwise.

(1) Effect of the Project on Existing Recreational Resources

4.K-1 The Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or cause the need to construct new or expanded alternative recreational facilities, the construction of which would result in adverse secondary physical effects. Thus, less than significant impacts to recreational facilities would occur with Project implementation.

Proposed MUPs, bike paths, crossing improvements and other improvements under the Project within the Town's UGB would primarily be located along existing roadways and, therefore, would not result in substantial direct impacts to existing parks and recreational resources. Project-related improvements to recreational nodes and park facilities would be provided primarily within existing developed recreational areas and would improve the use, or expand the capacity, of such areas. To this extent, the Project would contribute to the Town's existing recreational resources. The recreational character of the Project would be consistent with the character of the community, which is based largely on the recreation industry, and consistent with the types of uses encouraged on National Forest lands. Because the Project would add recreational uses, it would increase the supply of recreational resources within the Town. The increase in recreational opportunities in the Town represented by the Project would lighten rather than increase demand for existing facilities in the Town. In addition, by adding new recreational opportunities within the Town and adjacent National Forest lands, the Project would ease the concern of the LRMP that demand would exceed the capacity of USFS facilities in the future. Therefore, the impact of the Project on the condition and capacities of existing recreational facilities would be less than significant.

The trails and trailheads proposed under the Project would improve access to National Forest lands surrounding the Town, particularly in the Sherwins Area. In addition, increased access to existing parks and recreational areas in the Lakes Basin would occur. The proposed trails, however, would generally not provide access to areas that are not currently accessible via existing roadways or informal trails. In the Sherwins Area, while some new trails would be developed, many of the SHARP projects would replace existing informal trails with appropriately designed trails and related improvements such as interpretive and wayfinding signage, restrooms at trailheads, and improved parking. These facilities would improve the safety and use of the area, as well as improve trail conditions and user experience. Generally, formal trails proposed under the SHARP would consolidate existing informal paths; incorporate erosion control; discourage use of informal, unmanaged trails; avoid wetlands; and, through informational signage, discourage the use of more sensitive habitat areas. Because the SHARP would reduce the existing web of informal, unmanaged trails in the Sherwins Area and provide signage, restrooms, and parking in an area already accessible through the existing informal trails, it would enhance recreational resources in this area. Overall, because the SHARP would not result in the substantial detrimental physical change in, or exceed the capacity of, existing recreational resources, the SHARP would have a less than significant impact relative to recreational resources.

Other direct and indirect environmental effects of the Project relative to the viability of National Forest lands as a recreational resource (in the Project Area) include impacts on the area's biological and cultural resources, and impacts relative to aesthetics, soils, geology, hydrology/water quality, noise, air quality, and fire hazards. These are addressed in the respective sections of this EIR (see Sections 4.A, *Aesthetics and Visual Resources*; 4.B, *Air Quality*; 4.C, *Biological Resources*; 4.D, *Cultural Resources*; 4.E, *Geology and Soils*; 4.G, *Wildland Fires and Fire Protection Services*; 4.H, *Hydrology and Water Quality*, and 4.J, *Noise*, of this Draft EIR). As described in these sections, respective environmental impacts in these subject areas would be reduced to less than significant levels through the implementation of mitigation measures. Therefore, direct and indirect impacts on the National Forest lands as a recreational resource would be less than significant.

(2) Consistency of the Project with Applicable Plans and Policies

4.K-2 The Project would be consistent with the recreational policies of applicable adopted plans, including the Town of Mammoth Lakes General Plan and the Inyo National Forest Land Resources and Management Plan. Recreational impacts with respect to adopted plans would be less than significant.

(a) Town of Mammoth Lakes General Plan

The purpose of the TSMP is to update the 1991 Trail System Plan, in accordance with the policies of Town of Mammoth Lakes General Plan. As previously described, the General Plan includes policies that are specific to the development of trails and similar facilities. The Project is compared to the policies of the General Plan in **Table 4.K-1, Consistency of the Project with Applicable Policies of the General Plan**, below. As discussed in the comparison of the Project to applicable recreation policies of the General Plan, the Project would be consistent with the Recreational Opportunities and Connected Throughout policies of the General Plan. Therefore, recreational resources impacts with respect to this plan would be less than significant. Also refer to Section 4.I, Land Use, of this EIR for a more thorough evaluation of the Project's consistency with the General Plan.

(b) Inyo National Forest Land and Resource Management Plan

Recreational policies of the LRMP that would be applicable to the Project include: (1) Construct and maintain facilities and sites to regional standards; (2) Identify and program dispersed trail facilities in the areas in the Lakes Basin; (3) Include hiking and equestrian trail opportunities in all areas and bicycle trails in the Lakes Basin; (4) Interface trail systems with the community and (5) Provide trail interface opportunities with the community of Mammoth Lakes. The Project is compared to each of these policies in Chapter 4.I, *Land Use and Planning*, Table 4.I-2. As shown in Table 4.I-2, the Project would be consistent with the applicable LRMP policies. Therefore, recreational resources impacts with respect to this plan would be less than significant.

3. MITIGATION MEASURES

No mitigation measures are necessary.

4. CUMULATIVE IMPACTS

4.K-3 The build-out of the Project in combination with cumulative development within the Town or surrounding National Forest lands would result in less than significant cumulative recreational impacts.

The Project would have a beneficial land use effect in that it would add to the area's recreational resources. The on-going development of the trails, improvements to recreational nodes, signage, and other associated components under the Project would not, in itself, be considered cumulative. Other cumulative development that would result in additional recreational resources would also likely benefit the community. Because the Project would not result in adverse recreational impacts, the build-out of Project, in combination with other cumulative development would result in less than significant cumulative recreational impacts.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

The Project would result in less than significant recreation impacts. Thus, no mitigation measures are necessary.

Table 4.K-1

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

Policy	Consistency Analysis
Recreational Opportunities	
<p>P.4. GOAL: Provide and encourage a wide variety of outdoor and indoor recreation readily accessible to residents and visitors of all ages.</p> <p>P.4.A. Policy: Expand recreational opportunities by proactively developing partnerships with public agencies and private entities.</p> <p>P.4.B. Policy: Provide an affordable and wide range of year-round recreational opportunities to foster a healthy community for residents and visitors. Activities include but are not limited to:</p> <ul style="list-style-type: none"> • Downhill skiing & snowboarding • Day & backcountry hiking • Cross-country skiing • Walking • Back-country skiing & snowboarding • Interpretive trails & signage • Snowshoeing • Climbing • Sledding • Touring • Dog sledding • Street & mountain biking • Snowmobiling • Fishing • Sleigh rides • Ice skating • Camping • Fall-color viewing • Tennis • Birding • Swimming • Health & fitness • Soccer • Off-highway vehicles • Racquetball • Equestrian activities • Snow play • BMX <p>P.4.C. Policy: Ensure balance of use, enjoyment and separation where appropriate between motorized and non-motorized modes of recreation.</p>	<p>Consistent: The Project would provide a wide variety of outdoor recreational uses and enhance access to outdoor recreational resources.</p> <p>Consistent: TSMP Recommendation G12 recommends that the Town seek opportunities to form partnerships with local non-governmental organizations that may be able to assist in the planning, development and/or maintenance of the trail system. In addition, the incorporation of the SHARP, which is the product of a diverse coalition of volunteer citizens, the Town and the USFS, indicates the the commitment of the Town to coordinate with multiple agencies and jurisdictions in the development of the trail system.</p> <p>Consistent: The trail system envisioned under the Project would provide increased access for residents and visitors to the activities identified in the policy.</p> <p>Consistent: The Project would accommodate a balance of motorized and non-motorized activities, including enhancement of OHV and OSV access, while expanding non-motorized trails and trailheads. The Project would also support the separation of motorized and non-motorized activities, as evident in the TSMP's support of MUPs through Recommendations MUP1 through MUP4</p>

Table 4.K-1 (Continued)

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

Policy	Consistency Analysis
<p>P.4.C.1. Action: Specifically address use, needs and operations of motorized and non-motorized recreation users in a year round comprehensive recreation plan.</p>	<p>which include MUP projects within The Town and beyond the UGB; Recommendation X3 for grade-separation of MUP crossings of arterial streets; and Recommendations B2 and B3 which include bike lanes on major arterials and collector streets; and Recommendation B4 which includes bike lanes on local streets and recommends measures to increase separation between motor vehicles and bicycles.</p> <p>Consistent: The Project is a comprehensive plan that addresses the needs and operations of motorized and non-motorized recreation users.</p>
<p>Connected Throughout P.5. GOAL: Link parks and open space with a well-designed year-round network of public corridors and trails within and surrounding Mammoth Lakes.</p>	<p>Consistent: Figures 2-1 to 2-7 in Section 2.0, <i>Project Description</i>, identify the Town’s existing and proposed trail facilities. As shown therein, the proposed trail facilities would help link the Town’s parks and open space facilities.</p>
<p>P.5.B. Policy: Design and construct trails as components of a regional and local network for recreation and commuting.</p>	<p>Consistent: The Project would provide a regional and local network for recreation and commuting. The program of MUPs, bike paths, and bike routes within the Town would improve connections to recreational facilities throughout the Town and in the adjacent Lakes Basin and Mammoth Mountain area. For example, the development of the SHARP Project No. 6 (summer) would connect the existing MUP at Mammoth Park East to the future network of recreational trails on USFS lands. The TSMP also recognizes the importance of bicycle commuting for work, errands, and school and would expand the network of MUPs, bike lanes, and bike routes available for commuting. Commuter routes would be supported by improved maintenance of trails, safety features at crossings, separated grades, improved location and wayfinding signage, and education and signage to keep drivers alert for cyclists. Recommendation MUP4 would also provide for MUPs to access farther recreational areas and other outlying areas. Under MUP4, Paths outside the UGB include the Mammoth Creek Path, which could be constructed on or adjacent to Mammoth Creek Road. This route would extend the reach of the recreational network and provide an alternative to US-203 for long distance road rides.</p>
<p>P.5.C. Policy: Require development to incorporate linked public trail corridors identified in the Mammoth Lakes Trail System Plan into overall project site plan.</p>	<p>Consistent: The Town will review future development projects to ensure that trail corridors are incorporated into project site plans consistent with the TSMP.</p>

Table 4.K-1 (Continued)

**Consistency of the Project with Applicable Policies
of the Town of Mammoth Lakes General Plan**

Policy	Consistency Analysis
P.5.C.1. Action: Prepare an expanded Master Plan to link trails, parks and open space.	Consistent: The Project takes into consideration linkages between the Town and adjacent National Forest lands and a growing network of paths and trails that would enhance connections between the Town and parks and open space in an extended area.

Source: PCR Services Corporation, 2011.

4.0 ENVIRONMENTAL IMPACT ANALYSIS

L. TRANSPORTATION AND PARKING

INTRODUCTION

This section evaluates the Project's potential to cause traffic and transportation-related impacts during construction and operation. The evaluation of operation impacts takes into consideration summer and winter conditions. This section also evaluates potential impacts associated with vehicle miles traveled, trail safety (driver sight distance and trail crossing conditions), effects on transit, Project consistency with other planning documents and studies, and parking impacts. The evaluation of impacts presented in this section is based on the analysis, conclusions, and recommendations contained in the *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum* (LSC Transportation Consultants, Inc., May 2011). The Transportation Technical Memorandum is contained in Appendix I of this EIR.

1. ENVIRONMENTAL SETTING

a. Regulatory Framework

(1) Town of Mammoth Lakes General Plan Mobility Element

The Town of Mammoth Lakes General Plan Mobility Element (2007) sets forth goals related to way-finding, regional transportation, in-town transportation, walking and bicycling, year-round public transit, parking, and street maintenance. The Mobility Element describes how the Town achieves a progressive and integrated multi-modal transportation system that serves the various needs of residents, employees and visitors. Under the Mobility Element, Mammoth Lakes would be connected, accessible, uncongested and safe with emphasis on feet first, public transportation second, and cars last. The objectives of the Element are to improve mobility through measures, such as:

- Increasing and improving available transportation options
- Providing incentives to change travel mode, time or destination
- Land use planning that reinforces feet first and improves mobility
- Connecting sidewalks and trails to transit, parking facilities, and parks year-round to provide a better experience
- Parking facilities that encourage people to walk, bike or use transit
- Future streets located to create flexibility of movement and provide multiple access routes to improve access for emergency, delivery, service, public and private vehicles
- Traffic calming and control measures
- Upgrade the Mammoth Yosemite Airport terminal to allow for regional air service.

Goal M.4 of the General Plan, which is to encourage feet first by providing a linked, safe, and comprehensive year-round recreational and commuter trail system, is directly related to the objectives of the TSMP. The relationship of the Project to Goal M.4 is described in Section 4.I, *Land Use*, of this Draft EIR.

(2) The Town of Mammoth Lakes Department of Public Works - Standard Plans

Sections 100.0 through 117.0 of the Town of Mammoth Lakes Department of Public Works, Standard Plans (August 2009) provide street and sidewalk standards. Design standards that would be applicable to the TSMP's bike lanes, street crossings, and trailhead parking under the TSMP include dimensional street cross sections, crosswalk standards, parking design standards, and minimum design standards for streets. Roadway standards include maximum and desirable gradients, width, bridge clear widths, and roadway design speeds. The Standards Plans outline shoulder bike lane dimensions for designated local, collector, and arterial streets, as well as for segments of specific streets, such as segments of Minaret Road, Meridian Road, and Lake Mary Road. The Standard Plans also provide crosswalk standards, including materials, dimensions, heating (if applicable), and other standards that would apply to the Project's street crossings.

(3) General Bikeway Plan

The Town of Mammoth Lakes General Bikeway Plan was developed and adopted in 1995, and has been amended four times since then, in 1996, 1997, 2002, and 2008. These updates were made to maintain Town's eligibility for Caltrans' Bicycle Transportation Account Funding. The General Bikeway Plan outlines a system of Class I, Class II and Class III bicycle facilities.

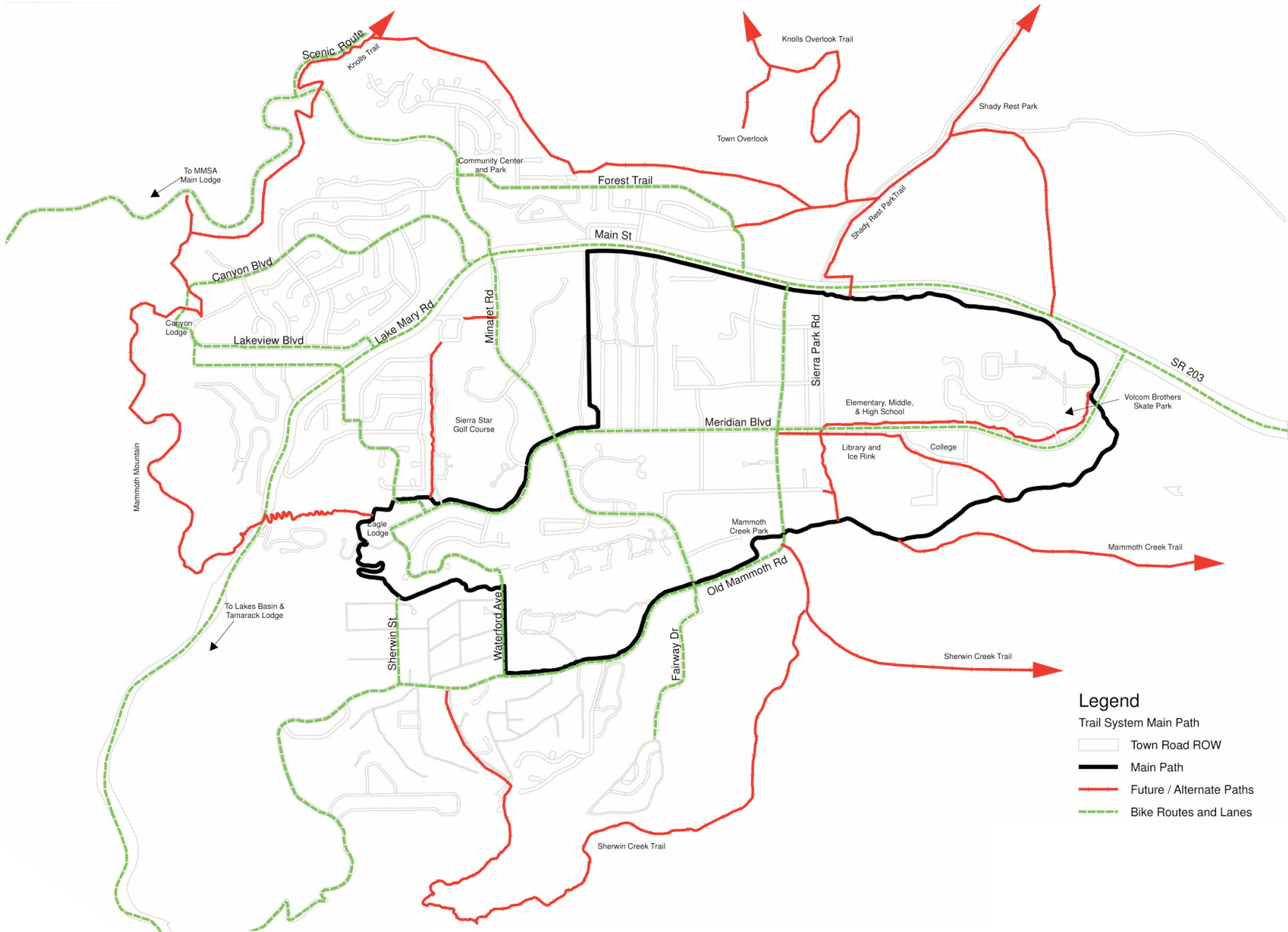
A Class I Bikeway (Bike Path), provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized. A Class II Bikeway (Bike Lanes) provides a striped lane for one-way bike travel on a street or highway; and a Class III Bikeway (Bike Route) provides for shared use with pedestrian or motor vehicle traffic. Existing and proposed bicycle facilities identified in the GBP are shown in **Figure 4.L-1**, *General Bikeway Plan Map*.

b. Existing Conditions

(1) Existing Non-Auto Travel

Based on surveys and observations by Town Staff and others, non-auto travel is typically higher in the summer season than in the winter. The segment of Minaret Road in the North Village area has a relatively high level of pedestrian activity during the summer. During the school season, Sierra Park Road in the vicinity of the schools has the highest pedestrian activity. However, motor vehicles (autos, trucks, etc.) are the primary transportation mode in the Mammoth Lakes area.

Transit service in the Mammoth Lakes area is provided primarily by the Eastern Sierra Transit Authority (ESTA) within the Town and by the Mammoth Mountain Ski Area (MAS). The ESTA transit system includes the Dial-A-Ride, Town Lift, and the Town Trolley system. Two bicycle racks are currently provided on each trolley; the Lakes Basin Trolley which operates in summer provides a 12-bike trailer due to the popularity of this area for recreational bike riding. Transit ridership trends in Mammoth have shown a year-on-year increase since the transit system was initiated. According to ridership data from 2008 through 2010, the highest ridership on the transit system typically occurs during the summer months. The total combined ridership has increased over the last three years to a monthly maximum of approximately 54,313 in



- Legend**
- Trail System Main Path
 - Town Road ROW
 - Main Path
 - Future / Alternate Paths
 - Bike Routes and Lanes



General Bikeway Plan Map

TSMF and SHARP Project
 Source: Transportation Consultants, Inc., 2011.

FIGURE
4.L-1



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August 2010. The total combined ridership in the winter has also increased to a monthly high of approximately 36,465 in January 2011. In addition, according to MAS shuttle ridership (data provided by Mammoth Mountain Ski Area for the 2009/2010 winter season, the MAS Red Line carries more riders than the Blue, Yellow, and Green Lines combined. Total ridership on the Red Line (which runs between the Main Lodge, The Village, and Snowcreek Athletic Club) is reported to be just under 90,000 during the peak winter month. During the summer months, the MAS Red Line is operated by ESTA.

(2) Existing Multi-Use Path Usage

The Town of Mammoth Lakes has approximately 13.8 miles of existing Class I, paved multi-use paths (MUPs). The MUPs are defined as paths for bicycle and pedestrian travel on a paved right-of-way that is completely separated from any street or highway.

(a) Summer MUP Use

Summer MUP users were surveyed and counted by Town staff at the following four sites along the existing paved MUP during August, 2010:

- Site #1 – MUP on south side of Main Street between Sierra Park Road and RV Park
- Site #2 – MUP immediately south of Commerce Drive, west of Meridian Boulevard (between skate park and tunnel under Meridian Boulevard)
- Site #3 – MUP near Mammoth Creek Road next to Creek (east side of Old Mammoth Road)
- Site #4 – MUP that crosses Majestic Pines Drive (near Eagle Lodge parking area)

The site locations are illustrated in **Figure 4.L-2, MUP Survey Locations**, below. Both the intercept survey results and estimated existing MUP usage levels are presented below.

Trail User Surveys

Trail user intercept surveys were conducted by Town staff at the four MUP sites (shown in Figure 4.L-1) from Saturday through Tuesday, August 14-17, 2010. The survey received a total of 106 respondents. Survey questions and results are included in Appendix A of the *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum* contained in Appendix I of this Draft EIR.

General conclusions of the survey are as follows:

- Approximately 33 percent of MUP users are riding bicycles.
- Approximately 46 percent of MUP users travel on the MUP alone, approximately 25 percent travel in a group of two, and the remaining 29 percent were traveling in groups of 3 or more. The average reported group size is approximately 2. The average group size for bicyclists is approximately 3, while the average group size for pedestrians is approximately 2.
- Most MUP users (approximately 91 percent) use the MUP for recreational trips.

- Most MUP users (approximately 66 percent to 70 percent) walk or bike to/from the trail. Approximately 23 percent of MUP users drive to/from the trail, and 5 to 8 percent get dropped-off/picked-up. Only 2 to 3 percent access the trail via transit (bus/trolley).
- Approximately 19 percent of bicyclists on the MUP arrive by car, and approximately 49 percent of pedestrians using the MUP arrive by car.
- Of the MUP users who drive to the trail, over one-quarter (27 percent) of those surveyed parked at Mammoth Creek Park, and almost one-quarter (23 percent) parked at Shady Rest Campground. Approximately 15 percent parked along Mammoth Creek Road. The remaining 35 percent park at other locations throughout Town.
- If the paved MUP did not exist, approximately 44 percent of MUP users would ride their bike along the road, 33 percent would not make the trip, and 18 percent would drive instead. Only 3 percent would use transit, and 2 percent would walk elsewhere.

Trail User Counts

Summer trail user counts were conducted by Town staff at the four sites along the existing MUP on Monday and Tuesday, August 16-17, 2010, between approximately 8:00 AM and 5:00 PM. Traffic counts and MUP user counts were also conducted at MUP crossings on Majestic Pines Drive and Commerce Drive, Saturday, August 21, 2010. On Majestic Pines Drive, counts were taken from 10:00 A.M. to 12:00 P.M. on Commerce Drive counts were taken from 1:00 P.M. to 3:00 P.M. The count data is contained in Appendix B of the *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum* contained in Appendix I of this Draft EIR.

Based on a review of the count data, the total number of MUP users at the four key locations during the summer peak hour of trail use is estimated to be approximately 135. Of these, 33 percent (45) are assumed to be bicyclists and the remaining 90 are assumed to be pedestrians. Skateboarders and others not riding bicycles are considered to be pedestrians. Because some trail users could have been double-counted at multiple locations, or counted twice at the same location if they made a trip out and back during the count period, it is assumed that approximately 15 percent of bicyclists and 10 percent of pedestrians were double-counted. Conversely, some MUP users were not counted at all if they didn't pass one of the count sites. The number of MUP users counted at the key locations is estimated to reflect approximately 75 percent of total existing MUP bicyclists and 40 percent of total existing MUP pedestrian users. Based upon these factors, the total existing MUP use during the busiest hour of trail use is estimated to be approximately 50 bicyclists and 200 pedestrians, for a total of approximately 250 MUP users during peak hour conditions.

The conversion of peak hour use to total daily use for a Class I MUP is based on a multiplier of 6.54¹. Multiplying the peak-hour MUP use (250) by this factor (6.54) yields an estimated total of approximately 1,635 users per day on the four key MUPs.

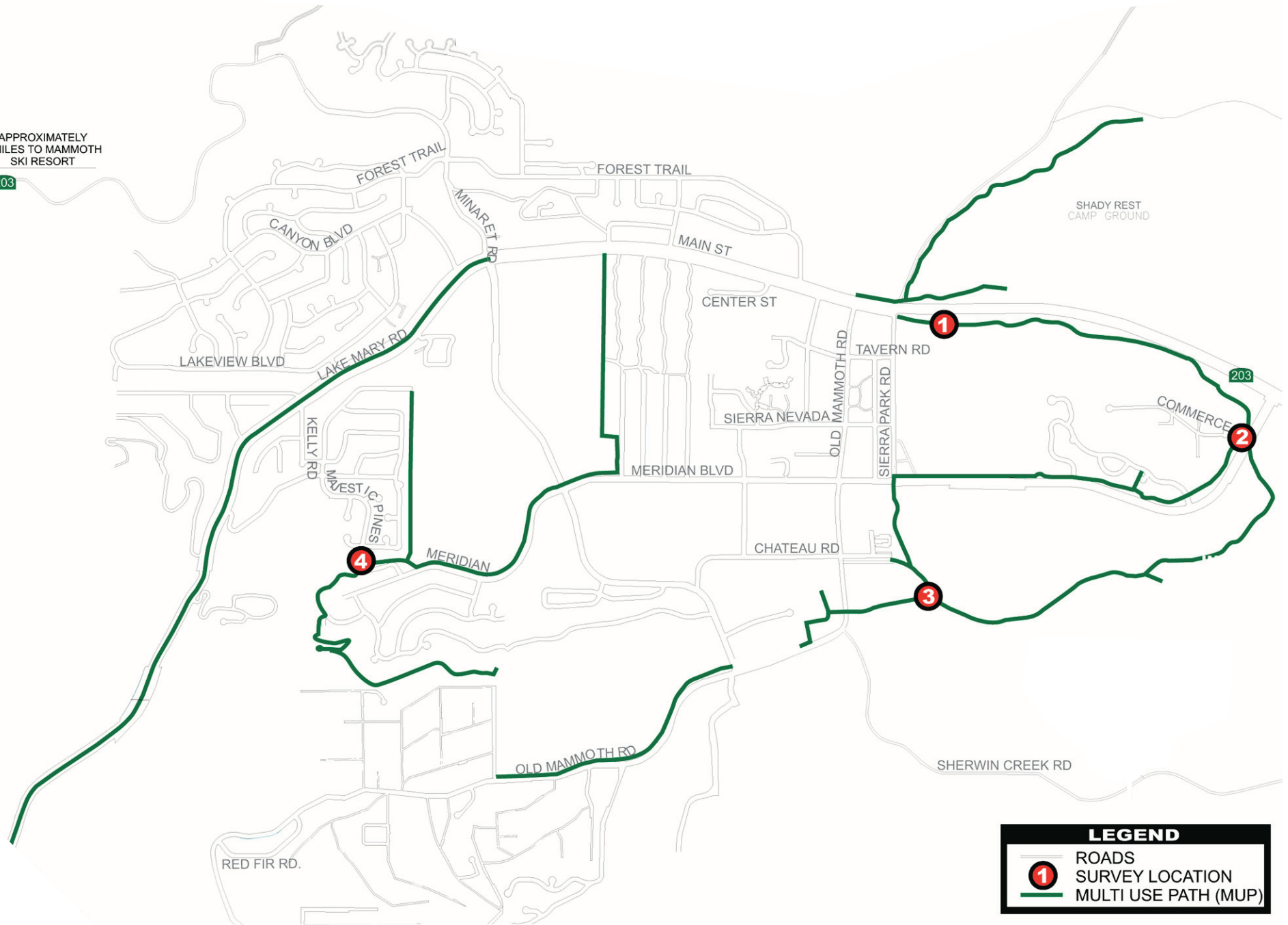
(b) Winter MUP Use

During the winter, up to 2.5 miles of the MUP are intended to be groomed for cross-country skiing, 2.6 miles are cleared for mobility, and the remaining length of MUP is not maintained. Data is not available regarding

¹ *Tahoe Region Bicycle and Pedestrian Use Models (LSC Transportation Consultants, Inc. (2009)*

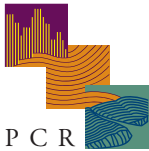
APPROXIMATELY
3 MILES TO MAMMOTH
SKI RESORT

203



LEGEND

- ROADS
- 1 SURVEY LOCATION
- MULTI USE PATH (MUP)



Multi Use Path Survey Locations

TSMF and SHARP Project
Source: Transportation Consultants, Inc., 2011.

FIGURE
4.L-2

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the number of MUP users during the winter season. However, due to the fact that many parts of the MUP system are not currently being groomed or cleared during winter months, the level of year-round system-wide use is considerably lower than might be expected based on current summer conditions.

(3) Bicycle Network

The Town's existing bicycle network includes the Class I MUPs described above, as well as Class II and Class III facilities on various streets throughout the Town.

Class II Bike Lanes are located on Minaret Road between Main Street and Old Mammoth Road, on Old Mammoth Road from Mammoth Creek Park to Ski Trail, on Meridian Boulevard from Sierra Park Road to Kelley Road, along Canyon Boulevard from (approximately) Lakeview Boulevard to Canyon Lodge, and along the Mammoth Scenic Loop Road.

Class III bicycle routes are designated along Kelley Road, portions of Lakeview Boulevard, Forest Trail east of Minaret Road and between Canyon Boulevard and Lakeview Boulevard; Main Street; portions of Minaret Road and Canyon Boulevard through the North Village.

Existing usage data has not been collected for Class II and III facilities; however, these facilities are more heavily used in summer when weather conditions make bike riding more attractive.

(a) Review of Bicycle and Pedestrian Accident Records

Historical bicycle and pedestrian accident records from the most recent ten-year data period (1999-2009) were obtained from the California Statewide Integrated Traffic Records System (SWITRS) for the following roadway segments:

- Main Street (SR 203) from Minaret Road to Meridian Boulevard
- Minaret Road (SR 203) from Mammoth Knolls Drive to Main Street
- Minaret Road from Meadow Lane to Old Mammoth Road
- Lake Mary Road from Juniper Road to Minaret Road
- Majestic Pines Drive from Meridian Boulevard to Monterey Pine Road
- Old Mammoth Road from Tamarack Street to Chateau Road
- Meridian Boulevard from Sierra Park Road to Main Street
- Commerce Drive within 300 feet of Meridian Boulevard
- Forest Trail from Hillside Drive to Minaret
- Sawmill Cutoff within 500 feet of Main Street

Accident data for several roadway segments are summarized in **Table 4.L-1**, *Bicycle and Pedestrian Accident Records*, below. The roadway segments in Table 4.L-1 were selected because they represent potential locations for pedestrian and bicycle crossing improvements discussed in the TSMP. As shown in Table 4.L-1, a total of 35 incidents involving pedestrians or bicyclists, were reported over the ten-year period. Thirty-three persons were injured; however, no pedestrian or bicyclist fatalities were reported. All of the reported

Table 4.L-1

Bicycle and Pedestrian Accident Records

	10-year Period (1999-2009)		5-year Period (2004-2009)		Average Accident Rate (Accidents/Year)	
	Accidents	Injuries	Accidents	Injuries	10-year period	5-year period
Bicycle Incidents						
Main St. between Old Mammoth Rd and Lupin St.	11	11	2	2	1.1	0.4
Main St. between Minaret Rd and Lupin St.	0	0	0	0	0	0
Intersection of Minaret Rd and Main St	3	3	3	3	0.3	0.6
Old Mammoth Rd between Chateau Rd and Minaret Rd	7	7	2	2	0.7	0.4
Intersection of Minaret Rd and Forest Trail	1	0	1	0	0.1	0.2
Intersection of Minaret Rd and Canyon Blvd	0	0	0	0	0	0
Intersection of Meridian Ave and Sierra Park Rd	1	1	1	1	0.1	0.2
Commerce Drive	0	0	0	0	0	0
Sawmill Cutoff North of Main St	0	0	0	0	0	0
Majestic Pines Dr	0	0	0	0	0	0
Lake Mary Rd	0	0	0	0	0	0
Minaret Rd from Meadow Ln to Old Mammoth Rd	0	0	0	0	0	0
<i>Subtotal Bicycle Incidents</i>	23	22	9	8	2.3	1.8
Pedestrian Incidents						
Main St. between Old Mammoth Rd and Lupin St.	5	4	2	2	0.5	0.4
Main St. between Minaret Rd and Lupin St.	4	3	1	1	0.4	0.2
Intersection of Minaret Rd and Main St	1	1	1	1	0.1	0.2
Old Mammoth Rd between Chateau Rd and Minaret Rd	1	1	0	0	0.1	0
Intersection of Minaret Rd and Forest Trail	0	0	0	0	0	0
Intersection of Minaret Rd and Canyon Blvd	1	2	1	2	0.1	0.2
Intersection of Meridian Ave and Sierra Park Rd	0	0	0	0	0	0
Commerce Drive	0	0	0	0	0	0
Sawmill Cutoff North of Main St	0	0	0	0	0	0
Majestic Pines Dr	0	0	0	0	0	0
Lake Mary Rd	0	0	0	0	0	0
Minaret Rd from Meadow Ln to Old Mammoth Rd	0	0	0	0	0	0
<i>Subtotal Pedestrian Incidents</i>	12	11	5	6	1.2	1.0
TOTAL	35	33	14	14	3.5	2.8

Source: California Statewide Integrated Traffic Records System

incidents occurred on the roadways, not on the MUPs. Streets on which no pedestrian or bicycle accidents were reported are not included in the table. The roadway location with the highest average number of incidents per year (approximately 1.6) is the segment of Main Street between Old Mammoth Road and Lupin Street.

Accidents from the most recent five-year period (2004-2009) are also included in Table 4.L-1. A total of 14 pedestrian or bicycle incidents (with 14 persons injured) were reported over the five-year period. The highest average number of incidents per year on any one roadway segment or intersection was 0.8, which is half of the annual rate compared to the ten-year period.

(b) Existing At-Grade Multi-Use Path Crossing Locations

Crosswalks are provided at most MUP crossings. The Town of Mammoth Lakes has 16 paved, at-grade MUP crossings. These are located as follows:

1. Sawmill Cutoff north of Main Street
2. Commerce Drive
3. Wagon Wheel Road East
4. Wagon Wheel Road West
5. Mammoth Elementary School Driveway
6. Mammoth Middle School Eastern Driveway
7. Mammoth Middle School Western Driveway
8. Meridian Boulevard at Sierra Park Road
9. Minaret Road at Meridian Boulevard
10. Sierra Star Parkway at Meridian Boulevard
11. Lodestar Drive at Meridian Boulevard
12. Majestic Pines Drive
13. Mammoth Creek Road south of Sierra Park Road
14. Golden Creek Road at Old Mammoth Road
15. Driveway immediately east of Club Drive at Old Mammoth Road
16. Club Drive at Old Mammoth Road

Existing Driver Sight Distance

Driver sight distance is a key factor in traffic safety issues. Stopping sight distance is the minimum distance needed for a driver to see an object in his/her path (such as a pedestrian crossing the roadway) and safely come to a stop. Stopping sight distance is measured from the driver's eyes, which are assumed to be 3.5 feet above the pavement surface, to an object 0.5-foot high on the road. Stopping sight distances were reviewed at the existing paved MUP crossing locations. In general, the crossing treatments provided at the existing at-grade MUP crossings are considered to be adequate, with the exception of one potential driver sight distance concern at Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road.

The sight distance for drivers traveling northbound along Majestic Pines Drive is limited by the horizontal curvature along the roadway and the existing embankment and vegetation. According to Caltrans standards, the stopping sight distance for drivers along Majestic Pines Drive should be at least 150 feet, based upon a design speed of 25 miles per hour. However, based upon a survey performed by Town staff, approximately 85 feet of stopping sight distance is provided for northbound drivers approaching the MUP crossing. This is approximately 65 feet short of the minimum requirement. Furthermore, the stopping sight distance during the non-winter months could be less than 85 feet when the vegetation is in bloom. This is considered to be an existing safety deficiency.

Approximately 250 feet of stopping sight distance is provided for southbound drivers approaching this MUP crossing. The latter exceeds the minimum requirement by approximately 100 feet and, therefore, is considered to be adequate. No additional driver sight distance deficiencies are identified in the study area.

(4) Existing Parking Conditions at Recreational Nodes

Table 4.L-2, *Town of Mammoth Lakes Parking Inventory at Recreation Nodes*, below, summarizes the inventory of parking spaces available at existing recreational nodes provided by Town staff. Parking counts were also performed by Town staff at two popular winter recreation areas (Shady Rest Area and Sherwin Creek Borrow Pit Area) during various periods in the afternoons between Monday December 27, 2010, and Thursday January 6, 2011. The count results are provided in Appendix C of the *Transportation Considerations Technical Memorandum* contained in Appendix I of this Draft EIR.

An inventory of the Shady Rest and Welcome Center parking lots found a maximum of forty-four parked vehicles during the data collection period. This peak demand occurred during the early afternoon of the winter holiday season (approximately 1:00 P.M. on December 28). Parked vehicles included automobiles, vehicles with trailers, and stand-alone trailers. Excluding trailers and vehicles-with-trailers a maximum of 28 vehicles were observed. Assuming the Shady Rest and Welcome Center parking lots represent approximately 70 percent of the total existing non-motorized groomed trail users during the count periods, the total existing non-motorized groomed trail usage in this area would equate to approximately 39 vehicles parked at one time. Considering that some of the vehicles without trailers may be associated with motorized trail users, this estimate may be conservative.

A maximum of 17 parked vehicles were observed at the Borrow Pit parking area during the data collection period. The peak demand also occurred on Tuesday, December 28 (at approximately 1:30 P.M.). Parked vehicles included one vehicle with a trailer. At this location, the maximum number of parked vehicles with trailers (two) was observed on Tuesday, January 4, 2011(at approximately 1:30 P.M.).

Table 4.L-2

Town of Mammoth Lakes Parking Inventory at Recreation Nodes

GIC ^a	Parking Area	Sum	Win	Formal Parking Spaces			Informal Parking Spaces		Notes
				Std	Dis	Bus/RV	Area Type	Min No of Spaces	
13	Canyon Lodge (MMSA)		x	990					300 in Canyon Lodge lots, 690 on-street spaces.
14	Eagle Lodge (MMSA)	x	x	550					250 in Eagle Lodge lot, 300 on Meridian Blvd.
46	Main Lodge (MMSA)	x	x	1760					985 in lots, 775 on Minaret Rd.
195	Community Center Park	x	x	48	3	0	Dirt Shoulder	2-3	Dirt shoulder is near tennis courts
134	Mammoth Creek Park, East	x	x	0	0	0	Dirt parking	at least 20	20+ parking spaces available along Creek Road. Approximately 15 new spaces are anticipated in the future.
152	Mammoth Creek Park, West	x	x	42	2	0	Shoulder		Parking also available on shoulder of Old Mammoth Rd.
97	Shady Rest Town Park	x	x	158	7	0	Dirt Shoulder	15	Striping fading in lot. Dirt shoulder near skate park fits about 15 cars on both sides.
193	Trails End Park	x	x	24	2	0			
42	Earthquake Fault	x	x	19	2	2			Faded paint and no signage for ADA parking.
44	Power Plant, North side of 203		x	0	0	0			Clean empty lot. Alot of dirt parking off the road. Approximately 15 new spaces are anticipated in the future.
192	Winter Closure on Sawmill Cutoff Road		x	33	0	2			Appears that former ADA space has been repainted as standard space.
163	Sherwin Creek Road, Borrow Pit	x	x	0	0	0	Large Dirt Area	at least 50	Large dirt area. Construction taking place. Approximately 15 new spaces are anticipated in the future.
64	Sierra Blvd at Forest Trail	x	x	0	0	0	Dirt Shoulder	1-2	Approximately 15 new spaces are anticipated in the future.

Table 4.L-2 (Continued)

Town of Mammoth Lakes Parking Inventory at Recreation Nodes

GIC ^a	Parking Area	Sum	Win	Formal Parking Spaces			Informal Parking Spaces		Notes
				Std	Dis	Bus/RV	Area Type	Min No of Spaces	
28	Old Mammoth Road at Mill City	x		0	0	0	Dirt Pull-out	5-10	
38	MMSA at Austria Hof Parking Lot	x		0	0	0	Paved, Unstriped	30-40	Empty paved parking lot signed "parallel parking only".
41	Lake Mary Bike Path NE Terminus	x		0	0	0	Large Lot		Construction - unable to gather data
27	Tamarack Street	x	x	0	0	0	Dirt Shoulder	2-3	
48	Mountain View Trail 0 0 0 Dirt Pull-out 20-25			0	0	0	Dirt Pull-out	20-25	
52	Sledz - North side of SR 203, across from MMSA garage		x	0	0	0	Dirt Parking lot	20-30	Empty dirt lot. Can fit 20 to 30 cars without snow.
158	Path Along Snow Creek V Fenceline		x	0	0	0		0	No Parking - Private Property
43	Uptown Trail jurisdictional change to MMSA			0	0	0		0	No parking to all associated, some cars parked on Minaret Rd.

^a GIC numbers correspond to numbers on Figures A-2 to A-5 in the TSMP.

Source: LSC Transportation Consultants, Inc. and Town Staff.

2. ENVIRONMENTAL IMPACTS

a. Significance Thresholds

Based on a review of State *CEQA Guidelines*, Appendix G, as well as local and regional standards, the following standards of significance are defined for this analysis. The project would have a significant impact on transportation and circulation if it:

- Threshold 1: Causes intersection and roadway conditions to exceed the Level of Service (LOS) standards; (Refer to impact statements 4.L-1 and 4.L-7)
- Threshold 2: Results in a significant increase in Vehicle-Miles Traveled (VMT); (Refer to impact statement 4.L-2)
- Threshold 3: Substantially increases hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); (Refer to impact statement 4.L-3)
- Threshold 4: Conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance or safety of such facilities; (Refer to impact statements 4.L-4 and 4.L-6)
- Threshold 5: Results in inadequate parking conditions. (Refer to impact statement 4.L-5)

b. Methodology

The following impact analysis is based on LSC Transportation Consultants, Inc.'s *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum* (included in Appendix I of this EIR), which evaluated the following transportation components:

- Traffic impacts at full buildout of the TSMP
- Traffic impacts during construction phases
- Vehicle-Miles Traveled (VMT)
- Driver sight distances
- Trail crossing conditions
- Interface between trail system and transit system
- Consistency with other planning documents and studies
- Parking conditions

The Technical Memorandum includes recommendations to address areas of significant impact.

Project related trip generation data are typically derived by multiplying the size of a development by published trip generation rates from such sources as the Institute of Transportation Engineers (ITE) "Trip

Generation 8th Edition.” The ITE and other sources have not published empirical data for recreational forest lands or Wilderness areas. Although State and local parks have published data, the utilization of the open space and forest lands associated with the Mammoth Lakes trails system is likely to be significantly different from those published uses. Therefore, LSC Transportation Consultants’ assumptions for trail use, as are presented in the *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum*, have been utilized to forecast future utilization. These assumptions are based on extrapolation of existing usage within the Project Area.

The potential increase in vehicle trips associated with the increase in paved MUP summer and winter traffic trail users is evaluated according to the *Mammoth Trail System Master Plan Transportation Considerations Technical Memorandum*, which estimates an increase in summer paved MUP trail users, users of new unpaved trails, and summer traffic impacts of the TSMP and SHARP. The analysis of winter traffic is based on the use of the proposed winter trails according to proposed improvements in the Shady Rest area, traffic impacts of the SHARP winter proposal, and overall winter traffic impacts of the TSMP and SHARP, as presented in the *Transportation Considerations Technical Memorandum*. In order to remain conservative in the analysis, no additional reduction is applied for transit trips where transit would be available.

The project’s effects with respect to Vehicle-Miles Traveled (VMT) are evaluated for both summer and winter conditions. The effect of the proposed project on VMT in Mammoth is based on the total trip generation and the length of these vehicle trips.

c. Project Features

(1) Motorized and Non-Motorized Activities

The Project would accommodate a balance of motorized and non-motorized activities, including enhancement of OHV and OSV access, while expanding non-motorized trails and trailheads. The Project would also support the separation of motorized and non-motorized activities. For example, SHARP Project No. 1, a major multi-use staging area at the USFS gravel pit site and a Priority Project, would improve OSV staging and allow for changes in the maintenance of Sherwin Creek Road, between the gravel pit site and US-395. The changes in maintenance would facilitate OHV and OSV use and access. The OSV parking area would be separated from non-motorized staging, to reduce potential safety hazards and/or conflicts between snowmobiles and children, dogs, or others using the snow play area near the site.

By nature, the system of trails under the Project separate non-motorized users from motor vehicles. The TSMP recognizes that MUPs can provide a good facility, particularly for novice riders, recreational trips, and cyclists of all skill levels who prefer separation from traffic. The TSMP supports the implementation of MUPs, as reflected in Recommendations MUP1 through MUP4. To facilitate safety, TSMP Recommendation X3, Grade Separated MUP Crossings (TSMP, Table E-4, *Summary Bikeway Crossings Recommendations*), recommends grade-separated MUP crossings for all MUP crossings of arterial streets.

The TSMP also supports the safety of bicycle traffic in relation to motorized traffic. TSMP Recommendations B2 and B3, Bike Lanes on Major Arterials and Collector Streets (TSMP, Table E-5, *Summary of On-street Bikeway Recommendations*), recommends the use of bike lanes to separate high-speed, high-volume motor vehicle traffic from the slower-moving bicycles on the Town’s busier streets. TSMP Recommendation B4, Bike Routes on Local Streets (TSMP, Table E-5), is for wider shoulders where bicycles and motor vehicles

share the same roadway. This is considered particularly important on uphill segments, to allow separation between cyclists and faster moving motorists.

Projects described under the SHARP also allow for the separation of motorized and non-motorized activities. For example, SHARP Project No. 6 (summer), a Priority Project, would provide a hard-surface or paved non-motorized connector from the borrow pit staging area to the existing MUP at Mammoth Creek Park East at the bridge. This connector would route beneath the winter alignment (SHARP Project No. 10 (winter) and would increase user safety by keeping users separated from Sherwin Creek Road and Old Mammoth Road traffic. SHARP Project No. 12a (non-motorized staging area at Lake Mary Road) would promote user safety by eliminating the existing pullout parking on Lake Mary Road (a high-traffic, high-speed road) and installing a four-way stop with speed bumps to slow traffic. Sharp Project No. 12b (trail from Lake Mary Road) would realign the Panorama Vista Trail to parallel the Old Mammoth Road and construct a bridge that connects the Lake Mary Road Bike. The bridge would increase user safety by keeping users off Old Mammoth Road.

Overall, Project implementation would promote recreational activities that accommodate a balance of motorized and non-motorized activities in a manner that would minimize potential user conflicts.

(2) Regional and Local Network for Recreation and Commuting

The Project would provide a regional and local network for recreation and commuting. The Project's program of MUPs, bike paths, and bike routes within the Town would improve connections to recreational facilities throughout the Town and in the adjacent Lakes Basin and Mammoth Mountain area. For example, the development of SHARP Project No. 6 (summer) would connect the existing MUP at Mammoth Park East to the Sherwins area's future network of recreational trails on USFS lands.

The TSMP also recognizes the importance of bicycle commuting for work, errands, and school and would expand the network of MUPs, bike lanes, and bike routes available for commuting. Under the TSMP, commuter routes would be supported by better maintenance of trails, safety features at crossings, separated grades, improved location and wayfinding signage, lighting for MUPs in areas that are not currently lit and that have a demand for evening use, and education and signage to keep drivers alert for cyclists.

Under Recommendation MU4, Multi-Use Paths Outside the UGB, the TSMP recommends MUP routes to farther recreational areas and other outlying areas. Future paths outside the UGB include the Mammoth Creek Path, which could be constructed on or adjacent to Mammoth Creek Road. This route would extend the reach of the recreational network and provide an alternative to SR 203 for long distance road rides. It could also serve as a possible commuter route between Crowley and Mammoth Lakes. Enhanced maintenance of Sherwin Creek Road under SHARP Project No. 1 could also provide a scenic alternative to Highway 203 for road cycling and as a possible long-distance commuting route from out-of-town locations such as Crowley Lake.

d. Analysis of Project Impacts

(1) Traffic Impacts

4.L-1 Implementation of the proposed TSMP and SHARP could conservatively generate an increase of approximately 100 one-way vehicle trips throughout Town during the busiest hour of trail use during

the summer and approximately 46 one-way vehicle trips throughout Town during the busiest hour of trail use during the winter. These increases are not expected to cause intersection or roadway conditions to exceed adopted standards during the summer and winter seasons.

(a) Construction

Long-term roadway closures are not expected to occur during the construction phases of the Project. Construction activities may occur at multiple locations concurrently, although the exact phasing and timing of these future projects is unknown at this time. However, any potential transportation impacts associated with the project construction activities at any one time are expected to be modest. Project-specific construction management plans would also be required by the Town where warranted when projects are brought forward. Construction management plans, which require traffic management, signage, and other measures to ensure access, would minimize construction-related traffic impacts.

(b) Operation

Summer Traffic Impacts

The TSMP and SHARP propose to add just over 11 miles of paved or hard-surface MUP trails, provide new and improved soft-surface trails, improve the trail connectivity throughout Town, provide additional sidewalks, and implement approximately 18 miles of new Class II bike lanes, including conversion of a number of existing Class III facilities to Class II. The new bike lanes would improve bicycle commuter routes and improve access to shopping areas and other destinations. No additional Class III bike routes, which are bicycle routes providing for shared use with bicyclists and motor vehicle traffic and typically identified only by signage, are proposed.

Implementation of proposed improvements is expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Based on calculations provided in the *Transportation Considerations Technical Memorandum* in Appendix I of this Draft EIR, the net growth in trail use under the TSMP would be 1,310 users per day. During the busiest hour of trail use, the TSMP is expected to result in an increase of approximately 40 bicyclists and 160 pedestrians. Assuming that half of the trail users would stay on the trails for more than an hour, approximately 42 vehicle trips would arrive at the trails and 21 vehicle trips would leave the trails, for a total of 63 one-way vehicle trips. Adding the 63 one-way vehicle trips generated by MUP users who park at the trails to the 27 vehicle trips generated by MUP users being dropped off and picked up, would total approximately 90 additional peak-hour one-way vehicle trips generated by the increase in MUP trail users.

Considering that Project-generated trips would be distributed to the various trailhead locations, and because the overall number of trips is small compared to the overall growth in traffic generated by the Town's other growth and development, no significant traffic impacts are expected to result at any one location due to implementation of the trails system. In addition, the provision of the additional pedestrian, bicycle, and transit facilities included in the proposed TSMP and the SHARP would result in a general increase in non-auto travel, which would offset the increase in vehicle trips to some degree. No significant impact on overall traffic operations during the summer season is anticipated. The proposed project is not expected to cause intersection and roadway conditions to exceed adopted service (LOS) standards.

Winter Traffic Impacts

The TSMP includes approximately 2.7 miles of new groomed non-motorized trails in the Shady Rest area, an increase of approximately 58 percent over existing winter trails. Some growth associated with preferred dog walking trails, non-motorized staging, and a new trailhead at Shady Rest; however, the existing trail system already serves those most likely to desire to use groomed non-motorized trails. Trail use is expected to grow by approximately half of the relative growth in trail mileage, or by a factor of approximately 29 percent. In order to remain conservative in this analysis, the growth in trail use is assumed to be approximately 35 percent. Increasing the existing busiest winter use associated with the groomed non-motorized trails in this area (approximately 39 vehicles at one time) by 35 percent would yield a growth in trail use of approximately 7 entering trips and 7 exiting trips (14 total) during the winter busiest hour of trail use.

The TSMP includes provision of additional clearing along Sawmill Cutoff Road during the winter season, which has already been implemented (starting in 2009). The additional clearing would improve motorized access at this location, although motorized vehicle staging is now occurring at Shady Rest Park. The Forest Service is also undertaking a plan for a new OHV/OSV staging area within the Shady Rest Area. Although this improvement is not specifically called out in the TSMP, it is expected to be implemented within the next three years.

The SHARP Winter Proposal includes the approximately 5.1 miles of new groomed non-motorized trails, 1.6 miles of groomed motorized trails, and 2.1 miles of ungroomed non-motorized trails. The SHARP would also formalize existing snow play and dog walking activities. The estimated traffic generated by the new non-motorized groomed trails is based on same assumptions used for the Shady Rest area, which would yield an increase of approximately 26 vehicle trips (13 entering and 13 exiting). Transit access could potentially be provided to the various trailheads in the SHARP area. However, no additional reduction is applied for transit trips.

The proposed motorized groomed trails are expected to generate a modest increase in vehicle trips, considering that use by snowmobilers and other non-motorized users already occurs in this area. The SHARP area is utilized under existing conditions and any increase in traffic resulting from the formalization of the other recreational facilities, such as the snow play area and designated dog-play area, is expected to be small. According to calculations provided in the *Transportation Considerations Technical Memorandum* a total of approximately 20 new vehicle trips are estimated to be generated by the proposed motorized groomed trails and by the formalization of the other recreational facilities during the busiest hour of trail use in the winter.

Implementation of the TSMP and SHARP could generate an increase of approximately 46 one-way vehicle trips throughout Town during the busiest winter hour of trail use. It is conservatively assumed that the busiest hour of trail use coincides with the winter peak traffic hour, which generally occurs between 4:00 P.M. and 6:00 P.M. Although the Project-generated trips are expected to be more concentrated at the Shady Rest and Borrow Pit access points, no significant Town-wide traffic impacts would result from the Project, the Project is not expected to cause intersection and roadway conditions to exceed adopted service standards (LOS) during the winter season.

(2) Vehicle-Miles Traveled

4.L-2 The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area, improved neighborhood access, and improved multi-modal infrastructure. Therefore, the Project would not cause a significant increase in VMT during the summer or winter seasons. No mitigation measures would be required.

(a) Summer Vehicle-Miles Traveled

Implementation of the TSMP is not expected to significantly increase the number of persons visiting the Mammoth area from other communities or other regions on a busy summer day (as would world-class hiking trails and tourist destinations that are already provided in the Mammoth area). However, there would be a net increase in trail activity associated with the proposed trail improvements. Under the TSMP, new trail networks would be provided in the urbanized area and, as such, result in relatively short vehicle trips. Some trips that are currently made to trails or to other activities outside the urbanized area may shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area, improved neighborhood access, and improved multi-modal infrastructure. The latter would encourage non-auto travel throughout Town and, thereby, would reduce trips. Overall, the Project is not expected to result in a significant increase in VMT over the course of a summer day.

(b) Winter Vehicle-Miles Traveled

Similar to summer conditions, implementation of Project is not expected to significantly increase the number of persons visiting the Mammoth area from other communities or other regions on a busy winter day, as the existing trails already serve those wishing to recreate. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails closer to the urbanized area and the increase in non-auto mode travel throughout Town. Overall, the Project is not expected to result in a significant increase in VMT over the course of a winter day.

The increase in traffic volumes resulting from the TSMP project would be highest during the summer season, which does not coincide with the peak season of traffic activity in the Mammoth area (traffic volumes in Mammoth are generally highest in the winter season).

(3) Traffic-Related Hazards

4.L-3 The Project has the potential to increase hazards associated with sight distance at the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road and with the proposed increase in pedestrian crossings. Mitigation Measures 4.L-2 and 4.L-3 are recommended to reduce these impacts to less than significant levels.

(a) Sight Distance

The review of driver stopping sight distance for at-grade MUP crossings locations under the TSMP determined that the TSMP, in general, would provide adequate driver stopping sight distances. An exception is the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. As discussed in Subsection 1.b, above, this site has an existing safety deficiency in which the stopping sight distance provided for drivers traveling northbound along Majestic Pines Drive is limited by the horizontal curvature along the roadway and the existing embankment and vegetation.

The Project is expected to result in an increase in the number of MUP users at this location and, therefore, would exacerbate the existing safety deficiency. Design changes that would provide at least 150 feet of stopping sight distance for northbound drivers approaching this crossing are recommended. The design change to achieve adequate sight distance could be accomplished by modifying the MUP trail alignment and/or by modifying the existing landscaping and embankment. With implementation of the Mitigation Measure 4.L-2, a potential hazard associated with driver stopping sight distance would be reduced to a less than significant level.

(b) Trail Crossing Conditions

The TSMP (Table 4-8) includes intersection locations that are important to existing and future in-town trail access, as well as potential intersection and crossing improvements. The TSMP recommends that an engineering analysis be conducted of all pedestrian crossings in order to identify where improvements are most needed. The intersection and crossing improvements are a function of future growth and development throughout Town (particularly in the North Village area) and are not necessarily tied to the proposed TSMP project. Therefore, the recommended engineering studies are not included in the scope of this EIR. The TSMP also provides design guidelines for the application of various crossing treatments, which are widely based upon guidelines provided by the American Association of State Highway Transportation Officials (AASHTO) and by the Caltrans Highway Design Manual.

In general, all crossing conditions are expected to be adequate with implementation of the proposed TSMP, with the exception of the driver sight distance deficiency identified along Majestic Pines Drive. Further study is also warranted at the intersections along Minaret Road in the North Village area. The Project is not expected to result in a significant impact on trail crossing conditions, with the exception of the driver sight distance impact on Majestic Pines Drive.

(4) Consistency with Applicable Plans

4.L-4 The Project would not conflict with the policies or preclude the implementation of proposed and adopted transportation improvement plans and projects. Impacts would be less than significant and no mitigation measures would be required.

(a) Town of Mammoth Lakes General Plan Mobility Element

The Town of Mammoth Lakes General Plan Mobility Element (2007) sets forth goals related to way-finding, regional transportation, in-town transportation, walking and bicycling, year-round public transit, parking, and street maintenance. Goal M.4 of the General Plan, which is to encourage feet first by providing a linked, safe, and comprehensive year-round recreational and commuter trail system, is directly related to the objectives of the TSMP. The relationship of the Project to Goal M.4 is described in Section 4.I, *Land Use*, of this Draft EIR. As discussed therein, the Project would provide a network of trails and, thus, implement the Goal M.4 of the General Plan. Therefore, the Project would be consistent with applicable policies of the General Plan Mobility Element.

(b) The Town of Mammoth Lakes Department of Public Works, Standard Plans

The Department of Public Works Standard Plans for roads, street crossings, and parking, provide standards that would be applicable to the Project. The Standard Plans, which are enforced by the Department of Public Works, apply to all public projects. Design standards for the Project's component bike lanes, street crossings, PUDs, and trailhead parking would be subject to review and approval by the Department of Public Works and, as such, would be required to comply with these standards. Therefore, the Project would be consistent with applicable Town of Mammoth Lakes standards and regulations.

(c) General Bikeway Plan

The TSMP incorporates recommendations for bicycle facilities, some of which are derived from the General Bikeway Plan, and others which deviate slightly from it, meaning that the two documents are not completely consistent. For example, the GBP shows a future Class III facility on Davison Drive; this facility is not included in the TSMP. However, it is the intent of the Town to update the General Bikeway Plan in 2011-12, to reflect the facilities identified in the TSMP. The planned update of the GBP will bring the two documents into conformance, eliminating any potential inconsistencies.

(d) Caltrans Main Street South Frontage Road Project and Promenade Walkway Project

This Caltrans project would improve pedestrian and bicycle facilities along the South Frontage Road from Callahan Way to Manzanita Street. Improvements include four new crosswalks on South Frontage Road, Class II bike lanes along both sides of the South Frontage Road, and a new sidewalk along the north side of the South Frontage Road. The Caltrans project would also include a new promenade walkway along the north side of Main Street between Laurel Mountain Road and Old Mammoth Road. The TSMP proposes a Class II bike lane along the same segment of Main Street where the new promenade walkway is planned. Although the new bike lane under the TSMP is not reflected in the Caltrans project, the TSMP would not preclude implementation of the Caltrans project. Therefore, the TSMP would be consistent with the objectives of the Caltrans project.

(e) Main Street Signal Plan Feasibility Study

The SR 203 Mammoth Signal Plan Feasibility Study proposes to extend the central two-way left-turn lane (TWLTL) along Main Street from Minaret Road to the point where the existing TWLTL ends east of Manzanita Road. Two alternatives involving new traffic signals were analyzed, but neither alternative was recommended to be implemented. The development of either the TSMP or the SR 203 Signal Plan would not preclude the development of either the TSMP or Signal Plan. Therefore, the TSMP would be consistent with the objectives of the Main Street Signal Plan.

(f) SR 203 Transportation Concept Report

The Caltrans SR 203 Transportation Concept Report (TCR) was reviewed, and no inconsistencies with the proposed TSMP project are identified.

(g) Minaret Road Alignment Study

The Minaret Alignment Study was prepared by the Town to consider how pedestrian facilities could be provided along Minaret Road in the North Village area; its recommendations have not been adopted by the Town at this time. The study includes a round-about at the Minaret Road/Forest Trail intersection that is designed to accommodate pedestrians. Sidewalks are included along both sides of Minaret Road. A new pedestrian crossing is included at a point on Minaret Road approximately 260 feet south of the existing mid-block crosswalk. This new crossing would align with the proposed South Hotel improvements. The existing mid-block crosswalk and the adjacent driveway to the parking lot on the east side of Minaret Road would be eliminated. The TSMP proposes Class II bike lanes along Minaret Road and along Forest Trail which is not included in the Minaret Alignment Study.

(5) Parking

4.D-5 The Project is expected to generate demand for approximately 52 additional parking spaces throughout the Town during the summer season and 46 parking spaces throughout the town during the winter season. Because the Project would provide approximately 60 new spaces at four TSMP locations and additional parking at SHARP sites, it would not exceed anticipated parking demand. Impacts with respect to parking would be less than significant.

(a) Parking Impacts

Summer Parking Demand

Parking Demand of Additional MUP Trail Users

The proposed TSMP is expected to result in an increase of approximately 40 bicyclists and 160 pedestrians using the MUP trails during the summer peak hour. The increase in parking demand associated with the increase in paved MUP trail users is derived by multiplying the number of users by the proportion of users arriving by car (19 percent of bicyclists and 49 percent of pedestrians using the MUP arrive by car). This total is divided by the average vehicle occupancy rate (approximately 3 bicyclists per car and 2 pedestrians per car). This would yield an increase in peak hour parking demand by approximately 3 spaces for bicyclists and 39 spaces for pedestrians. The total increase in parking demand associated with the additional paved MUP trails is approximately 42 spaces.

Parking Demand of Additional Unpaved Trail Use

Parking impacts associated with the potential formalization and/or realignment of the soft-surface trails in the Knolls area and Shady Rest area are expected to be minimal since these areas are already in active use. The Project description contains nothing to indicate an undue parking impact would result at any one location. Overall, the increase in parking demand generated by the proposed soft-surface trails is expected to be minimal. Implementation of the SHARP may close some USFS roads to motorized vehicles, but it would allow OHV's to stage at the Borrow Pit and travel along the entire length of Sherwin Creek Road from the Borrow Pit to US 395. As a result, some OHV users who currently park at other staging areas are expected to shift to the Borrow Pit parking area. No summer count data is available regarding OHV use. However, in the professional judgment of LSC Transportation Consultants, it is estimated that implementation of the SHARP would result in an increase in peak hour parking demand of 10 parking spaces.

Summary

Paved or hard-surface MUP trails, new and improved soft-surface trails, improved trail connectivity throughout Town, additional sidewalks, and new Class II bike lanes under the TSMP and SHARP are expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Additionally, the portion of MUP users parking at the trailheads would generally decrease, as the MUP would be easier to access from the various neighborhoods by non-auto means. Conversely, the improved trail system and facilities could increase the number of persons using the trails and facilities, which could increase the parking demand if trail users park at trailheads. Therefore, it is conservatively estimated that the TSMP and SHARP could generate an increase in parking demand of approximately 52 parking spaces throughout Town during the summer peak hour. Because this demand would be distributed to the various trailhead locations, no concentrated parking demand is expected at any one location. Overall, provision of the additional pedestrian, bicycle, and transit facilities included in the proposed TSMP and the SHARP would result in a general increase in non-auto travel. The latter would offset the increase in parking demand to some degree. However, it is expected that a demand for a total of at least 52 additional summer parking spaces would be needed.

Winter Parking Demand

As described above, the additional approximately 2.7 miles of non-motorized groomed trails proposed for the Shady Rest area are expected to result in an increase in winter parking demand of approximately 14 spaces. The additional 5.1 miles of non-motorized groomed trails in the Sherwins area are estimated to result in an increase of approximately 26 parking spaces (5.1 multiplied by 14 spaces per 2.7 miles). Up to 20 additional spaces could be associated with the new motorized groomed trails. The resulting total parking demand of the additional winter trails is approximately 46 spaces. It is therefore recommended that at least 46 additional winter parking spaces be provided as a part of the proposed project.

Proposed Increase in Parking Supply

With implementation of the proposed TSMP, approximately 15 new parking spaces are proposed to be provided at each of the following recreation nodes, for a total of approximately 60 new parking spaces:

- Mammoth Creek Park, East (Project Number 134, summer and winter)
- Power Plant, North Side of SR 203 (Project Number 44, winter only)

- Sherwin Creek Road Borrow Pit (Project Number 163, summer and winter)
- Sierra Boulevard at Forest Trail (Project Number 64, summer and winter)

In addition, the following new parking spaces are proposed to be constructed in the Sherwins Area:

- Expanded parking area at Old Mammoth Road winter closure/Mill City (SHARP Winter ID #6 and Summer ID #4)
- New parking area at the Lake Mary Road winter closure (SHARP Winter Project ID #16)

In addition, the USFS currently plans to add approximately 25 new spaces at Shady Rest Park for motorized staging. However, these additional spaces, which are planned to be constructed in the near term, are not tied to the TSMP project.

Conclusion

Access to recreational facilities over the course of a peak day is typically limited by the amount of parking available. However, it is estimated that a total of at least 52 additional summer parking spaces and 46 additional winter parking spaces would be needed as a part of the proposed project. Because more than 60 new parking spaces would be included in the proposed TSMP, adequate overall parking conditions would be provided. The Project's parking demand is not expected to exceed supply and, therefore, parking impacts would be less than significant.

(6) Transit

4.D-6 Provision of transit services to trailheads under the TSMP would increase demand for transit. However, the ESTA has the flexibility to make adjustments in services, which are funded by occupancy taxes and other revenues. Revenue would increase with growth in transient development and respective increased demand. Because provisions are available for transit growth, increased demand for trailhead services would not significantly impact the performance or safety of transit facilities.

Transit service is considered to access a trailhead if a bus route is located within one-quarter mile of the trailhead. Some existing trailheads in Mammoth, such as the Shady Rest Park trailhead, are located more than one-quarter mile away from the existing bus routes. However, the TSMP proposes bus/trolley stops at or near all summer and winter trailheads, where feasible. Implementation of the TSMP and provision of more convenient access by bus to certain trailheads could increase demand on portions of the transit system.

Certain bus routes, notably the winter Red Line, are sometimes at capacity under existing conditions. However, ESTA monitors the current transit system and is able to make adjustments, such as reduced headways or providing additional buses during peak periods. The Town directs a portion of Transient Occupancy Tax to fund transit system improvements, and also collects an annual transit fee from all transient development projects. As the Town grows, these revenues are also expected to increase in proportion to the increased demand on the transit system, allowing for needed capacity and other improvements to be funded. Because the ESTA has the flexibility to adjust transit services and additional transit services would increase as demand increases, the Project is not expected to significantly affect the overall capacity of the transit system. Therefore, the Project is not expected to significantly impact transit with respect to performance or safety.

3. MITIGATION MEASURES

Mitigation Measure 4.L-1: Modifications shall be made to provide at least 150 feet of stopping sight distance for northbound drivers approaching the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment.

4. CUMULATIVE IMPACTS

4.L-7 Although traffic volumes in Mammoth are generally expected to increase in the future, the proposed TSMP project would not result in a significant impact on traffic operations under future cumulative conditions.

As discussed above, the proposed project would not significantly change traffic volumes at any one location. Although traffic volumes in Mammoth are generally expected to increase in the future, the proposed TSMP project is not expected to result in a significant impact on traffic operations under future cumulative conditions.

5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to traffic levels on local roadways and intersections, VMTs, plan consistency, parking, and transit would be less than significant and no mitigation measures are required. Safety hazard impacts associated with sight distance at the Majestic Pines Drive MUP crossing (between Meridian Boulevard and Monterey Pine Road) would be reduced to a less than significant level through improvements in the line-of-sight stopping distance for northbound drivers, as required under Mitigation Measure 4.L-1.

5.0 ALTERNATIVES

5.0 ALTERNATIVES

INTRODUCTION

Under CEQA, the identification and analysis of alternatives to a project is a fundamental part of the environmental review process. CEQA Public Resources Code Section 21002.1(a) establishes the need to address alternatives in an EIR by stating that in addition to determining a project's significant environmental impacts and indicating potential means of mitigating or avoiding those impacts, "the purpose of an environmental impact report is to identify alternatives to the project."

Direction regarding the definition of project alternatives is provided in the *CEQA Guidelines* as follows:

*An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.*¹

CEQA Guidelines emphasize that the selection of project alternatives be based primarily on the ability to reduce impacts relative to the proposed project, "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly."² The Guidelines further direct that the range of alternatives be guided by a "rule of reason," such that only those alternatives necessary to permit a reasoned choice are addressed.³

In selecting project alternatives for analysis, potential alternatives must pass a test of feasibility. *CEQA Guidelines* Section 15126.6(f)(1) states that:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site . . .

Beyond these factors, *CEQA Guidelines* require the analysis of a "no project" alternative and an evaluation of alternative location(s) for the project, if feasible. Based on the alternatives analysis, an environmentally superior alternative is to be designated. If the environmentally superior alternative is the No Project Alternative, then the EIR shall identify an environmentally superior alternative among the other alternatives.⁴ In addition, *CEQA Guidelines* Section 15126.6(c) requires that an EIR identify any alternatives that were considered for analysis but rejected as infeasible and discuss the reasons for their rejection.

¹ *CEQA Guidelines* Section 15126.6(a).

² *CEQA Guidelines* Section 15126.6(b).

³ *CEQA Guidelines* Section 15126.6(f).

⁴ *CEQA Guidelines* Section 15126.6(e)(2).

Of the various alternatives available for evaluation, the process of selecting project alternatives to be analyzed in this EIR included an identification of the significant effects associated with the Project, a review of the basic objectives established for the project (outlined in Chapter 2, *Project Description*, and in subsection 2, below), and consideration of the land use plans applicable to the project site. Based on these factors, the alternatives that were selected for analysis include:

- **No Project/No Development Alternative:** Under the No Project/No Development Alternative, no improvements to the Planning Area would occur with regard to trails and other recreational facilities. Existing trails and recreational facilities would not be improved/expanded and would continue to operate as they do currently.
- **No Project/Existing Trail Plan Alternative:** Under the No Project/Existing Trail Plan Alternative, the adopted 1991 Mammoth Lakes Trail System Plan would be implemented, which includes the Main Path and Future/Alternative Trails within and outside the Town's UGB, including trails in the Sherwin, Knolls and Shady Rest areas.
- **Reduced Trail Network Alternative:** The Reduced Trail Network Alternative would represent a reduced intensity project that would implement only those TSMP improvements proposed within the Town's UGB, but would not include any of the SHARP projects or other trails and related improvements outside the Town's UGB.

Each of these alternatives is described in more detail in Subsection 5.B, below.

1. OBJECTIVES OF THE PROPOSED PROJECT

The following set of goals and objectives, which are also included in Chapter 2, *Project Description*, of this EIR, have been identified for the Project. These goals and objectives have been considered in the development of the alternatives outlined above.

Goal 1: Develop a plan for an integrated year-round trail network that provides for a seamless transition between the Town of Mammoth Lakes, the Mammoth Mountain Ski Area, and the surrounding federal lands (USFS).

- Objective 1.1: *Identify improvements for signage, wayfinding and amenities throughout the existing network.*
- Objective 1.2: *Close gaps in the existing network.*
- Objective 1.3: *Expand the network within the Urban Growth Boundary to provide access to new destinations, activities and experiences from both public and private property.*
- Objective 1.4: *Identify locations for potential recreation nodes and public access easements that will enhance connections between Town and surrounding public lands for summer and winter recreation.*
- Objective 1.5: *Identify preferred summer and winter uses for each segment in the network.*

- Objective 1.6: *Provide design guidelines that will minimize user conflicts, provide for sustainability, and reduce maintenance needs.*
- Objective 1.7: *Provide uniform signage and wayfinding along the network and at all recreation nodes.*

Goal 2: Develop a plan that enhances mobility in a way that is consistent with the Town’s “Feet First” strategy.

- Objective 2.1: *Identify necessary improvements to improve pedestrian safety, convenience and comfort.*
- Objective 2.2: *Update the General Bikeway Plan and develop an on-street bikeway network that enhances bicyclist safety, convenience and comfort.*
- Objective 2.3: *Ensure that pedestrians and bicyclists can access the public transit system safely, conveniently and comfortably; and that public transit serves all key recreation nodes.*
- Objective 2.4: *Provide the information necessary for residents and visitors to navigate around town on foot, bicycle and transit.*

Goal 3: Create a plan that clearly identifies the projects and programs necessary for implementation.

- Objective 3.1: *Provide specific lists of projects that the Town of Mammoth Lakes can incorporate into the Capital Improvement Program. Complete the near-term projects identified in the Trail System Master Plan in the next two years.*

The SHARP also includes the following goals:

- SHARP Goal 1:** Avoid potential user conflicts while locating recreation facilities appropriately.
- SHARP Goal 2:** Achieve low overall impact by improving or better defining what is already present.
- SHARP Goal 3:** Provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding.
- SHARP Goal 4:** Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other.
- SHARP Goal 5:** Identify opportunities to enhance connectivity and public safety.
- SHARP Goal 6:** Further wildlife and resource protection, sustainability, and stewardship.
- SHARP Goal 7:** Achieve practical solutions.
- SHARP Goal 8:** Maintain opportunities for wildlife observation and interaction.

2. ALTERNATIVES CONSIDERED AND REJECTED

In accordance with *CEQA Guidelines* Section 15126.6(c), an EIR should identify any alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. According to the *CEQA Guidelines*, among the factors that may be used to eliminate alternatives from detailed consideration are the alternative's failure to meet most of the basic project objectives (outlined above), the alternative's infeasibility, or the alternative's inability to avoid significant environmental impacts. Those alternatives that have been considered and rejected as infeasible are summarized as follows:

- Alternative locations distant from the project site: While it is possible that additional trails and other recreational facilities serving the Town of Mammoth Lakes and surrounding communities could be constructed in areas farther away from the Town and overall Project Area, this would not serve to achieve the overarching intent of the Project, which is generally to formalize and integrate existing and future proposed trails and other recreational facilities to achieve a unified, interconnected system of trails, paths, and recreational destinations within and around the Town of Mammoth Lakes. By locating trails and other recreational facilities at greater distances from the Town population and surrounding communities than is proposed under the Project, this alternative would fail to provide an integrated trail system that is best suited to facilitate use by the population concentrated in and around the Town, and would not provide necessary connections between the Town, MMSA, and USFS lands. Therefore, this alternative would not achieve one of the fundamental goals of the Project and was therefore rejected from consideration.

3. ANALYSIS FORMAT

In accordance with *CEQA Guidelines* Section 15126.6(d), each alternative is evaluated in sufficient detail to determine whether the overall environmental impacts would be fewer, similar, or greater than the corresponding impacts of the Project. Furthermore, each alternative is evaluated to determine whether the project objectives, as stated above, will be substantially attained by the alternative. The evaluation of each of the alternatives follows the process described below:

- a. The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in the EIR.
- b. Post-mitigation significant and non-significant environmental impacts of the alternative and the project are compared for each environmental issue area. Where the net impact of the alternative will be clearly less adverse or more beneficial than the impact of the project, the comparative impact is said to be "less." Where the alternative's net impact will be clearly more adverse or less beneficial than the project, the comparative impact is said to be "greater." Where the impacts of the alternative and the project will be roughly equivalent, the comparative impact is said to be "similar."
- c. The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose and basic project objectives are substantially attained by the alternative.

Table 5-1, *Comparison of Impacts Associated with the Alternatives and Impacts of the Project*, provides a summary comparison of the impacts associated with each of the proposed alternatives with the impacts of the Project.

Table 5-1

**Comparison of Impacts Associated with the Alternatives
and Impacts of the Project**

	Project Impact	Alternative A No Project/ No Development	Alternative B No Project/Existing Trail Plan	Alternative C Reduced Trails Network
A. Aesthetics				
Scenic Vistas	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Scenic Resources	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Visual Quality and Character	Less Than Significant With Mitigation - Construction Less Than Significant - Operation	Less (No Impact - Construction) Greater (Less Than Significant - Operation)	Less (Less Than Significant With Mitigation - Construction) Less (Less Than Significant - Operation)	Less (Less Than Significant With Mitigation - Construction) Less (Less Than Significant - Operation)
Light and Glare	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
B. Air Quality				
Localized Construction Emissions	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Regional Construction Emissions	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Operational Emissions	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
AQMP Consistency	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
C. Biological Resources				
Sensitive Species	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Sensitive habitats	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Wetlands	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Wildlife Corridors	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Local ordinances	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
HCCP	No Impact	Similar (No Impact)	Similar (No Impact)	Similar (No Impact)

Table 5-1 (Continued)

**Comparison of Impacts Associated with the Alternatives
and Impacts of the Project**

	Project Impact	Alternative A No Project/ No Development	Alternative B No Project/Existing Trail Plan	Alternative C Reduced Trails Network
<i>D. Cultural Resources</i>				
Historic Resources	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Archaeological Resources	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Paleontological Resources	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Human Remains	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
<i>E. Geology and Soils</i>				
Seismic Ground Shaking	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Seismic-related ground failure	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Landslides	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Soil Erosion/Loss of Topsoil	Less Than Significant With Mitigation	Greater (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Geologic Stability	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant With Mitigation)	Less (Less Than Significant With Mitigation)
Alternative Wastewater Disposal Systems	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
<i>F. Greenhouse Gas Emissions</i>				
GHG Emissions	Less Than Significant	Greater (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Plan Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)

Table 5-1 (Continued)

**Comparison of Impacts Associated with the Alternatives
and Impacts of the Project**

	Project Impact	Alternative A No Project/ No Development	Alternative B No Project/Existing Trail Plan	Alternative C Reduced Trails Network
G. Wildland Fires/Fire Protection				
Wildland Fires	Less Than Significant With Mitigation	Less (No Impact)	Similar (Less Than Significant with Mitigation)	Similar (Less Than Significant with Mitigation)
Fire Protection Services	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
H. Hydrology and Water Quality				
Water Quality	Less Than Significant With Mitigation	Greater (No Impact)	Less (Less Than Significant with Mitigation)	Less (Less Than Significant with Mitigation)
Drainage Patterns	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Flooding	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant with Mitigation)	Less (Less Than Significant with Mitigation)
I. Land Use and Planning				
Plan Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
J. Noise				
Noise - Construction	Less Than Significant With Mitigation	Less (No Impact)	Less (Less Than Significant with Mitigation)	Less (Less Than Significant with Mitigation)
Noise - Operation	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Vibration	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
K. Recreation				
Parks and Recreational Facilities	Less Than Significant	Greater (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Park Plans/Policies	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)

Table 5-1 (Continued)

**Comparison of Impacts Associated with the Alternatives
and Impacts of the Project**

	Project Impact	Alternative A No Project/ No Development	Alternative B No Project/Existing Trail Plan	Alternative C Reduced Trails Network
<i>L. Transportation/Traffic</i>				
Traffic	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Vehicle Miles Traveled (VMT)	Less Than Significant	Less (No Impact)	Less (Less Than Significant)	Less (Less Than Significant)
Vehicular Hazards	Less Than Significant With Mitigation	Less (No Impact)	Similar (Less Than Significant With Mitigation)	Similar (Less Than Significant With Mitigation)
Plan Consistency	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
Parking	Less Than Significant	Less (No Impact)	Similar (Less Than Significant)	Similar (Less Than Significant)
<hr/> <p><i>Source: PCR Services Corporation, 2011.</i></p>				

4. ALTERNATIVE ANALYSIS

a. Alternative A – No Project/No Development Alternative

Under the No Project/No Development Alternative, no improvements to the Planning Area would occur with regard to trails and other recreational facilities. Existing trails and recreational facilities would not be improved or expanded and would continue to operate as they do currently.

(1) Environmental Impact Categories

(a) Aesthetics

Under the No Project/No Development Alternative, no trail-related or other recreational facility improvements would occur, and existing trails and other facilities would continue to operate as under existing conditions. As such, no impacts to scenic vistas or scenic resources would result from this Alternative since no construction or physical improvements would occur. However, the beneficial effect of the proposed Project relative to visual character and quality through improved signage, opportunities to consolidate and improve existing informal use trails and parking areas, improve erosion control, and trail maintenance would not occur under this Alternative; however temporary construction effects on visual character and quality would be avoided. Light and glare effects would also not occur under this Alternative. As such, overall, the No Project/No Development Alternative would result in fewer impacts than the Project relative to aesthetics, as no impacts would occur.

(b) Air Quality

Under this Alternative, no construction activities would be necessary and no changes to existing facilities or the use of such facilities would occur. Accordingly, no additional air pollutant emissions would be generated by implementation of this Alternative and therefore no impacts to localized or regional construction emissions or operational emissions would occur. Similarly, given no net increase in air pollutant emissions, no impacts related to AQMP consistency would occur. Impacts would be less than the Project relative to air quality. At the same time, by not building the proposed trail system, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular emissions and associated improvement in long-term air quality,

(c) Biological Resources

This Alternative would not result in any physical changes to the environment, and therefore this Alternative would not have the potential to adversely affect sensitive species or habitats, including wetlands. Additionally, the lack of physical impacts under this Alternative would serve to avoid impacts to wildlife corridors and conflicts with local ordinances protecting biological resources. Impacts to biological resources would be less than under the Project due to the lack of any physical development or ground disturbance. Similar to the proposed Project, no impact to habitat conservation plans would occur under this Alternative.

(d) Cultural Resources

Due to the lack of ground disturbing activities or physical development under this Alternative, no impacts to archaeological, paleontological, or historic resources would occur. Existing resources in the Project Area,

both known and undiscovered, would not be affected by implementation of this Alternative. As such, impacts to cultural resources would be less than the Project.

(e) Geology and Soils

The No Project/No Development Alternative would not result in any physical changes to the Project Area, and therefore would not have the potential to expose people or structures to increased risks associated with seismic ground shaking or seismic-related ground failure. Similarly, no impacts related to landslides, geologic stability, or alternative wastewater disposal systems would result from this Alternative since no additional development would occur. However, this Alternative would not implement trail improvements with regard to stormwater management and erosion control, and therefore operational impacts related to soil erosion and loss of topsoil would be greater than under the proposed Project. Nonetheless, overall geology and soils impacts under this Alternative would be less than the proposed Project.

(f) Global Climate Change

No development would occur under this Alternative, and as such to additional GHG emissions would result from its implementation. Therefore, this Alternative would not result in any adverse impacts related to GHG emissions or consistency with any applicable plan, policy, or regulation to reduce GHG emissions, and impacts would be less than the Project. Similar to the discussion for air quality impacts, above, by not building the proposed trail system, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular emissions and associated reductions in GHG emissions.

(g) Wildland Fires/Fire Protection

No changes to the existing environment would occur under this Alternative, and trail and other recreational facility use would be expected to be similar to existing conditions. As such, no incremental increase in trail or other facility use, and associated wildland fire risk, is anticipated. Similarly, given the lack of improvements or increase in trail or other facility use, no increase in demand for fire protection services would occur under this Alternative, and therefore no impacts would occur in this regard. Overall, impacts would be less than the Project under Alternative A.

(h) Hydrology and Water Quality

Alternative A would not result in any physical development, and therefore no construction or ground-disturbing activities would occur that could temporarily increase potential adverse water quality effects to receiving waters or other sensitive resources. Likewise, the lack of physical changes to the environment would preclude potential adverse effects related to altered drainage patterns or flooding. However, since trail and other recreational facility improvements would not occur, including associated stormwater management facilities and BMPs, operational water quality impacts would be greater than under the proposed Project. Overall, however, Alternative A would result in reduced impacts relative to hydrology and water quality.

(i) Land Use and Planning

The No Project/No Development Alternative would not entail any approvals or physical improvements. As such, this Alternative would have no potential to result in conflicts with existing plans, policies, or

regulations applicable to the Project Area. Therefore, no land use impact would occur and impacts would be less than the proposed Project.

(j) Noise

Implementation of Alternative A would not result in any physical changes to the environment, and therefore would not have any potential to generate noise or vibration beyond what currently exists. Because this Alternative would not result in any construction activities and would not modify the exist operation of trails and other facilities in the Project Area, no impacts related to noise or vibration would occur. Therefore, noise and vibration impacts would be less than under the Project.

(k) Recreation

The No Project/No Development Alternative would not result in any changes to trails or other recreational facilities, nor would it affect the utilization of such facilities by the community. As such, this Alternative would not result in any adverse impacts to parks or recreational facilities. Likewise, the lack of any physical development or changes to recreational facilities under this Alternative would preclude the potential for conflicts with applicable plans regarding recreational facilities. However, the recreational opportunities offered by the development of a town-wide trails system, including improved connectivity to parks and open space lands in and around Mammoth Lakes would not be realized, which would be a worse condition relative to the proposed project. Therefore, impacts related to parks and recreational facilities would be greater than under the proposed Project.

(l) Transportation/Traffic

Potential transportation impacts associated with Alternative A are evaluated under summer and winter conditions. The No Project/No Development Alternative assumes no additional trail improvements are implemented. The following items are evaluated under this alternative:

- Traffic impacts are assessed in terms of trip generation and traffic operations of intersections and roadways throughout Town. Traffic impacts are also evaluated for the project construction phases.
- Project impact on Vehicle-Miles Traveled (VMT)
- Project impact on driver sight distance
- Project impact on pedestrian crossing conditions
- Impact on parking conditions

In addition, the interface between the proposed trail system and the transit system is addressed.

Traffic Impacts

Potential traffic impacts of the No Project/No Development Alternative are evaluated for both summer and winter conditions.

Summer Traffic Impacts

As no additional trails would be constructed under this alternative, no increase in summer trail users is expected. As a result, there would be no increase in vehicle trips associated with the trails. The portion of trips made in Mammoth via non-auto modes during the non-winter months is not expected to change. Additionally, the portion of MUP users driving to/from the trails would not change. No impact on traffic operations during the summer season is expected. The No Project/No Development Alternative would not cause intersection and roadway conditions to exceed adopted standards.

Winter Traffic Impacts

Under the No Project/No Development Alternative, no additional grooming or clearing of the trails for cross-country skiing or walking would occur. As such, no increase in winter trail use is expected. Similarly, as no additional trails would be groomed for motorized access, no increase in vehicle trips would be expected to result from this type of trail improvement. No traffic impacts would result from the No Project/No Development Alternative in the winter season, and no intersection and roadway conditions would exceed adopted standards.

Traffic Impacts During Construction

As no construction work is associated with the No Project/No Development Alternative, there is no potential for construction-related transportation impacts to occur.

Impact on Vehicle-Miles Traveled

The impact of the No Project/No Development Alternative on Vehicle-Miles Traveled (VMT) is evaluated for both summer and winter conditions. The effect of the proposed project on VMT in Mammoth is dependent on the total trip generation and the length of these vehicle trips. Implementation of the No Project/No Development Alternative is not expected to increase the number of persons travelling to use the trails system, as no additional trail improvements would be provided. Given this, and considering that there would be no change in the average trip length associated with the trails, no VMT impact is expected in the summer and winter seasons.

Driver Sight Distance

Driver stopping sight distance was reviewed at the existing at-grade MUP crossing locations. In general, adequate driver sight distance is provided, with the exception of one crossing location. There is an existing safety deficiency at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. The stopping sight distance provided for drivers traveling northbound along Majestic Pines Drive is limited by the horizontal curvature along the roadway and the existing embankment and vegetation. It is recommended that improvements be made to provide at least 150 feet of stopping sight distance for northbound drivers approaching this crossing. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment. With this improvement, the No Project/No Development Alternative would provide adequate driver sight distance.

Trail Crossing Conditions

Existing trail crossing conditions were reviewed. In general, adequate crossing conditions are provided under the No Project/No Development Alternative, with the exception of the driver sight distance concern discussed above.

Parking Impacts

The parking impacts of the No Project/No Development Alternative are evaluated. As no increase in the number of trail users is expected, and no change in the existing non-auto mode split is expected under the alternative, no change in parking demand would occur during the summer season. In the winter, no additional groomed trails would be provided, and no increase in trail users is expected. Therefore, no change in parking demand would occur. Access to recreational facilities over the course of a peak day is typically limited by the amount of parking available; the alternative would not increase the amount of available parking, or formalize and consolidate any of the existing informal parking that occurs at some locations near trails. On balance, however, since the No Project/No Development Alternative is considered to provide adequate overall parking conditions, the net impact relative to the proposed project would be neutral.

Interface Between Trail System and Transit System

The locations of existing transit facilities are reviewed with respect to existing trailhead locations. Transit service is considered to access a trailhead if a bus route is located within one-quarter mile of the trailhead. Some existing trailheads in Mammoth are located more than one-quarter mile away from the existing bus routes. No additional bus/trolley service or transit facilities are proposed to be provided under the No Project/No Development Alternative. However, as the No Project/No Development Alternative would not decrease the performance or safety of transit facilities, this is not considered to be a significant impact.

Future Cumulative Conditions

Although traffic volumes in Mammoth are generally expected to increase in the future, the No Project/No Development Alternative would not impact traffic operations under future cumulative conditions.

Traffic/Transportation Impact Summary

Overall, Alternative A would not result in any changes to the existing traffic system or have any effect on traffic patterns, levels of service, or availability of parking. However, the alternative would not expand the trails system or provide new opportunities for vehicle trips to be diverted to non-auto modes. Nonetheless, on balance the traffic and parking impacts are less than under the proposed Project, as no additional traffic would be generated under this Alternative. However, recommended improvements regarding adequate driver sight distance at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road would still be required to reduce the significance of impacts in this regard, similar to the proposed Project.

(2) Impact Summary

A comparative summary of the environmental impacts associated with the No Project/No Development Alternative with the environmental impacts anticipated under the Project is provided in Table 5-1. As summarized in Table 5-1, the No Project/No Development Alternative would result in reduced impacts with regard to all environmental issues, with the exception of operational visual quality and character (greater impact than the Project), impacts to habitat conservation plans (similar impact to the Project), soil erosion/loss of topsoil (greater impact than the Project), operational water quality (greater impact than the Project), recreation (parks and recreational facilities), and vehicular hazards (similar impact to the Project).

(3) Relationship of the Alternative to Project Objectives

The ability of Alternative A to meet the stated goals and objectives of the Project is summarized below in **Table 5-2, *Project Alternatives' Ability to Meet Project Goals and Objectives***. As summarized in Table 5-2, Alternative A would fail to meet any of the Project's goals and objectives, either partially or fully.

b. Alternative B – No Project/Existing Trail Plan Alternative

Under the No Project/Existing Trail Plan Alternative, the adopted 1991 Mammoth Lakes Trail System Plan would be implemented, which includes the Main Path and Future/Alternative Trails within and outside the Town's UGB including trails in the Sherwin, Knolls and Shady Rest areas. The 1991 TSMP has a much more limited set of related improvements than the proposed Project; for example, it does not include bicycle facilities or any substantial improvements to recreational nodes. Under this Alternative, remaining unbuilt Main Path segments would be built, including the "4A" segment between Mammoth Creek Park and Minaret Road, Lodestar, and Main Street segments. "Future/Alternative" Trails would also be developed within and outside the Town's UGB as deemed necessary, which would include Shady Rest Park Trail, Meridian Trail, Mammoth Creek Trail, Sherwin Trail, Sherwin Creek Trail, Mammoth Mountain Trail, and Knolls/Overlook Trail. These improvements would be implemented in accordance with the design specifications and other recommendations contained in the adopted 1991 Trail System Plan, as well as any subsequent amendments.

(1) Environmental Impact Categories

(a) Aesthetics

Under the No Project/Existing Trails Plan Alternative, the 1991 Trail System Plan would be fully implemented similar to the proposed Project, but would be limited in terms of geography and intensity of improvements. Under this Alternative, temporary construction activities and operation of permanent improvements would result in less than significant impacts to scenic vistas and other scenic resources in the Project Area, but to a lesser extent than the Project given the reduction in number and intensity of improvements. Similarly, this Alternative would result in reduced impacts to visual quality and character during construction relative to the Project, though mitigation measures would still be required to reduce impacts to less than significant. Operational impacts regarding visual quality and character would be less than significant and less than the Project. Due to the reduction in number and intensity of proposed improvements under this Alternative, light and glare impacts would also be reduced, and would be less than significant.

(b) Air Quality

Implementation of Alternative B would entail the construction of improvements per the 1991 Trail System Plan, which would represent a reduction in intensity of development and usage of proposed facilities relative to the proposed project. This incremental reduction in trail and other facilities under this Alternative would result in a proportionate reduction in air pollutant emissions associated with construction and operation of proposed facilities. Therefore, localized and regional construction emissions impacts, as well as operational emissions impacts, would be reduced relative to the proposed Project, though mitigation measures would still be required to reduce construction-related impacts to less than significant. Given the reduction in overall emissions, impacts related to AQMP consistency would also be less than significant, similar to the proposed Project. By not building a trail network as extensive as the proposed Project, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular emissions and associated improvement in long-term air quality,

(c) Biological Resources

The No Project/Existing Trails Plan Alternative would result in similar improvements as under the proposed Project, but would be reduced in terms of number of improvements and intensity of construction activities and operational utilization. Therefore, the implementation of this Alternative would have a reduced potential to adversely affect sensitive species and habitats (including wetlands) due to fewer construction activities relative to the proposed project. Similarly, operation of proposed facilities under this Alternative would result in incrementally reduced trail and other facility usage by the community, and therefore operational effects on biological resources would be less than the proposed Project. Additionally, the reduction in construction activities and operational intensity within the Project Area would result in fewer impacts regarding wildlife corridors and conflicts with local ordinances protecting biological resources relative to the Project. However, similar to the proposed Project, this Alternative would not result in any impacts associated with habitat conservation plans.

(d) Cultural Resources

The No Project/Existing Trails Plan Alternative would implement a number of trail and other recreational facility improvements within the Project Area, but would include substantially fewer construction activities, particularly outside the Town's UGB. Accordingly, given the reduction in construction intensity and associated ground disturbance, the potential for adverse impacts to archaeological and paleontological resources, including human remains, would be incrementally reduced relative to the Project, though mitigation measures would still be required to reduce the significance of these impacts. Likewise, based on the reduction in proposed improvements and associated construction activities under this Alternative, impacts related to historic resources would also be proportionately reduced, though mitigation measures would still be required to reduce impacts to less than significant.

(e) Geology and Soils

Alternative B would result in the implementation of trail and other recreational facility improvements throughout the Project Area, but to a lesser degree than the Project. Therefore, this Alternative would expose fewer people and structures to hazards associated with seismic ground shaking and seismic-related ground failure, and these impacts would be less than the Project and less than significant. Similarly, impacts related to landslides, soil erosion/loss of topsoil, and geologic stability would be incrementally reduced compared to the Project, but mitigation would still be required to reduce impacts to less than significant.

However, similar to the proposed Project, impacts related to alternative wastewater disposal systems would be less than significant.

(f) Greenhouse Gas Emissions

This Alternative would result in reduced construction activities and trail and other recreational facility usage relative to the Project, and therefore its implementation would be expected to generate incrementally fewer GHG emissions. Based on the overall reduction in construction and operational GHG emissions under this Alternative, impacts in this regard would be less than the proposed Project and would be less than significant. However, as is the case with the Project, this Alternative would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions, and impacts would be less than significant. By not building a trail network as extensive as the proposed Project, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular-related GHG emissions.

(g) Wildland Fires/Fire Protection

The reduction in overall trail and other recreational facility usage under the No Project/Existing Trails Plan Alternative would have a proportionate effect on wildland fire potential associated with operation of proposed facilities. With the reduction in trail and recreational facility usage in and near wildland areas, wildland fire hazard impacts would be less than the Project, though mitigation would still be required to reduce impacts to less than significant. Additionally, this Alternative would result in a reduction in demands for fire protection services compared to the Project, and impacts would be less than significant in this regard.

(h) Hydrology and Water Quality

Implementation of Alternative B would entail fewer improvements than those included under the proposed Project, and as such this Alternative would result in reduced construction activities and operational intensity within the Project Area. Therefore, Alternative B would require less earthwork and would have a reduced potential to result in adverse water quality effects during construction activities, and would also have a lower potential to contribute to impacts to receiving water bodies or other sensitive resources during project operations. Although this Alternative would have a reduced potential to result in adverse water quality impacts, mitigation measures would still be required to address construction and operation of proposed facilities and reduce impacts to less than significant. Similarly, the reduced intensity of construction and operation under this Alternative would result in fewer impacts regarding drainage patterns and flooding potential relative to the Project; impacts would be less than significant, though mitigation would still be required to reduce flooding impacts to less than significant.

(i) Land Use and Planning

This Alternative would implement the Town's adopted 1991 Trails System Plan and would not require any further plan amendments or approvals to implement. While this Alternative may require incidental approvals for specific improvements (e.g., Conditional Use Permits), such approvals would be similar to those required for the proposed Project, which would also require approval of the TSMP itself in addition to incidental permits and other approvals. This Alternative would not conflict with any applicable plans, policies, or regulations affecting the Project Area. As such, impacts would be less than significant and similar to the proposed Project.

(j) Noise

As noted previously, this Alternative would result in incrementally reduced construction and operational intensity relative to the proposed Project. Accordingly, noise and vibration effects associated with the proposed improvements would be incrementally reduced compared to the Project. Construction activities would still require mitigation measures to reduce temporary noise impacts to less than significant, but operational noise, and construction and operational vibration effects, would be less than significant.

(k) Recreation

Alternative B would result in the improvement of various trails and other recreational facilities within the Project Area, but to a lesser extent than under the proposed Project. The proposed improvements would serve to increase the usability and safety of existing facilities and improve overall connectivity, but would not be expected to result in the deterioration of parks and recreational facilities, as their use would not be substantially greater than under existing conditions. Given that the proposed Project would result in less than significant impacts in this regard, this Alternative would also result in less than significant impacts, but would be incrementally reduced relative to the Project. Additionally, Alternative B would not result in conflicts with existing plans regarding parks and recreational facilities, similar to the proposed Project.

(l) Transportation/Traffic

Potential transportation impacts associated with Alternative B, the full buildout of the existing 1991 TSMP improvements, are evaluated under summer and winter conditions. Specifically, the following items are evaluated:

- Traffic impacts are assessed in terms of trip generation and traffic operations of intersections and roadways throughout Town. Traffic impacts are also evaluated for the project construction phases.
- Project impact on Vehicle-Miles Traveled (VMT)
- Project impact on driver sight distance
- Project impact on pedestrian crossing conditions
- Project's consistency with other planning documents and studies
- Impact on parking conditions

In addition, the interface between the proposed trail system and the transit system is addressed.

Traffic Impacts

Potential traffic impacts are evaluated for both summer and winter conditions.

Summer Traffic Impacts

The potential increase in summer MUP trail users is estimated, in order to analyze the traffic impacts of the additional MUP trails. The summer traffic impacts of the unpaved trails are also assessed.

Potential Increase in MUP Trail Users

The 1991 TSMP includes an approximately 0.8 miles of additional MUP trails, which would fill-in the gaps in the existing “Main Path” forming a loop around Town. In addition, the 1991 plan includes a series of “Future/Alternative” trails extending out from the Main Path into the Mammoth Mountain Ski Area and other National Forest Lands. The plan does not specify whether the future trails are multi-use paths (similar to the existing MUPs) or soft-surface trails. Therefore, it is assumed that the future/alternative trails with alignments similar to the proposed 2009 MUPs, such as the trails in the Knolls area, the Shady Rest area, and through the meadow in the SHARP area, are multi-use paths. These paths are assumed to be ADA-accessible. The remaining future/alternative trails are assumed to be soft-surface trails. The future/alternative trails assumed to be MUPs total about 7.6 miles. The total increase in MUP trail length associated with the 1991 TSMP is estimated to be about 8.4 miles (0.8 plus 7.6). Adding 8.4 miles to the existing 13.8 miles yields a total proposed MUP trail length of approximately 22.2 miles. This equates to an increase in total MUP trail mileage of about 161 percent. In order to forecast the future total use with implementation of the 1991 TSMP, trail use is assumed to grow roughly equal to the relative growth in trail mileage, consistent with the assumptions for the proposed TSMP.

Multiplying the existing summer peak hour MUP trail use (250) by a factor of 161 percent (or 1.61) yields a total forecast future use of roughly 400 users during the busiest hour of trail use, comprised of about 80 bicyclists and 320 pedestrians. Multiplying this figure by the daily-to-peak hour factor of 6.54, yields a total future use of about 2,616 MUP users per day. Subtracting the total future use from the total existing use (1,635) yields a growth in MUP trail use of about 980 users per day, including roughly 150 users during the busiest summer hour (30 of which is a bicyclist and 120 are pedestrians).

Traffic Impacts of Additional MUPs

The increase in vehicle trips associated with the increase in MUP trail users was evaluated. The proposed TSMP is expected to result in an increase of about 30 bicyclist and 120 pedestrians using the MUP trails during the busiest summer hour. Multiplying the number of users by the proportion of users arriving by car (19 percent of bicyclists and 49 percent of pedestrians using the MUP arrive by car) and dividing by the average vehicle occupancy rate (about 3 bicyclists per car and 2 pedestrians per car) yields an increase of 2 vehicles for bicyclists and up to 30 vehicles for pedestrians. Therefore, an increase of about 32 vehicles is associated with the increase in trail users during the busiest hour. Assuming half of the trail users stay on the trails for more than an hour, about 32 vehicle trips arriving at the trails and 16 vehicle trips departing the trails, or a total of 48 one-way vehicle trips, are associated with the increase in MUP users parking to use the trails during the busiest summer hour.

In addition, about 3 percent of bicyclists and 11 percent of pedestrians are dropped off at the MUP trails. Multiplying the number of users by the proportion dropped off and dividing by the respective average vehicle occupancy rate yields an increase of up to 7 vehicles dropping off MUP trail users. As each drop off generates two one-way vehicle trips, the total increase in one-way trips generated by vehicles dropping off trail users is about 14 trips. Assuming the trail users dropped off are also picked up during the busiest hour, about 7 one-way trips are generated by vehicles picking up trail users, for a total of 21 one-way trips.

Adding the 48 one-way vehicle trips generated by MUP users who park at the trails to the 21 vehicle trips generated by MUP users being dropped off and picked up totals about 69 additional peak-hour one-way vehicle trips generated by the increase in MUP trail users.

Traffic Impacts of Unpaved Trails

The 1991 TSMP includes a series of “Future/Alternative” trails extending out from the Main Path into the Mammoth Mountain Ski Area and other National Forest Lands. As discussed above, about 7.6 miles of these trails are assumed to be MUP trails, and the remaining trails are assumed to be soft-surface trails. Many of these trails are in areas where informal trail use currently takes place. Implementation of the proposed soft-surface trail network is not expected to result in a significant traffic impact, as the traffic impacts would be widely-distributed. The future/alternative soft-surface trails are not expected to generate high concentrations of trail users at any one trailhead, and the 1991 TSMP contains nothing to indicate an undue traffic impact would result at any one location. Overall, the increase in vehicle trips generated by the soft-surface trails is expected to be minimal.

Summary

The 1991 TSMP proposes to add less than 9 miles of MUP trails, provide new and improved soft-surface trails, and improve the trail connectivity throughout Town. This is expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Additionally, the portion of MUP users driving to/from the trails would generally decrease, as the MUP would be easier to access from the various neighborhoods by non-auto means. Conversely, the improved trail system and facilities could increase the number of persons using the trails and facilities, which could increase the number of vehicle-trips occurring over the course of a busy day, as trail users drive to and from trailheads.

Implementation of the 1991 TSMP could conservatively generate an increase on the order of approximately 70 one-way vehicle trips throughout Town during the busiest summer hour of trail use. It is conservatively assumed that the busiest hour of trail use coincides with the summer peak hour of traffic activity in Mammoth, which generally occurs on weekend afternoons. As the project-generated trips would be distributed to the various trailhead locations, no significant Town-wide traffic impacts are expected to result. Overall, provision of the additional pedestrian and bicycle facilities included in the 1991 plan would result in a general increase in non-auto travel, which would offset the increase in vehicle trips to some degree. No significant impact on traffic operations during the summer season is anticipated. The 1991 TSMP is not expected to cause intersection and roadway conditions to exceed adopted standards.

In comparison with the proposed Project the 1991 TSMP would result in a smaller increase in vehicle trips during the summer season. Specifically, the 2009 TSMP is expected to generate about 30 more one-way peak-hour vehicle trips than the proposed Project.

Winter Traffic Impacts

The 1991 TSMP describes cross-country skiing as one of the primary uses to be accommodated on the Main Path. However, the extent (mileage) of trail to be groomed as a part of this plan is not specified. For the purposes of this study, it is assumed that no additional grooming of the Main Path is included beyond the approximately 2.5 miles of the eastern section of MUP that are currently authorized to be groomed during the winter. Grooming is assumed to be provided, however, along the “future/alternative” MUP assumed to be provided through the meadow in the Sherwins Area. Based on these assumptions, the potential increase in winter trail use is estimated in order to analyze the traffic impacts of the winter trails.

Additional Groomed MUPs

The traffic impacts associated with the new non-motorized groomed trails are estimated based upon the impacts associated with the proposed 2009 TSMP trails. Multiplying the total length of new trail assumed to be provided in the 1991 TSMP (about 3.7 miles of the “future/alternative” trails) by a rate of 5 peak hour vehicle trips per new mile of trail yields an increase of about 19 peak hour vehicle trips (10 entering and 9 exiting) associated with the future non-motorized groomed trails. Although the 1991 plan does not indicate if any of the future/alternative trails would be groomed for motorized access, a modest increase in vehicle trips would be expected to result from this type of trail improvement, given that informal use by snowmobilers already occurs in the area. In order to remain conservative, a total of about 5 new vehicle trips are estimated to be generated by potential motorized groomed trails during the winter peak hour. Any increase in traffic resulting from the formalization improvement of the other recreational facilities is expected to be minimal, considering that most of the areas of improvement are currently utilized under existing conditions.

Summary

Implementation of the 1991 TSMP could generate an increase on the order of about 24 one-way vehicle trips throughout Town during the busiest winter hour of trail use. It is conservatively assumed that the busiest hour of trail use coincides with the winter peak hour of traffic activity in Mammoth, which generally occurs between 4:00 PM and 6:00 PM. As the project-generated trips would be widely distributed, no significant traffic impacts would result from the project in the winter season. The 1991 TSMP is not expected to cause intersection and roadway conditions to exceed adopted standards. In comparison with the proposed 2009 TSMP, the 1991 TSMP would result in a smaller increase in vehicle trips during the winter season. Specifically, the 2009 TSMP is expected to generate about 22 more one-way peak-hour vehicle trips than the 1991 TSMP.

Traffic Impacts During Construction

Traffic impacts due to the construction phases of the 1991 TSMP project are considered. Long-term roadway closures are not expected to occur during construction of the project. Construction activities may occur at multiple locations concurrently. However, any potential transportation impacts associated with the project construction activities at any one time are expected to be modest. Project-specific construction management plans would be analyzed for each project location as well.

Impact on Vehicle-Miles Traveled

The impact of the 1991 TSMP on Vehicle-Miles Traveled (VMT) is evaluated for both summer and winter conditions. The effect of the proposed project on VMT in Mammoth is dependent on the total trip generation and the length of these vehicle trips.

Summer Vehicle-Miles Traveled

Implementation of the 1991 TSMP is not expected to increase the number of persons visiting the Mammoth area from other communities or other regions on a busy summer day, as world-class hiking trails are already provided in the Mammoth area. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area and the increase in non-auto mode travel throughout Town. Overall, the proposed project is not expected to result in a significant increase in VMT over the course of a summer day.

Winter Vehicle-Miles Traveled

Similar to summer conditions, implementation of the proposed project is not expected to significantly increase the number of persons visiting the Mammoth area from other communities or other regions on a busy winter day, as the existing trails already serve those wishing to recreate. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails closer to the urbanized area and the increase in non-auto mode travel throughout Town. Overall, the 1991 TSMP is not expected to result in a significant increase in VMT over the course of a winter day.

It is worth noting that the increase in traffic volumes resulting from the TSMP project would be highest during the summer season, which does not coincide with the peak season of traffic activity in the Mammoth area (traffic volumes in Mammoth are generally highest in the winter season).

Driver Sight Distance

Driver stopping sight distance was reviewed at the at-grade MUP crossing locations included in the 1991 TSMP. In general, adequate driver sight distance is expected to be provided, with the exception of one crossing location. There is an existing safety deficiency at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. The stopping sight distance provided for drivers traveling northbound along Majestic Pines Drive is limited by the horizontal curvature along the roadway and the existing embankment and vegetation. A detailed evaluation is included in the existing conditions chapter of the Project traffic study (included as Appendix I of this EIR). As the 1991 plan is expected to result in an increase in the number of MUP users at this location, it would therefore exacerbate the existing safety deficiency. This is considered to be a significant impact; however, it is recommended that the 1991 plans be modified to provide at least 150 feet of stopping sight distance for northbound drivers approaching

this crossing. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment. With this measure, adequate driver sight distance would be provided and impacts would be less than significant, similar to the proposed Project.

Trail Crossing Conditions

Trail crossing conditions are discussed under this Alternative. In general, adequate crossing conditions are expected to be provided under the No Project/Existing Trails Plan Alternative, with the exception of the driver sight distance concern discussed above. This Alternative is not expected to result in a significant impact on trail crossing conditions at the remaining trail crossings, similar to the proposed Project.

Consistency of 1991 TSMP With Other Planning Documents and Studies

The project's consistency with the following documents is evaluated:

- Main Street South Frontage Road Project and Promenade Walkway
- Main Street Signal Feasibility Study
- Caltrans SR 203 Transportation Concept Report
- Minaret Road Alignment Study
- Mobility Plan

Main Street South Frontage Road Project and Promenade Walkway

The only inconsistency identified between this Caltrans project and the 1991 TSMP project is that the Caltrans plan proposes a sidewalk where the 1991 plan includes a multi-use path from approximately Manzanita Street to Laurel Mountain Road.

Main Street Signal Plan Feasibility Study

No inconsistencies with the 1991 TSMP are identified.

SR 203 Transportation Concept Report

No inconsistencies between the Caltrans SR 203 Transportation Concept Report (TCR) and the 1991 TSMP are identified.

Minaret Road Alignment Study

No inconsistencies are identified between the Minaret Alignment Study and the 1991 TSMP.

General Bikeway Plan

The existing and proposed bikeways included in the adopted General Bikeway Plan were compared to those in the 1991 TSMP. With regards to Class 1 bike paths, the two plans are generally consistent, although the trail alignments differ in some locations. However, the Bikeway Plan includes additional Class 1 trail connections within the vicinity of the Sierra Star Golf Course. The Bikeway Plan also includes a Class 1 bike path along Lake Mary Road, whereas the 1991 TSMP includes an on-street bikeway. Finally, the Bikeway Plan includes on-street bikeways (Class II or Class III) along many roadways where the 1991 TSMP proposes no bicycle facilities.

Mobility Plan

No inconsistencies are identified between the Mobility Plan and the 1991 TSMP.

Parking Impacts

The impact of the 1991 TSMP on parking demand during summer and winter conditions is estimated, and conclusions and recommendations are made regarding overall parking conditions.

Summer Parking Demand

Parking Demand of Additional MUP Trail Users

The increase in parking demand associated with the increase in MUP trail users was evaluated. The 1991 TSMP is expected to result in an increase of about 30 bicyclists and 120 pedestrians using the MUP trails during the summer peak hour. Multiplying the number of users by the proportion of users arriving by car (19 percent of bicyclists and 49 percent of pedestrians using the MUP arrive by car) and dividing by the average vehicle occupancy rate (about 3 bicyclists per car and 2 pedestrians per car) yields an increase in peak hour parking demand of about 2 spaces for bicyclists and 30 spaces for pedestrians. Therefore, the total increase in parking demand associated with the additional MUP trails is about 32 spaces.

Parking Demand of Additional Unpaved Trail Use

As discussed above, the parking impacts associated with the potential soft-surface trails are expected to be minimal. The 1991 plan contains nothing to indicate an undue parking impact would result at any one location. Overall, the increase in parking demand generated by the potential soft-surface trails is expected to be minimal.

Summary

The 1991 TSMP is estimated to add just over 8 miles of MUP trails, provide new and improved soft-surface trails, and improve the trail connectivity throughout Town. This is expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Additionally, the portion of MUP users parking at the trailheads would generally decrease, as the MUP would be easier to access from the various neighborhoods by non-auto means. Conversely, the improved trail system and facilities could

increase the number of persons using the trails and facilities, which could increase the parking demand occurring over the course of a busy day, as trail users park at trailheads.

Implementation of the 1991 TSMP could conservatively generate an increase in parking demand on the order of approximately 32 parking spaces throughout Town during the summer peak hour. As this demand would be distributed to the various trailhead locations, no significant parking impacts are expected to result at any one location. Overall, provision of the additional pedestrian and bicycle facilities included in the 1991 TSMP would result in a general increase in non-auto travel, which would offset the increase in parking demand to some degree. However, it is recommended that a total of at least 32 additional summer parking spaces be provided as a part of the 1991 plan. In comparison, the proposed Project requires a total of 52 new spaces (20 more spaces than under this Alternative).

Winter Parking Demand

As described above, the additional approximately 3.7 miles of non-motorized groomed trails assumed in the 1991 TSMP are expected to generate about 10 additional vehicles parking during the peak hour. In addition, a total of about 3 parking spaces are estimated to be generated by potential motorized groomed trails during the winter peak hour. The total increase in winter parking demand is about 13 spaces. It is therefore recommended that at least 13 additional winter parking spaces be provided as a part of the 1991 TSMP. The number of additional parking spaces included in the 1991 plan is not specified.

Conclusion

Access to recreational facilities over the course of a peak day is typically limited by the amount of parking available. It is recommended that a total of at least 32 additional summer parking spaces and 13 additional winter parking spaces be provided as a part of the 1991 TSMP. As the 1991 TSMP does not specify the number of additional parking spaces, if any, that are included in the plan, this is a potentially significant impact. However, with provision of the recommended number of additional parking spaces, the 1991 TSMP would provide adequate overall parking conditions.

Interface between Trail System and Transit System

The locations of existing and proposed transit facilities are reviewed with respect to existing and proposed trailhead locations. Transit service is considered to access a trailhead if a bus route is located within one-quarter mile of the trailhead. Some existing trailheads in Mammoth are located more than one-quarter mile away from the existing bus routes. No additional bus/trolley service is included in the 1991 TSMP. However, as the 1991 plan would not decrease the performance or safety of transit facilities, this is not considered to be a significant impact.

Future Cumulative Conditions

As discussed above, the 1991 TSMP would not significantly change traffic volumes at any one location. Although traffic volumes in Mammoth are generally expected to increase in the future, the 1991 TSMP is not expected to result in a significant impact on traffic operations under future cumulative conditions.

Regarding trail crossings, the 1991 plan includes an at-grade MUP crossing where the existing MUP terminates at a point on Minaret Road approximately 150 feet to the north of its intersection with Old Mammoth Road. If a roundabout is installed at the Minaret Road/Old Mammoth Road intersection in the future, it is recommended that the at-grade MUP trail crossing be relocated to the splitter island. With this measure, adequate trail crossing conditions are expected to be provided.

Summary of Recommendations for the No Project/Existing Trails Plan Alternative

The following recommendations are made regarding driver sight distance, parking, and under the No Project/Existing Trails Plan Alternative:

- The 1991 TSMP plans should be modified to provide at least 150 feet of stopping sight distance for northbound drivers approaching the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment. With this measure, adequate driver sight distance would be provided.
- A total of at least 32 additional summer parking spaces and 13 additional winter parking spaces should be provided with the proposed project. With this measure, adequate overall parking conditions would be provided.
- If a roundabout is installed at the Minaret Road/Old Mammoth Road intersection, the at-grade MUP crossing on Minaret Road should be relocated to the splitter island. With this measure, adequate trail crossing conditions would be provided. Note that this issue does not apply to the proposed 2009 TSMP scenario, due to the fact that a tunnel is proposed to be constructed at this location in lieu of an at-grade crossing. Note that there is no mention of this crossing location under the No Project/No Build Alternative, as it is not an existing MUP crossing.

Traffic/Transportation Impact Summary

Overall, Alternative B would result in fewer changes to the existing traffic system and would have reduced adverse effects on traffic patterns, levels of service, or availability of parking. Therefore, traffic and parking impacts are less than under the proposed Project, as less additional traffic would be generated under this Alternative. However, recommended improvements regarding adequate driver sight distance at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road, as well as mitigation for trail user/pedestrian safety at Minaret Road/Old Mammoth Road, would still be required to reduce the significance of impacts, similar to the proposed Project.

(2) Impact Summary

A comparative summary of the environmental impacts associated with the No Project/Existing Trails Plan Alternative with the environmental impacts anticipated under the Project is provided in Table 5-1. As summarized in Table 5-1, Alternative B would result in less impacts regarding aesthetics (scenic vistas, scenic resources, visual character and quality, and light and glare), air quality (localized and regional construction emissions and operational emissions), biological resources (sensitive species, sensitive habitats, wetlands, wildlife corridors, and local ordinances protecting biological resources), cultural resources (historic resources, archaeological resources, paleontological resources, and human remains),

geology and soils (landslides, soil erosion/loss of topsoil, and geologic stability), greenhouse gas emissions (GHG emissions), hydrology and water quality (water quality, drainage patterns, and flooding), noise (construction and operational noise and vibration), recreation (parks and recreational facilities), and transportation/traffic (traffic and vehicle miles traveled). This Alternative would also result in similar impacts regarding air quality (AQMP consistency), biological resources (habitat conservation plans), geology and soils (seismic ground shaking, seismic-related ground failure, and alternative wastewater disposal systems), greenhouse gas emissions (GHG plan consistency), wildland fires/fire protection services (wildland fires and fire protection services), land use (plan consistency), recreation (recreation plan consistency), and transportation/traffic (vehicular hazards, plan consistency, and parking). This Alternative would not result in any impacts greater than those under the proposed Project.

(3) Relationship of the Alternative to Project Objectives

The ability of Alternative B to meet the stated goals and objectives of the Project is summarized below in Table 5-2. As summarized in Table 5-2, Alternative B would at least partially meet many of the Project's goals and objectives, but would not achieve all goals and objectives to the extent the Project would.

c. Alternative C – Reduced Trail Network Alternative

The Reduced Trail Network Alternative would represent a reduced intensity project that would only include TSMP improvements within the Town's UGB, and therefore would not implement any improvements located outside the UGB, including all SHARP project improvements and other improvements within USFS jurisdiction. All improvements under this Alternative would be implemented according to the proposed TSMP for components within the Town's UGB, similar to the proposed Project.

(1) Environmental Impact Categories

(a) Aesthetics

Under the Reduced Trail Network Alternative, the proposed Project would be partially implemented, but would be limited in terms of geography and intensity of improvements. Under this Alternative, temporary construction activities and operation of permanent improvements would result in less than significant impacts to scenic vistas and other scenic resources in the Project Area, but to a lesser extent than the Project given the reduction in number and intensity of improvements and limitation of improvements to within the Town's UGB. Similarly, this Alternative would result in reduced impacts to visual quality and character during construction relative to the Project, though mitigation measures would still be required to reduce impacts to less than significant. Operational impacts regarding visual quality and character would be less than significant and less than the Project. Due to the reduction in number and intensity of proposed improvements under this Alternative, light and glare impacts would also be reduced, and would be less than significant.

(b) Air Quality

Implementation of Alternative C would entail the construction of all of the improvements within the Town's UGB per the proposed Project, but no improvements outside the UGB, and therefore would represent an incremental reduction in intensity of development and usage of proposed facilities relative to the proposed project. This incremental reduction in trail and other facilities under this Alternative would result in a proportionate reduction in air pollutant emissions associated with construction and operation of proposed

facilities. Therefore, localized and regional construction emissions impacts, as well as operational emissions impacts, would be reduced relative to the proposed Project, though mitigation measures would still be required to reduce construction-related impacts to less than significant. Given the reduction in overall emissions, impacts related to AQMP consistency would also be less than significant, similar to the proposed Project. By not building a trail network as extensive as the proposed Project, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular emissions and associated improvement in long-term air quality.

(c) Biological Resources

The Reduced Trail Network Alternative would result in similar TSMP improvements within the Town's UGB as under the proposed Project, but would be reduced due to the omission of trail improvements outside the Town's UGB and the associated intensity of construction activities and operational utilization. Therefore, the implementation of this Alternative would have a reduced potential to adversely affect sensitive species and habitats (including wetlands) due to fewer construction activities relative to the proposed project. Similarly, operation of proposed facilities under this Alternative would result in incrementally reduced trail and other facility usage by the community, and therefore operational effects on biological resources would be less than the proposed Project. Additionally, the reduction in construction activities and operational intensity within the Project Area would result in fewer impacts regarding wildlife corridors and conflicts with local ordinances protecting biological resources relative to the Project. However, similar to the proposed Project, this Alternative would not result in any impacts associated with habitat conservation plans.

(d) Cultural Resources

Alternative C would implement a number of trail and other recreational facility improvements within the Project Area, but would include incrementally fewer construction activities given the lack of proposed development outside the Town's UGB. Accordingly, given the reduction in construction intensity and associated ground disturbance, the potential for adverse impacts to archaeological and paleontological resources, including human remains, would be incrementally reduced relative to the Project, though mitigation measures would still be required to reduce the significance of these impacts. Likewise, based on the reduction in proposed improvements and associated construction activities under this Alternative, impacts related to historic resources would also be proportionately reduced, though mitigation measures would still be required to reduce impacts to less than significant.

(e) Geology and Soils

Alternative C would result in the implementation of trail and other recreational facility improvements within the Project Area, but to a lesser degree than the Project given that only improvements within the Town's UGB would be implemented. Therefore, this Alternative would expose fewer people and structures to hazards associated with seismic ground shaking and seismic-related ground failure, and these impacts would be less than the Project and less than significant. Similarly, impacts related to landslides, soil erosion/loss of topsoil, and geologic stability would be incrementally reduced compared to the Project, but mitigation would still be required to reduce impacts to less than significant. However, similar to the proposed Project, impacts related to alternative wastewater disposal systems would be less than significant.

(f) Greenhouse Gas Emissions

This Alternative would result in reduced construction activities and less intense trail and other recreational facility usage relative to the Project, and therefore its implementation would be expected to generate incrementally fewer GHG emissions. Based on the overall reduction in construction and operational GHG emissions under this Alternative, impacts in this regard would be less than the proposed Project and would be less than significant. However, as is the case with the Project, this Alternative would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions, and impacts would be less than significant. By not building a trail network as extensive as the proposed Project, opportunities for vehicular trips to be replaced by trips by foot and bicycle would be reduced, which would potentially reduce any offsetting reduction in vehicular-related GHG emissions ,

(g) Wildland Fires/Fire Protection

The reduction in overall trail and other recreational facility usage under the Reduced Trail Network Alternative would have a proportionate effect on wildland fire potential associated with operation of proposed facilities. With the reduction in trail and recreational facility usage within and near wildland areas, particularly given the lack of proposed improvements outside the Town's UGB, wildland fire hazard impacts would be less than the Project, though mitigation would still be required to reduce impacts to less than significant. Additionally, this Alternative would result in a reduction in demands for fire protection services compared to the Project, and impacts would be less than significant in this regard.

(h) Hydrology and Water Quality

Implementation of Alternative C would entail fewer improvements than those included under the proposed Project, and as such this Alternative would result in reduced construction activities and operational intensity within the Project Area. Therefore, Alternative C would require less earthwork and would have a reduced potential to result in adverse water quality effects during construction activities, and would also have a lower potential to contribute to impacts to receiving water bodies or other sensitive resources during project operations. Although this Alternative would have a reduced potential to result in adverse water quality impacts, mitigation measures would still be required to address construction and operation of proposed facilities and reduce impacts to less than significant. Similarly, the reduced intensity of construction and operation under this Alternative would result in fewer impacts regarding drainage patterns and flooding potential relative to the Project; impacts would be less than significant, though mitigation would still be required to reduce flooding impacts to less than significant.

(i) Land Use and Planning

This Alternative would implement the proposed TSMP but would omit all other proposed improvements located outside the Town's UGB. While this Alternative may require incidental approvals for specific improvements (e.g., Conditional Use Permits), such approvals would be similar to those required for the proposed Project, which would also require approval of the TSMP itself in addition to incidental permits and other approvals. This Alternative would not conflict with any applicable plans, policies, or regulations affecting the Project Area. As such, impacts would be less than significant and similar to the proposed Project.

(j) Noise

As noted previously, this Alternative would result in incrementally reduced construction and operational intensity relative to the proposed Project. Accordingly, noise and vibration effects associated with the proposed improvements would be incrementally reduced compared to the Project. Construction activities would still require mitigation measures to reduce temporary noise impacts to less than significant, but operational noise, and construction and operational vibration effects, would be less than significant.

(k) Recreation

Alternative C would result in the improvement of various trails and other recreational facilities within the Project Area, but to a lesser extent than under the proposed Project given that improvements would be limited to those within the Town's UGB. The proposed improvements would serve to increase the usability and safety of existing facilities and improve overall connectivity within the Town, but would not be expected to result in the deterioration of parks and recreational facilities, as their use would not be substantially greater than under existing conditions. Given that the proposed Project would result in less than significant impacts in this regard, this Alternative would also result in less than significant impacts, but would be incrementally reduced relative to the Project. Additionally, Alternative C would not result in conflicts with existing plans regarding parks and recreational facilities, similar to the proposed Project.

(l) Transportation/Traffic

Potential transportation impacts associated with Alternative C, the buildout of the proposed TSMP improvements within the Town's UGB, are evaluated qualitatively below.

Traffic Impacts

The TSMP proposes to add several miles of MUP trails within the Town's UGB, provide a limited number of new and improved soft-surface trails (boardwalk and private dirt path), and improve the trail connectivity throughout Town. This is expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Additionally, the portion of MUP users driving to/from the trails would generally decrease, as the MUP would be easier to access from the various neighborhoods by non-auto means. Conversely, the improved trail system and facilities could increase the number of persons using the trails and facilities, which could increase the number of vehicle-trips occurring over the course of a busy day, as trail users drive to and from trailheads.

Implementation of Alternative C could conservatively generate an incremental increase in vehicle trips throughout the Town during the busiest summer hour of trail use. It is conservatively assumed that the busiest hour of trail use coincides with the summer peak hour of traffic activity in Mammoth, which generally occurs on weekend afternoons. As the project-generated trips would be distributed to the various trailhead locations, no significant Town-wide traffic impacts are expected to result. Overall, provision of the additional pedestrian and bicycle facilities provided within the Town's UGB under the proposed TSMP would result in a general increase in non-auto travel, which would offset the increase in vehicle trips to some degree. No significant impact on traffic operations during the summer season is anticipated. Alternative C is not expected to cause intersection and roadway conditions to exceed adopted standards.

In comparison with the proposed Project, Alternative C would result in a smaller increase in vehicle trips during the summer season, and therefore summer traffic impacts would be less than the proposed Project.

Winter Traffic Impacts

Implementation of Alternative C could generate an incremental increase in vehicle trips throughout Town during the busiest winter hour of trail use. It is conservatively assumed that the busiest hour of trail use coincides with the winter peak hour of traffic activity in Mammoth, which generally occurs between 4:00 PM and 6:00 PM. As the project-generated trips would be widely distributed, no significant traffic impacts would result from Alternative C in the winter season. Alternative C is not expected to cause intersection and roadway conditions to exceed adopted standards. In comparison with the proposed Project, Alternative C would result in a smaller increase in vehicle trips during the winter season, and therefore winter traffic impacts would be less than the proposed Project.

Traffic Impacts During Construction

Traffic impacts due to the construction phases of Alternative C are also considered. Long-term roadway closures are not expected to occur during construction of the proposed improvements. Construction activities may occur at multiple locations concurrently; however, any potential transportation impacts associated with the project construction activities at any one time are expected to be modest. Project-specific construction management plans would be analyzed for each project location as well, similar to the proposed project. However, given that the number and intensity of construction projects under this Alternative would be substantially reduced, construction-related traffic impacts would be less than under the proposed Project.

Impact on Vehicle-Miles Traveled

The impact of the 1991 TSMP on Vehicle-Miles Traveled (VMT) is evaluated for both summer and winter conditions. The effect of the proposed project on VMT in Mammoth is dependent on the total trip generation and the length of these vehicle trips.

Summer Vehicle-Miles Traveled

Implementation of Alternative C is not expected to increase the number of persons visiting the Mammoth area from other communities or other regions on a busy summer day, as world-class hiking trails are already provided in the Mammoth area. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails near the urbanized area and the increase in non-auto mode travel throughout Town. Overall, Alternative C is not expected to result in a

significant increase in VMT over the course of a summer day, and impacts would be less than under the proposed Project.

Winter Vehicle-Miles Traveled

Similar to summer conditions, implementation of Alternative C is not expected to significantly increase the number of persons visiting the Mammoth area from other communities or other regions on a busy winter day, as the existing trails already serve those wishing to recreate. Although there may be a net increase in trail activity associated with the proposed trail improvements, new trail networks would be provided in the urbanized area, which would result in relatively short vehicle trips. Some trips that are currently made to trails outside the urbanized area would shift to the new trails in or near the urbanized area. This would result in a reduction in the average trip length associated with the trails, thereby reducing total VMT.

The increase in VMT generated by the increase in vehicle trips associated with the new trails is expected to be roughly offset by the reduction in VMT resulting from the provision of trails within the urbanized area and the increase in non-auto mode travel throughout Town. Overall, Alternative C is not expected to result in a significant increase in VMT over the course of a winter day, and impacts would be less than under the proposed Project.

It is worth noting that the increase in traffic volumes resulting from Alternative C would be highest during the summer season, which does not coincide with the peak season of traffic activity in the Mammoth area (traffic volumes in Mammoth are generally highest in the winter season).

Driver Sight Distance

Driver stopping sight distance was reviewed at the at-grade MUP crossing locations included under Alternative C. In general, adequate driver sight distance is expected to be provided, with the exception of one crossing location. There is an existing safety deficiency at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. The stopping sight distance provided for drivers traveling northbound along Majestic Pines Drive is limited by the horizontal curvature along the roadway and the existing embankment and vegetation. A detailed evaluation is included in the existing conditions chapter of the Project traffic study (included as Appendix I of this EIR). As Alternative C is expected to result in an increase in the number of MUP users at this location, it would therefore exacerbate the existing safety deficiency. This is considered to be a significant impact; however, it is recommended that the proposed improvement plans be modified to provide at least 150 feet of stopping sight distance for northbound drivers approaching this crossing. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment. With this measure, adequate driver sight distance would be provided, and impacts would be less than significant, as is the case under the proposed Project.

Trail Crossing Conditions

Trail crossing conditions are discussed under the proposed project alternative. In general, adequate crossing conditions are expected to be provided under Alternative C, with the exception of the driver sight distance concern discussed above. Alternative C is not expected to result in a significant impact on trail crossing conditions at the remaining trail crossings, similar to the proposed project.

Consistency of Alternative C With Other Planning Documents and Studies

The project's consistency with the following documents is evaluated:

- Main Street South Frontage Road Project and Promenade Walkway
- Main Street Signal Feasibility Study
- Caltrans SR 203 Transportation Concept Report
- Minaret Road Alignment Study
- Mobility Plan

Main Street South Frontage Road Project and Promenade Walkway

No inconsistencies with Alternative C are identified, as promenade components are already incorporated into the proposed Project for improvements within the Town's UGB, and therefore promenade improvements would be implemented under this Alternative.

Main Street Signal Plan Feasibility Study

No inconsistencies with Alternative C are identified.

SR 203 Transportation Concept Report

No inconsistencies between the Caltrans SR 203 Transportation Concept Report (TCR) and Alternative C are identified.

Minaret Road Alignment Study

No inconsistencies are identified between the Minaret Alignment Study and Alternative C.

General Bikeway Plan

No inconsistencies are identified between the General Bikeway Plan and Alternative C.

Mobility Plan

No inconsistencies are identified between the Mobility Plan and Alternative C.

Parking Impacts

The impact of Alternative C on parking demand during summer and winter conditions is estimated, and conclusions and recommendations are made regarding overall parking conditions.

Summer Parking Demand

Alternative C would add several miles of MUP trails, provide limited new and improved soft-surface trails (boardwalk and private dirt trail), and improve the trail connectivity throughout Town. This is expected to increase the portion of trips made in Mammoth via non-auto modes during the non-winter months. Additionally, the portion of MUP users parking at the trailheads would generally decrease, as the MUP would be easier to access from the various neighborhoods by non-auto means. Conversely, the improved trail system and facilities could increase the number of persons using the trails and facilities, which could increase the parking demand occurring over the course of a busy day, as trail users park at trailheads.

Implementation of Alternative C could conservatively generate an incremental increase in parking demand throughout the Town during the summer peak hour. As this demand would be distributed to the various trailhead locations, no significant parking impacts are expected to result at any one location. Overall, provision of the additional pedestrian and bicycle facilities included in Alternative C would result in a general increase in non-auto travel, which would offset the increase in parking demand to some degree. While additional parking at some locations within the Town's UGB may ultimately be recommended to provide additional supply for various improvements, overall parking demand under this Alternative would be less than under the proposed Project, and impacts would be less than significant.

Winter Parking Demand

As described above, the additional segments of non-motorized groomed trails assumed in Alternative C are expected to generate an incremental increase in vehicles parking during the peak hour. In addition, a limited number of parking spaces are estimated to be generated by potential motorized groomed trails during the winter peak hour. The total increase in winter parking demand has not been determined for Alternative C; however, it is recommended that additional winter parking spaces be provided as a part of Alternative C, as deemed appropriate or necessary by the Town.

Conclusion

Access to recreational facilities over the course of a peak day is typically limited by the amount of parking available. As Alternative C does not specify the number of additional parking spaces, if any, that are included in the TSMP for improvements within the UGB, this is a potentially significant impact. However, with provision of the recommended number of additional parking spaces, as determined by the Town of Mammoth Lakes, Alternative C would provide adequate overall parking conditions, as is the case with the proposed Project.

Interface between Trail System and Transit System

The locations of existing and proposed transit facilities are reviewed with respect to existing and proposed trailhead locations. Transit service is considered to access a trailhead if a bus route is located within one-quarter mile of the trailhead. Some existing trailheads in Mammoth are located more than one-quarter mile away from the existing bus routes. No additional bus/trolley service is included in Alternative C. However, as Alternative C would not decrease the performance or safety of transit facilities, this is not considered to be a significant impact.

Future Cumulative Conditions

As discussed above, Alternative C would not significantly change traffic volumes at any one location. Although traffic volumes in Mammoth are generally expected to increase in the future, Alternative C is not expected to result in a significant impact on traffic operations under future cumulative conditions. Regarding trail crossings, Alternative C includes an at-grade MUP crossing where the existing MUP terminates at a point on Minaret Road approximately 150 feet to the north of its intersection with Old Mammoth Road. If a roundabout is installed at the Minaret Road/Old Mammoth Road intersection in the future, it is recommended that the at-grade MUP trail crossing be relocated to the splitter island. With this measure, adequate trail crossing conditions are expected to be provided.

Summary of Recommendations for the Reduced Trail Network Alternative

The following recommendations are made regarding driver sight distance, parking, and under the Reduced Trail Network Alternative:

- The TSMP improvements plans for components within the Town's UGB should be modified to provide at least 150 feet of stopping sight distance for northbound drivers approaching the MUP crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. This could be accomplished by modifying the MUP trail alignment and/or modifying the existing landscaping and embankment. With this measure, adequate driver sight distance would be provided.
- Additional summer and winter parking spaces should be provided under Alternative C as deemed appropriate or necessary by the Town of Mammoth Lakes. With this measure, adequate overall parking conditions would be provided.

Traffic/Transportation Impact Summary

Overall, Alternative C would result in fewer changes to the existing traffic system and would have reduced adverse effects on traffic patterns, levels of service, or availability of parking. Therefore, traffic and parking impacts are less than under the proposed Project, as less additional traffic would be generated under this Alternative. However, recommended improvements regarding adequate driver sight distance at the MUP crossing along Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road would still be required to reduce the significance of impacts, similar to the proposed Project.

(2) Impact Summary

A comparative summary of the environmental impacts associated with the Reduced Trail Network Alternative with the environmental impacts anticipated under the Project is provided in Table 5-1. As summarized in Table 5-1, Alternative C would result in less impacts regarding aesthetics (scenic vistas, scenic resources, visual character and quality, and light and glare), air quality (localized and regional construction emissions and operational emissions), biological resources (sensitive species, sensitive habitats, wetlands, wildlife corridors, and local ordinances protecting biological resources), cultural resources (historic resources, archaeological resources, paleontological resources, and human remains), geology and soils (landslides, soil erosion/loss of topsoil, and geologic stability), greenhouse gas emissions (GHG emissions), hydrology and water quality (water quality, drainage patterns, and flooding), noise

(construction and operational noise and vibration), recreation (parks and recreational facilities), and transportation/traffic (traffic and vehicle miles traveled). This Alternative would also result in similar impacts regarding air quality (AQMP consistency), biological resources (habitat conservation plans), geology and soils (seismic ground shaking, seismic-related ground failure, and alternative wastewater disposal systems), greenhouse gas emissions (GHG plan consistency), wildland fires/fire protection services (wildland fires and fire protection services), land use (plan consistency), recreation (recreation plan consistency), and transportation/traffic (vehicular hazards, plan consistency, and parking). Alternative C would not result in any impacts greater than those under the proposed Project.

(3) Relationship of the Alternative to Project Objectives

The ability of Alternative C to meet the stated goals and objectives of the Project is summarized below in Table 5-2. As summarized in Table 5-2, Alternative C would not meet several of the Project's goals and objectives, and would not achieve the majority of the remaining goals and objectives to the extent the Project would.

d. Environmentally Superior Alternative

Section 15126.6(e)(2) of the *CEQA Guidelines* indicates that an analysis of alternatives to a proposed project shall identify an environmentally superior alternative among the alternatives evaluated in an EIR. The *CEQA Guidelines* also state that should it be determined that the No Project Alternative is the environmentally superior alternative, the EIR shall identify another environmentally superior alternative among the remaining alternatives. With respect to identifying an environmentally superior alternative among those analyzed in this EIR, the range of feasible alternatives to be considered includes Alternative A, the No Project/No Development Alternative; Alternative B, the No Project/Existing Trails Plan Alternative; and Alternative C, the Reduced Trail Network Alternative.

A comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the Project is provided in Table 5-1, while a summary of the ability of each alternative to meet the project goals and objectives is provided below in Table 5-2. A more detailed description of the potential impacts associated with each alternative is provided above. Based on the evaluation of impacts presented above, and the findings regarding each Alternatives' ability to meet the Project's stated goals and objectives summarized in Table 5-2 below, Alternative C, the Reduced Trail Network Alternative, is determined to be the environmentally superior Alternative. Alternative C would result in incrementally reduced impacts relative to the proposed Project, as proposed improvements would be limited to those within the Town's UGB, and would at least partially meet all of the TSMP goals and objectives, though not to the extent that the proposed Project would. Furthermore, while Alternative C would fail to meet any of the goals for the SHARP projects, as all improvements under this Alternative would be limited to the Town's UGB, the SHARP goals would not be applicable to the Reduced Trail Network Alternative.

Table 5-2

Alternatives' Ability to Meet Project Goals and Objectives

Project Goal/Objective	Ability to Meet Project Goal/Objective			
	Proposed Project	Alternative A No Project/No Development	Alternative B No Project/ Existing Trails Master Plan	Alternative C Reduced Trails Network
Goal 1: Develop a plan for an integrated year-round trail network that provides for a seamless transition between the Town of Mammoth Lakes, the Mammoth Mountain Ski Area, and the surrounding federal lands (USFS).	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Partially Meets Goal
Objective 1.1: Identify improvements for signage, wayfinding and amenities throughout the existing network.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
Objective 1.2: Close gaps in the existing network.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
Objective 1.3: Expand the network within the Urban Growth Boundary to provide access to new destinations, activities and experiences from both public and private property.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Fully Meets Objective
Objective 1.4: Identify locations for potential recreation nodes and public access easements that will enhance connections between Town and surrounding public lands for summer and winter recreation.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Does Not Meet Objective
Objective 1.5: Identify preferred summer and winter uses for each segment in the network.	Fully Meets Objective	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 1.6: Provide design guidelines that will minimize user conflicts, provide for sustainability, and reduce maintenance needs.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Fully Meets Objective

Table 5-2 (Continued)

Alternatives' Ability to Meet Project Goals and Objectives

Project Goal/Objective	Ability to Meet Project Goal/Objective			
	Proposed Project	Alternative A No Project/No Development	Alternative B No Project/ Existing Trails Master Plan	Alternative C Reduced Trails Network
Objective 1.7: Provide uniform signage and wayfinding along the network and at all recreation nodes.	Fully Meets Objective	Does Not Meet Objective	Partially meets objective	Fully Meets Objective
Goal 2: Develop a plan that enhances mobility in a way that is consistent with the Town's "Feet First" strategy.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Partially Meets Goal
Objective 2.1: Identify necessary improvements to improve pedestrian safety, convenience and comfort.	Fully Meets Objective	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 2.2: Update the General Bikeway Plan and develop an on-street bikeway network that enhances bicyclist safety, convenience and comfort.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Fully Meets Objective
Objective 2.3: Ensure that pedestrians and bicyclists can access the public transit system safely, conveniently and comfortably; and that public transit serves all key recreation nodes.	Fully Meets Objective	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
Objective 2.4: Provide the information necessary for residents and visitors to navigate around town on foot, bicycle and transit.	Fully Meets Objective	Does Not Meet Objective	Partially Meets Objective	Partially Meets Objective
Goal 3: Create a plan that clearly identifies the projects and programs necessary for implementation.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Objective	Fully Meets Objective

Table 5-2 (Continued)

Alternatives' Ability to Meet Project Goals and Objectives

Project Goal/Objective	Ability to Meet Project Goal/Objective			
	Proposed Project	Alternative A No Project/No Development	Alternative B No Project/ Existing Trails Master Plan	Alternative C Reduced Trails Network
Objective 3.1: Provide specific lists of projects that the Town of Mammoth Lakes can incorporate into the Capital Improvement Program. Complete the near-term projects identified in the Trail System Master Plan in the next two years.	Fully Meets Objective	Does Not Meet Objective	Fully Meets Objective	Fully Meets Objective
SHARP Goal 1: Avoid potential user conflicts while locating recreation facilities appropriately.	Fully Meets Goal	Does Not Meet Goal	Fully Meets Goal	Fully Meets Goal
SHARP Goal 2: Achieve low overall impact by improving or better defining what is already present.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal
SHARP Goal 3: Provide for a coherent and satisfying recreation system that includes appropriate signage and wayfinding.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal
SHARP Goal 4: Ensure that trails and facilities have minimal visual impact and blend with the natural environment and each other.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal
SHARP Goal 5: Identify opportunities to enhance connectivity and public safety.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal
SHARP Goal 6: Further wildlife and resource protection, sustainability, and stewardship.	Fully Meets Goal	Does Not Meet Goal	Does Not Meet Goal	Does Not Meet Goal

Table 5-2 (Continued)

Alternatives' Ability to Meet Project Goals and Objectives

Project Goal/Objective	Ability to Meet Project Goal/Objective			
	Proposed Project	Alternative A No Project/No Development	Alternative B No Project/ Existing Trails Master Plan	Alternative C Reduced Trails Network
SHARP Goal 7: Achieve practical solutions.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal
SHARP Goal 8: Maintain opportunities for wildlife observation and interaction.	Fully Meets Goal	Does Not Meet Goal	Partially Meets Goal	Does Not Meet Goal

6.0 OTHER MANDATORY CEQA CONSIDERATIONS

6.0 OTHER MANDATORY CEQA CONSIDERATIONS

INTRODUCTION

This section summarizes the findings with respect to growth inducing impacts; significant, unavoidable environmental impacts; irreversible environmental changes; potential secondary effects; and less than significant impacts of the Project.

1. GROWTH INDUCING IMPACTS

Section 15126.2 (d) of the *CEQA Guidelines* requires agencies to address potential growth inducing effects of their actions. Growth-inducing effects are defined as those effects that could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth-inducing effects could result from projects that would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in population could tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

Project implementation would not result in the construction of new homes or businesses. The Project was prepared for the purpose of providing recreational opportunities and promoting the Town's "feet first" strategy to a population that is anticipated to grow, even without the Project. While the Project is expected to improve recreational experiences for residents and visitors, in and of themselves, the Project's proposed trail system components are not expected to meaningfully change or substantially increase the number of visitors or residents in the Town in the near- or long-term. Further, urban development within the Town is restricted to areas within the Town's Urban Growth Boundary (UGB). Accordingly, the Project's proposed trail system components are not expected to induce substantial population growth directly or indirectly. Also, the Project's potential to foster to economic growth through revenue generating facilities is minimal and would not result in growth-inducing effects.

2. SIGNIFICANT UNAVOIDABLE IMPACTS

Section 15126.2(b) of the *CEQA Guidelines* requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be mitigated but not reduced to a less than significant level. Section 4, *Environmental Impact Analysis*, of this EIR analyzes the Project's potentially significant impacts with regards to Aesthetics, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Wildland Fires/Fire Protection, Hydrology/Water Quality, Land Use/Planning, Noise, Recreation, and Transportation/Traffic. As discussed therein, the Project would not result in any significant, unavoidable impacts.

3. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

According to Sections 15126(c) and 15126.2(c) of the *CEQA Guidelines*, an EIR is required to address any significant irreversible environmental changes that would occur should the project be implemented. As stated in CEQA Guidelines Section 15126.2(c) indicates:

“[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter likely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

The Project would necessarily consume limited, slowly renewable and non-renewable resources. This consumption would occur during the construction phase new facilities and implementation of management activities in the Town and would continue throughout its operational lifetime. Project development would require a commitment of resources that would include: (1) building materials, (2) fuel and operational materials/resources, and (3) the transportation of goods and people. Construction of trail-related components would require the consumption of resources that are not replenishable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; and water. Fossil fuels such as gasoline and oil would also be consumed in the use of construction vehicles and equipment.

The resources that would be committed during project operation would be similar to those currently consumed within the Town of Mammoth Lakes. These would include energy resources such as electricity and natural gas, petroleum-based fuels required for vehicle-trips, fossil fuels, and water, including operation of vehicle for facilities maintenance,. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the Project, and the existing, finite supplies of these natural resources would be incrementally reduced. Project operation would occur in accordance with Title 24, Part 6 of the California Code of Regulations, which sets forth conservation practices that would limit the amount of energy consumed by the Project. However, the energy requirements associated with the Project would, nonetheless, represent a long-term commitment of essentially non-renewable resources. It should also be noted that the implementation of the proposed Project is expected to result in a reduction in motor vehicle trips within and around the Town of Mammoth Lakes due to the provision of improved trails and other facilities that foster non-vehicular transportation. As such, given the anticipated offset in vehicle miles traveled and associated reduction in overall fuel consumption in the Project Area, the proposed Project would have a net beneficial effect relative to consumption of fossil fuels.

Limited use of potentially hazardous materials typical of commercial uses, including cleaning supplies and vehicle maintenance materials (i.e., paints, oil, and grease) could be used and stored within facilities developed as part of the Project. The use of these materials would be in small quantities and used, handled, stored, and disposed of in accordance with the manufacturer’s instructions and applicable government

regulations and standards. Compliance with these regulations and standards would serve to protect against significant and irreversible environmental change resulting from the accidental release of hazardous materials.

In summary, Project construction and operation would result in the irretrievable commitment of limited, slowly renewable, and nonrenewable resources, which would incrementally limit the availability of these particular resource quantities for future generations or for other uses during the life of the Project. However, continued use of such resources would be on a very small scale and consistent with regional and local growth forecasts in the area. As such, although irreversible environmental changes would result from the Project, such changes would not be considered significant.

4. POTENTIAL SECONDARY EFFECTS

Section 15126.4(a)(1)(D) of the *CEQA Guidelines* requires mitigation measures to be discussed in less detail than the significant effects of the project if the mitigation measure(s) would cause one or more significant effects in addition to those that would be caused by the project as proposed. With regard to this section of the *CEQA Guidelines*, the project's proposed mitigation measures that could cause potential impacts were evaluated. The following provides a discussion of the potential secondary effects that could occur as a result of the implementation of the project mitigation measures, listed by environmental issue area. Only those EIR sections that contain mitigation measures are addressed.

a. Aesthetics

Mitigation Measure 4.A-3.A through 4.A-3.A provide environmental protections for the appearance of potential trail alignments during trail alignment selection, design and construction, including limiting trail alignments to slopes of less than 20 percent where feasible, avoidance of removal of mature trees where feasible, replacement of any native trees removed, re-vegetation and irrigation of cleared areas, visual screening of retaining walls, prohibition of above-grade concrete walls, preservation of natural features, and removal of debris piles created by project construction as soon as possible. These mitigation measures would reduce the adverse aesthetics impacts of trail construction, would not result in additional development, and would not result in additional construction or other activities that could result in significant environmental effects. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

b. Air Quality

Mitigation Measures 4.B-1.A through 4.B-1-F, 4.B-2 and 4.B-3 require that project construction practices be carried out in a manner that reduces the levels of construction-related air quality emissions. Such practices include watering to prevent excessive dust generation, limiting on-site construction vehicle speeds, paving of on-site roads as soon as feasible, watering and/or covering of material transported off-site during transit, limiting mass grading to no more than 5 acres daily, and limiting the number of pieces of construction equipment that can be used at any one time. These mitigation measures would reduce the adverse air quality impacts of trail construction, would not result in additional development, and would not result in additional construction or other activities that could result in significant environmental effects. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

c. Biological Resources

Mitigation Measures 4.C-1 through 4.C-4 require the protection of sensitive bird, wildlife and plant species that may be affected by proposed trail construction and operation. Protective measures include requiring the performance of habitat evaluations for sensitive bird, wildlife and plant species and nesting birds prior to approval of individual projects, the performance of pre-construction surveys for these species in accordance with CDFG survey protocols if suitable habitat is present, and both consultations with USFWS/CDFG and the implementation of appropriate measures (e.g., such as restrictions on the time of year for construction, noise monitoring, restrictions on equipment use, provision of 300-500 foot construction buffers, relocation, obtaining of a Incidental Take permits if required, etc.) if such species are found to be present.

Mitigation Measure 4.C-5 requires the protection of sensitive habitats and stream courses that may be affected by proposed trail construction and operation. Protective measures include avoidance if possible, and if not possible, consultation with CDFG and the implementation of appropriate measures (e.g., in-kind replacement, restoration, obtaining of a Streambed Alteration Agreement if required, implementing a Habitat Mitigation and Monitoring Plan if required, erosion control, the establishment of buffers, etc.).

Mitigation Measure 4.C-6 requires the protection of federally protected wetlands and Waters of the U.S. that may be affected by proposed trail construction and operation. Protective measures include consultation with ACOE regarding the need for Section 404 Permits and RWQCB regarding the need for 401 certifications, and the implementation of any measures specified in these (e.g., in-kind replacement or restoration at specified ratios, etc.).

Each of the above mitigation measures would reduce the adverse impacts of the proposed project on biological resources, would not result in additional development, and would not result in construction or other activities that could result in significant environmental effects. In addition, some of the above mitigation represents procedural actions (such as surveys and the obtaining of the requisite permits) which would not result in physical changes. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

Mitigation Measure 4.C-7 would reduce human/wildlife conflicts through the required installation of signage at the entry points to the trail system educating the public on what do to in case of potential encounters with wildlife and instructing the public on requirements and prohibitions with respect to trash and use of fire arms along the trails. While this mitigation would require the installation of signs, any physical disturbance associated with the installations would be confined to these installation sites and would be subject to the full suite of mitigations identified in this DEIR. Therefore, no significant secondary effects associated with the implementation of this mitigation would occur.

d. Cultural Resources

Mitigation Measures 4.D-1 and 4.D-2 provide environmental protections for historical resources by requiring that any proposed project activities that could impact the Old Mammoth City neighborhood, Sherwin's Grade Toll Road, Ranger Station, CCC Camp and/or Hayden Cabin be evaluated by a qualified historical consultant and comply with both the consultants recommendations and the Secretary of the Interior's Standards for the treatment of historical resources. This mitigation would assure that historical resources are treated consistent with CEQA guidelines and regulatory provisions for the protection of historical resources, would

not result in additional development, and would not result in additional construction or other activities that could result in significant environmental effects. In addition, some of the above represents procedural actions (such as surveys) which would not result in physical changes. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

Mitigation Measures 4.D-3 through 4.D-5 provide environmental protections for archaeological resources that could potentially be impacted by subsequent projects under the proposed project. This would be accomplished by requiring that: (1) a Phase I Cultural Resources Assessment be conducted within the area of any proposed project component, and any archaeological resources found be treated in accordance with applicable standards; (2) the APE be identified for any actions on federal lands in accordance with HPA 106; (3) Phase II/III Assessments (including, potentially, subsurface investigations) be conducted if determined to be required by the Phase I/II; and (4) archaeological monitoring by qualified archaeologists be conducted during ground-disturbing activities if determined to be required by the Phase I/II/III Assessments, and archaeological reports be prepared for any finds as required by California OHP.

Mitigation Measures 4.D-6 and 4.D-7 provide environmental protections for archaeological resources that could potentially be impacted by project components already proposed. This would be accomplished by requiring that: (1) ground-disturbing activities be halted if archaeological resources are encountered during construction; (2) a qualified archaeologist evaluate the finds, record the finds in accordance with California Department of Parks and Recreation requirements, and prepare a report that documents the finds and specifies required mitigation; and (3) if human remains are encountered, all required parties be notified and California Health and Safety Code procedures be followed with respect to the disposition of the remains.

Mitigation Measure 4.D-8 provides environmental protections for paleontological resources by requiring that if such resources are encountered during ground-disturbing activities, work stop at the find site, a qualified paleontologist examine the find, and the paleontologist prepare a report that identifies required treatment measures and determines whether on-site monitoring of ground-disturbing activities is required.

With respect to the archaeological and paleontological mitigation measures above, while some of these measures could potentially include physical effects (e.g., excavations, investigatory pits, collection/curation of archaeological or paleontological resources), any such effects would be highly localized and of small scale, and would mostly occur within areas to be affected by project components already proposed for which the impacts have already been fully evaluated in this EIR. In addition, some of the above represents procedural actions (such as surveys) which would not result in physical changes. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

e. Geology/Soils

Mitigation Measures 4.E-1.A through 4.E-1.C require that trail development be avoided on slopes greater than 20 percent where feasible, a geotechnical study be prepared to identify the potential for and set forth any measures required to avoid landsliding and soil instability where the trails must be constructed on slopes of 20 percent or greater, and that trails on slopes of greater than 20 percent be regularly monitored for unstable soil conditions and that any trails where unstable soil conditions are identified be closed until conditions are improved. While this mitigation could potentially require the construction of some retaining structures to mitigate unstable slope conditions, the environmental effects of retaining structures known to be required at the present time have been evaluated and mitigated in this DEIR. In addition, any physical

disturbance associated with retaining structures which may be required by this mitigation in the future would be confined to the installation sites and would be subject to the full suite of mitigations identified in this DEIR. Therefore, no significant secondary effects associated with the implementation of this mitigation would occur.

f. Wildland Fires/Fire Protection

Mitigation Measure 4.G-1.A requires that, for individual projects under the TSMP, design for adequate emergency access be maintained or incorporated wherever appropriate and feasible, that signage be provided at trail heads and along the trails relating to fire prevention, fuel modification be applied where appropriate, the trails be properly maintained and patrolled, and curfews and other rules be enforced along the trails to limit unwanted activity after-hours. Because existing emergency access routes are already maintained, and because patrols and the enforcement of curfews and rules would not result in physical effects, no significant secondary effects would occur. Similarly, any required fuel modification would be subject to the Town's existing fuel modification procedures which have been adopted to prevent significant physical effects, and also would be subject to the full suite of mitigation measures identified in this DEIR.

g. Hydrology and Water Quality

Mitigation Measure 4.H-1 through 4.H-17 provide environmental protections for streams and water quality, including (1) developing/siting individual trails to avoid modification of existing hydrologic conditions to the extent feasible; (2) prohibiting structures within FEMA-designated 100-year flood zones; (3) placing hazard warnings along trail segments subject to flooding; (4) implementing specified erosion control measures during trail design/construction; (5) preparation/implementation of the required SWPPPs and where SWPPs are not required implementing BMPs to control erosion/pollutants from the construction sites; (6) avoidance of wet areas (springs, wetlands, etc.) where feasible and elevating the trail where avoidance is infeasible; (7) mapping any "receiving resources" (e.g., wetlands, streams, riparian areas) to be impacted and incorporation of trail design that minimizes impacts to these areas, selecting narrow areas for stream and wetland crossings; (8) avoiding use of heavy construction/maintenance equipment in wet areas; (9) establishing buffers between proposed trails and existing streams/wetlands; (10) avoiding trail grades in excess of 12 percent where feasible, and incorporating switchbacks to minimize stormwater runoff velocities where not feasible; (11) implementation of a full suite of erosion control measures; (12) prepared more detailed drainage studies prior to construction to determine appropriate design and sizing of any required storm drain facilities; (13) prepare/implement a Maintenance Plan for proposed trails that specifies the type/frequency of maintenance activities to be employed; (14) replanting/mulching of disturbed areas as soon as possible after disturbance; (15) implement specified runoff control measures in parking areas; and (16) design bathroom/restroom sites to be erosion resistant. These mitigation measures would reduce the adverse hydrologic and water quality impacts of trail construction while providing additional protections for streams and water quality, and would not result in additional development. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

h. Noise

Mitigation Measures 4.J-1.A through 4.J-1-C requires that project construction practices be carried out in a manner that reduces the levels of construction-related noise in compliance with the Town's Noise Ordinance. Such practices include limiting the idling of construction equipment and locating construction staging areas as far away from sensitive receptors as possible. These mitigation measures would reduce the adverse

construction noise impacts of trail construction, would not result in additional development, and would not result in additional construction or other activities that could result in significant environmental effects. As such, there would be no significant secondary effects associated with the implementation of these mitigation measures.

i. Transportation

Mitigation Measure 4.L-1 requires modifications to the MUP crossing to provide at least 150 feet stopping sight distance for northbound drivers approaching the crossing on Majestic Pines Drive between Meridian Boulevard and Monterey Pine Road. The mitigation also suggests that this could be accomplished by modifying the MUP trail alignment and/or the existing landscaping and embankment. While this mitigation could require some minor relocation of the proposed trail alignment and/or clearing of some vegetation at the referenced trail crossing, any associated physical effects would be highly localized and would be subject to the full suite of mitigations identified in this DEIR. Therefore, no significant secondary effects associated with the implementation of this mitigation would occur.

5. LESS THAN SIGNIFICANT IMPACTS

Section 15128 of the *CEQA Guidelines* states that an EIR shall contain a brief statement indicating reasons that various possible significant effects of a project were determined not to be significant and not discussed in detail in the Draft EIR. An Initial Study was prepared for the project and is included in Appendix A of this Draft EIR. The Initial Study provides a discussion of the potential environmental impact areas and the reasons that each topical area is or is not analyzed further in the Draft EIR.

The Town of Mammoth Lakes determined that the Project would not result in potentially significant impacts related to:

- Agriculture and Forestry Resources;
- Air Quality (only impacts regarding creation of objectionable odors were determined to be less than significant – refer to the Project Initial Study included in Appendix A in this EIR);
- Geology and Soils (only impacts regarding surface fault rupture and expansive soils were determined to be less than significant - refer to the Project Initial Study included in Appendix A in this EIR);
- Hazards and Hazardous Materials (only impacts regarding wildland fires were determined to be potentially significant - refer to Chapter 4 in the EIR);
- Hydrology and Water Quality (only impacts regarding groundwater depletion, flood hazards to housing, and inundation by seiche, tsunami, or mudflow were determined to be less than significant - refer to the Project Initial Study included in Appendix A in this EIR);
- Land Use and Planning (only impacts regarding physical division of established communities were determined to be less than significant - refer to the Project Initial Study included in Appendix A in this EIR);
- Mineral Resources;
- Noise (only noise impacts regarding public airports or private airstrips were determined to be less than significant – refer to the Project Initial Study included in Appendix A in this EIR);

- Population and Housing;
- Public Services (only impacts regarding fire protection were determined to be potentially significant - refer to the Project Initial Study included in Appendix A in this EIR);
- Transportation and Circulation (only impacts regarding changes in air traffic patterns, hazardous design features and consistency with alternative transportation plans were determined to be less than significant - refer to the Project Initial Study included in Appendix A in this EIR); and
- Utilities and Service Systems.

7.0 DOCUMENT PREPARATION AND REFERENCES

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