

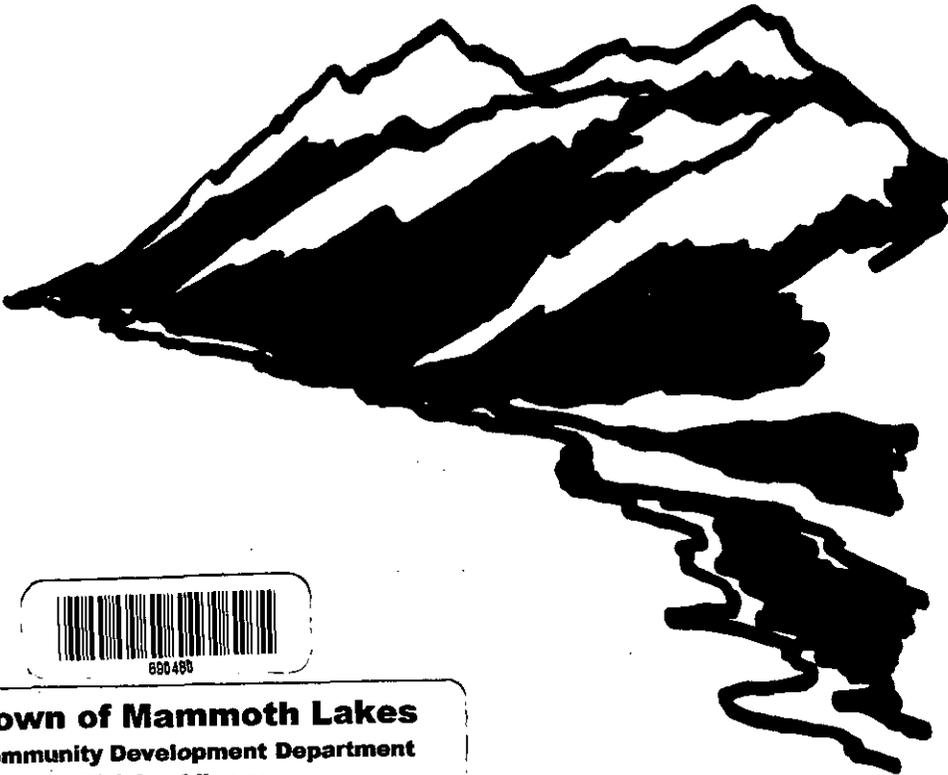


FINAL ENVIRONMENTAL IMPACT REPORT VOL. 1

DRAFT EIR

EIP ASSOCIATES

FEBRUARY 1991



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PREPARED FOR THE TOWN OF MAMMOTH LAKES, CALIFORNIA

NORTH VILLAGE

SPECIFIC PLAN
MAMMOTH LAKES, CALIFORNIA

**Final
Environmental Impact Report
Clearinghouse #89040321**

**TOWN OF MAMMOTH LAKES, CALIFORNIA
NORTH VILLAGE SPECIFIC PLAN**

Prepared by

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February 1991

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1. SUMMARY

1. SUMMARY

SUMMARY OF PROPOSED ACTION

This Environmental Impact Report (EIR) addresses a proposed 64.1-acre Specific Plan in Mammoth Lakes, California. The project includes 2,000 new hotel units, 400 resort condominium units, 60,000 square feet of commercial/retail space, skating rink and ski lift. The majority of the parcels within the project site are currently zoned as Commercial with the peripheral acreages zoned as Residential. The Specific Plan calls for a modification in zoning such that more flexible site designs would be allowed. Also, the Specific Plan is proposing a circulation system that would require the Transportation Element in the Town of Mammoth Lakes General Plan to be modified. An amendment to the Land Use Element is required.

ALTERNATIVES

In accordance with Section 15126 (d) of the State CEQA Guidelines, a range of project alternatives are addressed in this EIR. A detailed analysis of this evaluation is provided in Section 7 (Alternatives) of this document. The following three alternatives are considered:

- "No Project"
- Reduced Project Size
- Alternative Project Site

The No Project Alternative would mean that the proposed project would not be constructed and the project site would remain in its present undeveloped state. None of the unavoidable significant impacts outlined for the proposed project would occur.

The Reduced Project Size Alternative would reduce the overall intensity (square footage) of the project by 30 percent. The result of this alternative would reduce the overall project impact of the proposed Specific Plan.

The Alternative Project Site is approximately 130 acres and is located south of Meridian Road and east of Old Mammoth Road - referred to as the South Gateway. This alternative assumes the same number of hotel/condominium units and commercial floor space as the proposed Specific Plan. The impacts of this alternative are comparable to the proposed project.

SUMMARY TABLE

Information in the following Table 1-1, Summary of Environmental Impacts has been organized to correspond to the environmental issues discussed in Chapter 4 (Environmental Setting, Impacts and Mitigation Measures). The summary table is arranged in four columns: 1) environmental impacts; 2) potential level of significance without mitigation; 3) recommended mitigation measures; and 4) the level of significance after implementation of mitigation measures. A series of mitigation measures are noted where more than one mitigation measure may be required to reduce the impact to a less-than-significant level.

Although not required by CEQA, some less-than-significant impacts and associated mitigation measures have been included to further reduce the level of impact. This type of impact is identified in the text. For a complete description of potential impacts and recommended mitigation measures, please refer to the specific issue section in Chapter 4.

TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.1 Geology, Soils, and Seismicity			
4.1-1 <i>If the project were implemented as proposed, it could create new or increased slope instability. This is a potentially significant impact.</i>	LS	<p>4.1-1(a) <i>Soils and foundation analyses shall be approved by the Public Works Director prior to final project design approval, as stipulated in the standards of the Town's Safety Policy #18. All measures required by the Public Works Director shall be incorporated into grading plans and building plans.</i></p> <p>4.1-1(b) <i>New slopes shall be constructed at an angle and degree of compaction that will ensure stability, as stipulated in the standards of the Town's Municipal Code.</i></p> <p>4.1-1(c) <i>All work shall be overseen by a licensed civil engineer, certified engineering geologist (CEG) or similar appropriately qualified professional, who shall report to the Town in order to ensure the standards of the applicable codes are met.</i></p> <p>4.1-1(d) <i>Any impacts resulting from any of the above measures not analyzed by this EIR shall be subject to further environmental review and approval by the Planning Commission prior to approval of the final project design.</i></p>	LS

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 LS = Less Than Significant PS = Potentially Significant

B = Beneficial

TABLE I-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.1-2 If the project were implemented as proposed, it could create new or increased soil erosion. This is a <i>potentially significant impact</i> .	PS	4.1-2 A comprehensive Erosion and Sediment Transport Control Plan shall be prepared and approved by the Town prior to issuance of any grading or building permit. The Plan shall be included in the Project design, as stipulated in the Town's Safety Policy #18. The Plan shall also meet the requirements of the Regional Water Quality Control Board and the Town Municipal Code.	LS
4.1-3 If the project were implemented as proposed, it could significantly alter the topography of the site. This is an <i>unavoidable significant impact</i> .	S	4.1-3 Prior to issuance of grading or building permits, geotechnical studies shall be completed and their recommendations shall be incorporated in the Project design, as stipulated in the Town's Safety Policy #26.	LS
4.1-4 If the Project were implemented as proposed, it would increase the number of people living in and visiting an area subject to seismic activity. This is a <i>less-than-significant impact</i> .	LS	4.1-4 The Project Sponsor shall complete the geotechnical studies and incorporate their recommendations in the project design, as stipulated in the Town's Safety Policy #26. All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.	LS
4.1-5 If the project were implemented as proposed, it would increase the number of people living in and visiting an area subject to volcanic activity.	PS	4.1-5(a) The Plan includes improvements on Lake Mary, Lakeview and Minaret Roads; these would provide residents of the slopes subdivision with improved travel routes to both of the evacuation routes leading out of the town.	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
	4.1-5(b)	<i>The developer shall cooperate with the Town in designing and disseminating information to assist citizens and visitors in responding to emergency situations that are likely to arise (Safety Policy #31). All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.</i>	

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.2 Hydrology and Water Quality			
4.2-1 Development under the Specific Plan will substantially increase and intensify development, thus increasing surface runoff from the Plan area. This is a <i>potentially significant impact.</i>	PS	<p>4.2-1(a) <i>A more complete hydrology analysis for design purposes shall be required to be completed to estimate the amounts of runoff which would be required to be retained onsite.</i></p> <p>4.2-1(b) <i>Runoff control shall be designed to meet the Lahontan Regional Water Quality Control Board's requirements and must be approved by the Town prior to issuance of any grading permits. Design shall be to the standards of the Storm Drain Master Plan.</i></p> <p>4.2-1(c) <i>The following water conservation procedures shall be incorporated into project elements where feasible:</i></p> <ul style="list-style-type: none"> ■ <i>Landscape with low water-using plants;</i> ■ <i>Install efficient irrigation systems that minimize runoff and evaporation and maximize the water that will reach the plant roots, such as drip irrigation, soil moisture sensors, and automatic irrigation systems; and</i> ■ <i>Use pervious material whenever feasible.</i> 	LS

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TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.2-2 Quality of groundwater would not be affected by project construction activities, and will not result in significant impacts to groundwater quality or quantity.	LS	4.2-2 <i>No mitigation measures required.</i>	LS
4.2-3 The quality of surface runoff could be degraded as a result of development. This is a <i>potentially significant impact.</i>	PS	4.2-3(a) For each individual project considered under this development concept, disturbance of soil requires a Waste Discharge Report to be filed with the Lahontan Regional Water Quality Control Board and a Waste Discharge Permit to be issued for the project to ensure that proper control measures for the protection of water quality are taken and adhered to during all phases of the project. 4.2-3(b) See Mitigation Measure 4.1-2.	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.3 Biological Resources			
<p>4.3-1 As presently conceived in the North Village Specific Plan, the recreational and commercial developments proposed for this site would result in the alteration of most of the scattered native vegetation and wildlife resources presently on the property. Cover may actually be increased in some areas as a result of landscape planting; however, this increase may not increase habitat values since the replacement vegetation would be "urban" and represents a loss of plant species diversity. This would be considered a <i>potentially significant impact</i> of the Project.</p>	PS	<p>4.3.1(a) <i>The project shall preserve existing native vegetation to the maximum extent feasible. Landscaping shall emphasize the use of native plants indigenous to the Jeffrey Pine-Fir Forest, Sagebrush Scrub, and Riparian plant communities. Whenever possible native plants used onsite shall be selected for their replacement habitat value. Site designs shall be subject to the Design Review procedure of the Town.</i></p> <p>4.3.1(b) <i>All trees greater than 12 inches dbh (diameter breast height) and significant stands on the Project site shall be mapped prior to issuance of grading permits or clearing. A registered forester or arborist shall then determine the age and condition of these trees and whether they should be retained or removed based upon health and visual significance of the trees, except for removal required by approved improvements. Once this determination is made those trees should be retained and integrated into the design of the Project. A program of specific protection measures shall be prepared by the developer and approved by the Town prior to issuance of any construction permits (e.g., construction fencing, grading controls, grading design, etc.). Any</i></p>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>trees removed unavoidably by the final Project approval shall be in accordance with Town policies. Off-site replacement will need the approval of the Town of Planning Director.</i>	
		4.3-1(c) <i>Construction and site development, such as grading and trenching, shall be prohibited within the dripline of retained trees. Equipment shall not be stored or driven under trees. Grading shall not cover the ground surface within the dripline of existing trees. Grading limits shall be clearly defined and protected.</i>	
		4.3-1(d) <i>Landscape materials shall be used that allow for the protection and preservation of existing trees. Native plant species, preferably from seed or cuttings from local plants, should be used where possible. The Landscape Plan shall be approved by the Planning Director prior to issuance of any construction permits.</i>	
		4.3-1(e) <i>Irrigation, fertilization, and other landscape management practices shall be designed to minimize effects on existing trees and other vegetation.</i>	
		4.3-1(f) <i>Proper disposal methods for all coniferous slash shall be used in order to prevent the spread of bark beetles.</i>	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.3-2 The proposed project will result in a change in vegetation from conifer forest to urban development within portions of undisturbed vegetation. As in the case of changes in vegetation cover, this change in vegetation will likely result in a lowering of habitat values. The change must be considered <i>less-than-significant due to the fragmented nature of the habitat.</i>	PS	4.3-2 Implement Mitigation Measure 4.3-1 above.	LS
4.3-3 Any loss of a plant species of concern would be considered significant. Field surveys done in late June, 1990, a time of flowering for all species of concern, failed to find any of the six species of concern. As a result it is expected that there will be <i>no significant adverse effects</i> on any species of concern.	LS	4.3-3 <i>None required.</i>	LS
4.3-4 Development of the project would result in the loss of 25 acres of fragmented native wildlife habitat. This is a <i>less-than-significant impact.</i>	PS	4.3-4(a) <i>To retain wildlife values, as much native vegetation as possible shall be retained and protected during construction. A Revegetation Plan, prepared by a qualified botanist and approved by the Town of Mammoth Lakes, shall be completed prior to the commencement of the project which will describe in detail the species of trees and shrubs which will be used, where they will be planted, and in what numbers, and the methods of planting and maintenance which will ensure successful growth. It shall include a</i>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>monitoring program to follow the progress of new plantings and ensure replacement of unsuccessful plants. Landscaping with native species of trees and shrubs should be undertaken to enhance wildlife use of cleared areas. Any trees removed unavoidably by the final Project approval shall be replaced on a one-to-one basis on- or off-site. Off-site replacement will need the approval of the Town Planning Director.</i></p>	
		<p>4.3-4(b) <i>Under the recently enacted AB 3180, once mitigation plans designed to offset habitat losses are approved and the specific areas where they will be located are identified, the proponent must provide a program to monitor their progress for a period of time (usually three to five years) deemed sufficient by the Planning Director to assure their successful development. Adequate security shall be deposited with the Town to ensure successful implementation of this measure.</i></p>	
<p>4.3-5 Disturbances and disruptions during project construction scatter/disperse and fragment existing wildlife communities onsite, forcing survivors into already occupied habitats to cause cumulative negative impacts on all wildlife in the area. This is a potentially significant impact.</p>	PS	<p>4.3-5 <i>All construction activities, including movement and storage of vehicles and the storage of building and other materials, shall be confined to areas slated for development. Care shall be taken during construction to avoid damage to vegetation and habitats not directly involved in project construction. Any damaged vegetation</i></p>	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.3-6 Increased erosion and siltation as a result of construction and grading activities could alter vegetation in the project area. This is a <i>potentially significant impact</i> .	PS	shall be replaced on a one-to-one basis on- or off-site. Off-site replacement will need the approval of the Town Planning Director.	LS
		4.3-6 <i>To prevent erosion and siltation into intermittent creeks, areas cleared of vegetation, fill or other materials should be stabilized after clearing and grading. Hay bales, silt screens or similar devices should be used to prevent siltation. To further protect the drainage system and prevent erosion, all grading and construction should be completed during the summer months or, after October 15 of each year, be in a condition to be stabilized within 48 hours should inclement weather threaten.</i>	
4.4 Land Use and Planning			
4.4-1 The visual impact of the high-speed Gondola over a 20-foot easement within a residential area may not be a desirable feature. This is considered to be a <i>significant impact</i> .	S	4.4-1(a) <i>The height of the proposed gondola should be maintained at or near a maximum of 90 feet (just below the tree line), in order to protect views from adjacent residential buildings.</i>	SU
		4.4-1(b) <i>To the maximum extent feasible existing trees located along the gondola easement shall be retained. Replacement trees, in addition to those existing, shall be planted adjacent to the gondola easement (with property owner approval) in</i>	

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>order to create a buffer that will protect privacy and minimize visual impacts on affected properties.</i>	
		4.4-1(c) <i>Natural earth tone colors and non-glare, non-reflective materials shall be used for the gondola towers and cabins.</i>	
4.4-2 The proposed project would create significant changes in the existing physical land use patterns and demands both in the project area and throughout the commercial areas of Mammoth Lakes. This is a potentially-significant impact.	PS	4.4-2 <i>The North Village Specific Plan suggests a specific schedule of development and specific mix of uses to prevent a worst case scenario from happening. A carefully-phased development plan shall help to preclude market saturation, as the success of the North Village's economic climate is as essential as it is critical to the vitality of the Town of Mammoth Lakes. Modification of the phasing plan shall be approved by the Planning Commission of the Town of Mammoth Lakes. Modification of use permitted shall be subject to Town Council determination as part of the approval process of this Specific Plan or any future modification.</i>	LS
4.4-3 The proposed project represents a much more intense use of the land than the existing zoning and present use. This is considered to be a potentially-significant impact.	PS	4.4-3 <i>Prior to every development phase of the proposed project, the plan for that proposed phase shall be submitted to the Town of Mammoth Lakes, North Village Design Review Committee and the North Village Association for</i>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.4-4 The proposed project represents an opportunity to see infill development of existing land areas. This is <i>not a significant impact</i> .	B	<i>approval of transition of uses between new urban development and existing adjacent uses.</i> <i>None required.</i>	4.4-4
4.4-5 The proposed project would meet a part of the increased demand for visitor accommodations in Mammoth Lakes. An increasing demand would be established as the project becomes a year-round recreational facility of the Mammoth region. This is <i>not a significant impact</i> .	B	<i>None required.</i>	4.4-5
4.4-6 The proposed project is anticipated to generate a peak population of 2,300 people onsite. These visitors would contribute to the economic base by means of expenditures for accommodations, ski lift tickets, ski rentals, food, services and other goods. The proposed development is designed more to capture potential new market demand by business and guided town groups than to answer the existing demand. This is <i>not a significant impact</i> .	B	<i>None required.</i>	4.4-6

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>4.4-7 The proposed project would promote property tax bases on 1 percent of the assessed value which would amount to about \$1 million annually after build-out. These new tax revenues to Mono County and the Town of Mammoth Lakes would be generated by the hotels and commercial sales. This is not a significant impact.</p>	B	None required.	4.4-7
<p>4.4-8 The proposed project would be consistent with the General Plan Land Use Element which considers the Minaret Commercial District, an activity node, and a site for Specific Plan Planning Opportunities. This is not a significant impact.</p>	B	None required.	4.4-8
<p>4.4-9 The proposed North Village Specific Plan would be consistent with the Town of Mammoth Lakes General Plan with the exception of minor changes in land use designations from residential to commercial and Circulation Element changes which permit the rerouting of Canyon Boulevard (see Traffic impacts).</p>	B	None required.	4.4-9

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.5 Jobs/Housing Relationship			
4.5-1 As presented in Table 4.5-6 (in section 4.5), the proposed North Village Specific Plan could potentially generate 1,612 permanent on-site jobs and 106 temporary construction-related jobs. This is a <i>beneficial impact</i> .	B	4.5-1 <i>None required.</i>	
4.5.2 Employment created from the hotel and commercial development in the North Village Specific Plan area will increase the population of the Town of Mammoth Lakes and its surrounding area by as much as 2,828 people, with an accompanying housing demand of 1,230 units. This is a <i>significant impact</i> .	S	4.5-2(a) <i>100 percent of the housing for employees generated by uses within the project shall be provided onsite, including affordable employee housing based upon Health and Safety code section 50079.5 and 50105 criteria unless the Town Council allows a portion of this housing need off-site; through an in-lieu fee, or equivalent program. If the Town adopts an employeeaffordable housing program requiring on- or off-site housing or in-lieu fees prior to any phase of development, provision of housing in accordance with that ordinance shall constitute adequate mitigation.</i> 4.5.2(b) <i>Any housing constructed off-site should be subject to further environmental review to insure that significant or cumulative environmental effects are mitigated on a site specific basis.</i> 4.5.2(c) <i>Employee housing or an in-lieu fee or equivalent program as approved by the Town Council</i>	LS

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TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<i>should be in place prior to or concurrent with the non-residential development generating the need for such housing.</i>			
4.6 Utilities			
WATER			
<p>4.6-1 The Mammoth County Water District reports that the proposed project would have an estimated total water demand of 200,000 gallons per day, which is equivalent to 218 acre-feet per year. This is a <i>potentially significant impact</i>.</p>	PS	<p>4.6-1 <i>The project operations will have to comply with all MCWD water conservation restrictions. In addition, the project should use:</i></p> <ul style="list-style-type: none"> • <i>ultra-low flow plumbing fixtures</i> • <i>native and/or drought-tolerant landscaping</i> • <i>reclaimed water where feasible</i> 	LS
<p>4.6-2 The cumulative impacts of other development projects proposed for Mammoth Lakes¹ shall increase consumption to approximately 5,946 acre-feet. The cumulative impact of buildout under the Mammoth Lakes General Plan will require the prompt development of the Dry Creek wells and other sources as developed by MCWD. This is a <i>potentially significant impact</i>.</p>	PS	<p>4.6-2(a) <i>The project proponent shall contribute "fair share" mitigation fees, as determined by the Mammoth County Water District, for expanded facilities needed to serve cumulative development demands.</i></p> <p>4.6-2(b) <i>In the event that additional supplies are not developed in a timely fashion, development shall be deferred pending existence of adequate water resources and facilities as determined by MCWD.</i></p>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
WASTEWATER			
4.6-3	LS	4.6-3	LS
The proposed project is anticipated to generate a total of approximately 459,100 gallons of wastewater per day, made up of 60,000 gallons per day (gpd) from residential uses (condos), 19,100 gpd from the retail space, 300,000 gpd from the hotel rooms (based upon full occupancy), and 80,000 gpd from restaurant uses. Since MCWD has udequate treatment capacity for project-generated wastewater flows, the proposed project would have a less-than-significant impact on wastewater facilities. <i>This is a less-than-significant impact.</i>		The Project shall comply with all requirements of Mammoth County Water District regarding flow reduction and sewer system design and operation.	
4.6-4	LS	4.6-4	LS
New, or rerouted, sewerlines will be necessary to serve the project. Construction and operation of any sewage lines connecting with the MCWD facilities are contingent upon obtaining a Sewer Permit from the MCWD District Manager in accordance with Division 5 of the MCWD Sanitary Sewer Service Code. All additions and rerouting will occur within existing or proposed street rights-of-way, at the time of street construction. Therefore, <i>this is a less-than-significant impact.</i>		None required.	

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SOLID WASTE			
<p>4.6-5 The project is anticipated to produce a total of 35,340 pounds of solid waste per day, made up of 1,440 pounds per day from all residences and 33,900 pounds per day from all commercial operations. The Mammoth Disposal Company has indicated that it has adequate collection facilities to serve the project. The Benton Crossing Landfill has another 19 years of capacity and, thus, has adequate capacity to serve the proposed development. Thus, the project would have a <i>less-than-significant impact</i> on solid waste collection and disposal facilities.</p>	LS	<p>4.6-5(a) <i>Alternate methods of solid waste disposal, such as the use of onsite trash compaction, shall be incorporated into the final Project design subject to the approval of the Mammoth Lakes Planning Department.</i></p> <p>4.6-5(b) <i>All visible trash collection facilities and features of the development shall be designed to complement the Project design scheme.</i></p> <p>4.6-5(c) <i>The Project applicant shall provide a recycling collection station or contract a solid waste disposal company which will offer a system of convenient recycling stations for Project residents. Placement and design shall be subject to the review and approval of the Planning Director.</i></p> <p>4.6-5(d) <i>The Project applicant shall provide each residence with a divided cabinet suitable for aluminum cans, glass bottles, and plastic bottles.</i></p>	LS
<p>4.6-6 Southern California Edison (SCE) supplies the Town of Mammoth Lakes with its electricity. Based on current project plans, it is estimated that 20,415,200 kilowatt hours will be used by the development annually. Not enough is</p>	LS	<p>4.6-6 <i>None required.</i></p>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>known to project electricity consumption of the gondola, though it is not expected to be significant. Currently, SCE has the infrastructure in place to handle overall project demand, thus the project would have a <i>less-than-significant-impact</i>.</p>			
TELEPHONE			
<p>4.6-7 Continental Telephone (ConTel) supplies the Town of Mammoth Lakes with telephone service. It is estimated, based on project descriptions, that approximately 2,700 phone lines will be needed. ConTel has the infrastructure in place to meet this demand. Therefore, the project would have a <i>less-than-significant impact</i>.</p>	LS	4.6-7 <i>None required.</i>	LS
4.7 Traffic			
<p>4.7-1 The Level of Service analysis for roadways indicated that the following segments would operate at LOS "F":</p> <ul style="list-style-type: none"> ■ Lake Mary Road/Lakeview Road to Minaret Road ■ Main Street/Minaret Road to Sierra Boulevard 	PS	<p>4.7-1 <i>Roadway Improvements</i></p> <p><u>Minaret Road (Main Street/Lake Mary Road to south of Old Mammoth Road) - Widen Minaret Road from Main Street/Lake Mary Road to south of Old Mammoth Road to provide four through travel lanes. This improvement would be consistent with the Town of Mammoth Lakes General Plan, which designates Minaret Road as an arterial.</u></p>	PS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<ul style="list-style-type: none"> ■ Minaret Road/Old Mammoth Road to Chateau Road ■ Minaret Road/Chateau Road to Meridian Boulevard ■ Minaret Road/Meridian Boulevard to Main Street ■ Old Mammoth Road/Chateau Road to Meridian Boulevard ■ Old Mammoth Road/Meridian Boulevard to Main Street <p>Main Street from Forest Trail to Old Mammoth Road and Minaret Road from Main Street to Forest Trail would operate at LOS "D".</p>	PS	<p><u>Old Mammoth Road (Main Street to south of Chateau Road)</u> - Widen or re-stripe Old Mammoth Road from Main Street to south of Chateau Road to provide four travel lanes while maintaining the existing continuous left-turn lane.</p> <p><u>Lake Mary Road (Main Street to Lakeview Road)</u> - Widen Lake Mary Road between Main Street and Lakeview Road to provide four travel lanes. The westbound through lane in this road segment would become an exclusive right-turn lane at the intersection with Lakeview Road.</p> <p><u>Main Street (Sierra Boulevard to Minaret Road)</u> - Provide a two-way continuous left-turn lane in the median by widening Main Street between Sierra Boulevard and Minaret Road. This would be consistent with the existing two-way continuous left-turn lane east of Sierra Boulevard.</p>	PS
<p>4.7-2 A review of Table 4.7.8 reveals the following Level of Service deficiencies:</p> <ul style="list-style-type: none"> ■ The unsignalized intersections of Sierra Boulevard/Main Street and Minaret Road/Old Mammoth Road would operate at LOS "F"; ■ The signalized intersection of Lakeview Road/Lake Mary Road would operate at LOS "E"; ■ The following signalized intersections would operate at LOS "F": 	PS	<p>4.7-2 Intersection Improvements</p> <p><i>The following intersection improvements recommended to mitigate cumulative plus project conditions are in conjunction with the roadway improvements described above.</i></p> <p><u>Minaret Road/Forest Trail</u> - Widen Minaret Road just north of Forest Trail to provide two southbound lanes, resulting in one left-turn lane, one through lane and a through/right-turn lane on the southbound Minaret approach to Forest Trail.</p>	PS

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<ul style="list-style-type: none"> - Minaret Road/Forest Trail - Minaret Road/Main Street - Minaret Road/Meridian Boulevard - Old Mammoth Road/Main Street - Old Mammoth Road/Meridian Boulevard 		<p><i>Provide north-south protected/permmissive left-turn phasing. Restripe the eastbound approach to provide a right turn lane and provide a right-turn overlap phase. Restripe the westbound approach (widened as part of the North Village Specific Plan improvements) for a left-turn lane and a through/right-turn lane.</i></p> <p><i><u>Lakeview Road/Lake Mary Road</u> - Restripe the eastbound Lake Mary Road approach to provide one left-turn lane and one through lane (which would be the second eastbound through lane recommended as part of the Lake Mary Road widening east of Lakeview Road); widen the westbound Lake Mary Road approach to provide one through lane and one right-turn lane (which would be the second westbound through lane recommended as part of the Lake Mary Road widening east of Lakeview Road) and restripe the southbound Lakeview Road approach to provide one left-turn lane and one shared left/right-turn lane. These improvements would be in addition to the installation of a traffic signal, widening and grade reductions proposed in the North Village Specific Plan Circulation Plan.</i></p> <p><i><u>Minaret Road/Main Street/Lake Mary Road</u> - Widen the northbound Minaret Road approach to provide a right-turn lane. Widen the southbound approach to provide the following configuration: two left-turn</i></p>	

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		<p><i>lanes, one through lane, and one through/right-turn lane. Restripe the westbound approach to provide a second left-turn lane. Provide eight-phase signal operation by modifying the northbound and southbound from split phasing to protected left-turn phasing.</i></p>	
		<p><i><u>Sierra Boulevard/Main Street</u> - Restripe Main Street to provide a left-turn lane on the eastbound approach (in conjunction with the recommended widening of Main Street to provide a two-way continuous left-turn lane). This would remove turning vehicles from the through traffic lanes and thus improve the overall operation of the intersection. Also, restripe the southbound approach to provide a left-turn lane and a right-turn lane. This would reduce the delay to right turning traffic caused by vehicles waiting to turn left from a single approach lane. The intersection comes very close to meeting signal warrants with the projected traffic and should be monitored periodically to determine if the actual future volumes or accident incidence warrant the installation of a signal.</i></p>	
		<p><i><u>Old Mammoth Road/Main Street</u> - Restripe the northbound approach to provide one left-turn lane and one shared left/right-turn lane. The two-lane southbound departure should be modified to provide for a continuous eastbound to southbound</i></p>	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>movement. Traffic turning left from the westbound approach would be able to turn into the other southbound departure lane.</i></p>	
		<p><i><u>Minaret Road/Meridian Boulevard</u> - Widen both the northbound and southbound Minaret Road approaches to provide one left-turn lane, one through lane, and one through/right-turn lane on each approach. Widen the eastbound approach to provide a right-turn lane with a right turn overlap. Provide left-turn lanes on the eastbound and westbound Meridian approaches.</i></p>	
		<p><i><u>Old Mammoth Road/Meridian Boulevard</u> - Widen the northbound and southbound Old Mammoth approaches to provide one left-turn lane, two through lanes, and one right turn lane.</i></p>	
		<p><i><u>Minaret Road/Old Mammoth Road</u> - This intersection will satisfy traffic signal warrants under cumulative conditions. Install an eight-phase traffic signal, with protected left-turns on all approaches. Widen the northbound and southbound Minaret approaches to provide one left-turn lane. Two through lanes and one right-turn lane. Widen the westbound approach to provide two left-turn lanes, one through lane and one right-turn lane; widen the eastbound approach and departure to provide one left-turn through lane, one through lane, and one</i></p>	

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		<i>right-turn lane. The additional eastbound through lane should be extended approximately 300 feet past the intersection and the two through lanes could then transition back into one lane.</i>		
4.8 Air Quality				
4.8-1	Construction in the area of the proposed site will temporarily increase PM ₁₀ concentrations and could lead to violations of the federal and State 24-hour average PM ₁₀ standards. This is a <i>potentially significant impact</i> .	PS	4.8-1(a) <i>To reduce the potential for nuisance due to dust and odors, all construction contracts shall require watering twice daily with complete site coverage; the frequency of watering shall increase as necessary to minimize dust if wind speeds exceed 15 mph.</i>	LS
		4.8-1(b) <i>Drift fencing tackifiers and covering of stockpiles shall be used in areas not under active construction.</i>		
4.8-2	Operation of construction vehicles and equipment during the construction phase of the proposed Project could result in violations of federal and State 1-hour and 8-hour CO standards. This is a <i>short-term, potentially significant impact</i> during the construction phase of the proposed Project only.	PS	4.8-2 <i>To reduce the potential of spot violations of the CO standards and odors from construction equipment exhaust, unnecessary idling of construction equipment shall be avoided.</i>	LS
4.8-3	Emissions from vehicular traffic generated by the proposed Project could result in violations of federal and State ambient quality	PS	4.8-3 <i>Development will not be allowed within 50 feet of the Old Mammoth and Main intersection.</i>	LS

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standards. This is a <i>potentially significant impact</i> .			
4.8-4 Resuspended road cinders and vehicle tail pipe and tire wear will contribute approximately 1,400 kg/day to the total PM ₁₀ emissions inventory at buildout of the proposed Project. This is a <i>significant impact</i> .	S	4.8-4 Adopt and enforce Control Measures 1 through 7 of the Town of Mammoth Lakes Draft Air Quality Management Plan (see Table 4.8-3).	LS
4.8-5 At Buildout of the proposed project, in 2005, the contribution of PM ₁₀ from woodburning would be approximately 19.4 Mg ³ annually, and, for a worst-case day, approximately 369 kg. This is a <i>significant impact</i> .	S	4.8-5(a) Residential units shall be limited to one woodburning appliance per dwelling. The appliance must be an EPA Phase II-certified woodburning stove or pellet stove. Woodburning shall comply with standards in the Town's woodburning ordinance (Chapter 8.30, Particulate Emissions Regulations). 4.8-5(b) Each hotel may have only one fireplace in the lobby or other common area. No other solid fuel appliances shall be allowed. 4.8-5(c) All structure shall have high-efficiency central heat.	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.9 Noise			
4.9.1 Construction-related noise from the proposed project would increase ambient noise levels in areas surrounding the project site. This is a <i>significant</i> impact.	S	4.9.1(a) Construction activities shall be limited to the hours between 7 a.m. and 8 p.m. Monday through Saturday and 9 a.m. to 5 p.m. on Sunday in order to minimize noise impacts.	LS
		4.9.1(b) Construction equipment shall be required to be muffled or controlled. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers. Copies of contracts shall be filed with the Public Works Director prior to issuance of permits.	
4.9.2 Noise levels exceeding 60 dBA currently exist on all major arterials and most streets reviewed and are projected to increase significantly as a result of cumulative development with and without the proposed project. Noise levels for the year 2005 with the project would not be noticeably higher than noise levels projected without the project. The electrical gondola will not have a noise impact. Both indoor and outdoor noise levels could exceed thresholds established by the Town. This is a <i>significant</i> impact.	S	4.9.2(a) Sensitive receptors within the proposed project shall be located or architecturally designed so the exterior noise levels will not exceed 60 dB and interior noise levels would not exceed 45 dB.	LS
		4.9.2(b) Multi-family buildings shall be located or architecturally designed so the interior noise level will not exceed 45 L _{dn} , certified by an acoustical engineer.	
		4.9.2(c) Transit alternatives to reduce traffic, as recommended in the Transportation section of this EIR, shall be included in project design to reduce traffic-generated noise levels and their impact on the proposed project and adjacent land uses.	

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4.10 Archaeological		<i>Typically, a reduction in traffic of one-half will reduce the noise level by 3 db.</i>	
4.10-1 Development of the proposed project could disturb prehistoric cultural resources. This is a <i>potentially significant impact</i> .	PS	<p>4.10-1(a) <i>North Village Site #1 shall be subject to subsurface testing and a thorough archaeological survey prior to issuance of a permit for grading or construction. If found to be significant, the site should be avoided or excavated prior to any earth-disturbing activities.</i></p> <p>4.10-1(b) <i>North Village Site #2 shall be avoided or excavated prior to any earth-disturbing activity. All construction activity at this site and previously unexcavated sites shall be monitored by a qualified archaeologist. If subsurface prehistoric archaeological evidence is found, excavation or other construction activity in the area shall cease and an archaeological consultant shall be retained to evaluate findings in accordance with standard practice and applicable regulations. Data/artifact recovery, if deemed appropriate, shall be conducted during the period when construction activities are on hold.</i></p> <p>4.10-1(c) <i>North Village #1 may meet the CEQA criteria for important sites, for its ability to address scientifically consequential research questions. The site will be impacted by construction.</i></p>	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>Although avoidance might be considered the preferred treatment for a buried site, the adoption of any mitigation measures would be premature before the site's significance is determined. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. This will include excavation of up to five 25 by 25 cm shovel test units, surface collection of all surface artifacts, lithic and obsidian hydration analyses and possibly soil chemistry and obsidian source analysis. If no substantial subsurface deposit is encountered, this work would also suffice for data recovery. No permits for grading or other earth-disturbing activities will be issued until all appropriate mitigations are completed.</i></p>	
		<p>4.10-1(d) <i>North Village #2 appears significant. The site is in danger of slow degradation even in the absence of any construction. Its location and high visibility make it susceptible to casual collection and indirect impacts. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. Minimally this would include a sample surface collection, excavation of at least six 1 by 1 m excavation units, analyses, curation of collected materials, and a report. No permits for grading or other earth-disturbing activities will be issued until all appropriate mitigations are completed.</i></p>	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.10-2 Construction activities could disturb previously unknown human burial sites of Native American groups. This is a <i>potentially significant impact</i> .	PS	4.10-2 See Mitigation Measure 4.10-1; in addition, if human remains are discovered, work shall cease and an appropriate representative of Native American Indian groups and the County Coroner shall both be informed and consulted, as required by State law.	LS
4.11 Aesthetics/Visual Impacts			
4.11-1 Project development would change the physical and visual character of the project site. This is a <i>significant impact</i> .	S	<p>4.11-1(a) To the maximum extent feasible the proposed project shall retain forested areas, and shall remain subordinate to the natural character of the site and the surrounding landscape.</p> <p>4.11-1(b) Prior to final approval of project development plans, the applicant shall submit a tree preservation and replacement plan prepared by a professional forester, arborist, or landscape architect. Trees shall be replaced on a one-to-one basis with as many trees retained onsite as possible. Where trees have to be relocated off-site, the locations shall be determined through consultation with the Planning Director. The plan, including the type, size, number, and location of replacement trees shall be subject to the approval of the Town of Mammoth Lakes Planning Department.</p>	LS

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		4.11-1(c) <i>Contour grading shall be used to blend manufactured slopes into the natural terrain. Grading shall be minimized to preserve existing landform and vegetation to the greatest extent possible.</i>	
		4.11-1(d) <i>In order to reduce visual impacts, a forested buffer averaging no less than 100 feet shall be retained along Lake Mary Road, the southern extension of Minaret Road, and along the western and eastern edges of the project site. Special buffering and height restrictions shall be given to the hotel that is proposed for development across Forest Trail from the Town's community center.</i>	
		4.11-1(e) <i>The landscape design for the site shall maximize the use of existing vegetation, and where new plants are introduced, they shall include, and/or blend with, plants native to the Mammoth Lakes environment. Landscape Plans for the site shall be completed by a certified landscape architect.</i>	
		4.11-1(f) <i>To the maximum extent feasible, native trees and landscaping shall be concentrated around all structures located on the project site.</i>	
		4.11-1(g) <i>Grading shall utilize decorative retaining walls rather than slopes to minimize the area of disturbance.</i>	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.11-2 Existing views from off-site residential areas, and on-site hotels will be permanently altered with development of the proposed gondola. This is a significant impact.	S	4.11-2(a) <i>The height of the proposed gondola shall be maintained at or near a maximum of 90 feet (just below the tree line), in order to protect views from adjacent residential buildings.</i>	S
		4.11-2(b) <i>To the maximum extent feasible existing trees located along the gondola easement shall be retained. Replacement trees, in addition to those existing, shall be planted adjacent to the gondola easement (with property owner approval) in order to create a buffer that will protect privacy and minimize visual impacts on affected properties.</i>	
		4.11-2(c) <i>Natural earth tone colors and non-glare, non-reflective materials shall be used for the gondola towers and cabins.</i>	
4.11-3 Existing views to the project site from Minaret Road and Main Street/Lake Mary Road would be permanently altered.	PS	4.11-3(a) <i>Adoption of the North Village Specific Plan shall include all provisions for design review stated in the Plan, with all phases and developments proposed within the Specific Plan area undergoing review by a Town appointed Design Review Committee and/or Planning Commission.</i>	LS
		4.11-3(b) <i>The design and height limits of hotels along the ridgeline in the western portion of the site, and along Lake Mary Road, shall be carefully reviewed for visual impacts. The height, massing and visibility of these hotels shall respond to, and</i>	

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>be compatible with, the natural environment and "Town" character of Mammoth Lakes.</i>	
		4.11-3(c) <i>The architectural style for the development shall blend with the site's natural setting. Rooflines should reflect the slope of the site, and natural "earth tone" colors and materials such as stone and wood shall be emphasized. Project development plans (Use Permits and Building Permits) shall be subject to review by the Town of Mammoth Lakes Planning Commission.</i>	
		4.11-3(d) <i>In order to reduce the visual impact of the proposed Minaret Road pedestrian overpass, the structure's height and visual mass shall be kept to a minimum. The design and materials used for the overpass shall be compatible with the materials and architectural character of North Village.</i>	
4.12 Light-Glare			
4.12-1 Exterior lighting, specifically street lighting, if not controlled, could have significant impacts on adjacent residences and hotels.	PS	4.12-1(a) <i>All exterior lighting shall be designed and located so as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the project site. Low-intensity street lighting and low-intensity exterior lighting shall</i>	LS

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Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>be used throughout the development to the degree feasible.</i>	
		4.12-1(b) <i>Lighting used for various components of the development plan shall be consistent with North Village Specific Plan implementation standards for light intensity levels, fixture height, fixture location, and design.</i>	
		4.12-1(c) <i>Vegetative buffers shall be used to reduce light intrusion on residential development and on forested areas located adjacent to the project site.</i>	
4.12-2 Sources of reflective glare could emanate from window glass (including the gondola cabins), and from other construction materials. The use of reflective glass and other materials could have significant impacts on adjacent land uses, pedestrians, and motorists traveling along Minaret and Lake Mary Road.	PS	4.12-2 <i>The project shall use minimally reflective glass and all other materials used on exterior buildings and structures (including the gondola cabins and towers), should be selected with attention to minimizing reflective glare.</i>	LS
4.13 Public Services/Fiscal Impacts			
4.13-1 Snow removal requirements will increase as a result of street improvements and the development of the pedestrian plaza. The closing of Canyon Boulevard, will result in accessibility problems for the removal of	S	4.13-1(a) <i>All project road alignments and project phases shall be designed to provide the necessary snow storage areas as determined by the Town Department of Public Works. Snow storage areas</i>	LS

S = Significant SU = Significant Unavoidable B = Beneficial
 LS = Less Than Significant PS = Potentially Significant

TABLE I-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p><i>snow from the plaza. This is a significant impact.</i></p>		<p><i>shall equal at least 10 percent of the surfaces to be cleared.</i></p>	
		<p>4.13-1(b) <i>All buildings, walkways and pedestrian open spaces shall be located a minimum of 20 feet from the roadway edge to limit the amount of snow storage/blowing interference.</i></p>	
		<p>4.13-1(c) <i>Alternate methods of snow removal, such as radiant heat decking, shall be implemented in the plaza area. Access to the plaza shall be provided at all times to provide for snow removal services.</i></p>	
		<p>4.13-1(d) <i>Parking garage entry points shall avoid north-facing orientation. Design solutions shall be implemented to prevent blowing and drifting snow from accumulating in the garage entry area.</i></p>	
		<p>4.13-1(e) <i>Sloping roofs shall be designed so as not to shed snow onto adjacent properties, parking lots, walkways or other passage ways.</i></p>	
		<p>4.13-1(f) <i>The Town and CALTRANS shall retain the right to cover with snow any sidewalks located adjacent to streets during snow removal activities.</i></p>	
		<p>4.13-1(g) <i>No snow removal activities, except that which is performed by the Town or by CALTRANS, shall</i></p>	

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TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>be allowed to deposit snow within the public rights-of-way.</i>	
		4.13-1(h) <i>To avoid ice build-up, all structures shall be oriented to prevent shading of streets and pedestrian areas to the fullest extent feasible.</i>	
		4.13-1(i) <i>Clearing of private roads shall be handled by the North Village maintenance district.</i>	
		4.13-1(j) <i>Snow associated with the plaza will be hauled off-site and deposited at a suitable location.</i>	
4.13-2	SU	4.13-2(a) <i>The project proponent shall pay school impact fees under the provisions of AB 2926 or provide equivalent alternative mitigation as determined by the School District.</i>	SU
		4.13-2(b) <i>The project proponent may volunteer to designate a portion of the project site to the District for the purpose of construction a new elementary school facility or to participate in a proportionate share of a school site at another location.</i>	
4.13-3	PS	4.13-3(a) <i>All conceptual and final development plans shall be reviewed by the Mammoth Lakes Police Department for crime-prone design features prior</i>	LS

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TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>North Village are expected to increase 15 to 30 percent. The closing of Canyon Boulevard between Minaret and Hillside, along with the overall pedestrian emphasis of the project, results in limited access to motor vehicles. As a result, patrols will be conducted on foot or bicycle and thus, response time will be longer. This may also be true for areas surrounding North Village as a result of the closing of Canyon Blvd. This is a <i>potentially significant impact</i>.</p>		<p><i>to plan approval. Police Department recommendations shall be included in final plans.</i></p> <p>4.13-3(b) <i>If not provided by the developer, phasing plans shall also include the provision of police protection by the Town.</i></p> <p>4.13-3(c) <i>The project proponent shall contribute sufficient funds to the Town of Manmoth Lakes for the cost of purchasing one patrol car.</i></p>	
<p>FIRE PROTECTION</p>			
<p>4.13-4 The closing of Canyon Blvd. will result in an access problem both to the rear of the proposed buildings and to surrounding residential areas; thus, access for delivery service will not meet District requirements. Intensive new development within the Town will also result in a need for a new aerial ladder truck. There is also concern over pumping capacity within the project area. This is a <i>potentially significant impact</i>.</p>	<p>PS</p>	<p>4.13-4(a) <i>A fire lane shall be dedicated to all of the commercial properties of North Village. Access to all structures shall comply with Manmoth Lakes Fire Protection District Ordinance #85-02. Access roads shall be of an approved hard all-weather surface and shall have a minimum clear unobstructed width of 20 feet. All access roads shall have a minimum vertical clearance of 15 feet. Access roads shall have a grade of not more than ten percent. To provide for aerial ladder access to building roof tops, a minimum 20 foot wide access road shall be provided for each structure located not more than 25 feet from the structure, but no closer than one foot for every three feet of building height. This access</i></p>	<p>LS</p>

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TABLE I-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>road shall have a grade of not more than three percent and shall be clearly posted "No Parking - Fire Lane." All high-rise structures (defined by the District as any structure exceeding three stories or 35 feet in height for nonresidential structures and 55 feet for residential structures) shall be required to have approved Fire Department access roads to at least two sides of the structure. One of these access roads shall be on the side of the building with the longest continual roof line. Fire Department access roads that are 150 feet or more in length shall be provided with approved fire apparatus turn-arounds. The required width and height clearances for Fire Department access roads shall be maintained. A lane shall also be designed within North Village to allow access to surrounding neighborhoods.</i></p>	
		<p>4.13-4(b) <i>The project proponent shall pay a one-time mitigation fee for construction of the project, based upon building height, and another one-time mitigation fee on project operations. Both fees are to be determined by the Fire Protection District and collected by the Town.</i></p>	
		<p>4.13-4(c) <i>If a smoke tower or stairway is used as a required exit for a structure, that exit shall have an unobstructed passage of not less than six feet</i></p>	

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TABLE I-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<i>in width to the Fire Department access; and, from that point, not less than three feet in width to the public way.</i>	
		<p>4.13-4(d) <i>An approved water supply system capable of supplying required fire flow for fire protection purposes shall be provided to all premises upon which buildings or portions of buildings are constructed. The establishment of gallons-per-minute requirements for fire flow shall be based on the "Guide for Determination of Required Fire Flow" published by the Insurance Service Office.</i></p>	
		<p>4.13-4(e) <i>Fire hydrants shall be located and installed per Fire Department standards and approved by the Fire Chief. On-site fire hydrants shall be provided when any portion of the building protected is in excess of 150 feet from a water supply on a public street, or as required by the Fire Chief.</i></p>	
		<p>4.13-4(f) <i>Fire hydrants and access roads shall be installed and made serviceable prior to and during time of construction. All hydrants shall be properly identified per Fire Department standards.</i></p>	
		<p>4.13-4(g) <i>An approved automatic fire extinguishing system shall be installed in all covered parking areas and other structures having a foundation</i></p>	

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TABLE 1-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>footprint of 5,000 square feet or more; a height of more than 35 feet (50 feet for residential condominiums or apartment buildings); or a height of more than three stories. Fire extinguishing systems shall also be installed for all other occupancies designated for this system in the Uniform Fire and Uniform Building Code, or structures identified as special hazard occupancies as outlined in the appropriate National Fire Protection Association pamphlet.</i></p>	
		<p>4.13-4(h) <i>Fire standpipe systems shall be installed in conformance with National Fire Protection Association Standards and the Uniform Fire Code.</i></p>	
		<p>4.13-4(i) <i>Incorporation of other fire protection methods as necessary in underground parking garages and high-rise structures based upon building construction, size, and adjoining occupancy types, shall be determined by the Fire Chief upon formal plan submission.</i></p>	
		<p>4.13-4(j) <i>All vehicular bridges and pedestrian bridges shall comply with fire apparatus access road requirements in regards to minimum width and height clearances.</i></p>	

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TABLE I-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		4.13-4(k) <i>Liquid petroleum gas storage and system installation shall comply with Mammoth Lakes Fire Protection District Ordinance #85-02, which establishes and regulates the storage of liquid petroleum gases.</i>	
		4.13-4(l) <i>The developer shall contribute a fair share proportional amount as determined by the MLFPD for the purchase of a new aerial ladder.</i>	
RECREATION AND PARKS			
4.13-5 The proposed project would create a demand for approximately 14 acres of parkland. This is a <i>potentially significant impact.</i>	PS	4.13-5 <i>To help offset this increase in demand for parkland in the Town of Mammoth Lakes, the project proponent shall be required to help fund the dedication of and off-site park or recreation facility.</i>	LS
FISCAL IMPACTS			
4.13-6 The proposed project would result in a net revenue for the Town of Mammoth Lakes. This is a <i>beneficial impact.</i>	B	4.13-6 <i>None required.</i>	N/A
4.13-7 The proposed project would add 373 more students to the Mammoth Unified School District and would result in a net cost for the District. This is an <i>unavoidable, significant impact.</i>	SU	4.13-7 <i>Implement Mitigation Measure 4.13-2(a) and 4.13-2(b).</i>	SU

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TABLE I-1

SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
4.13-8 Proposed project is anticipated to generate a net revenue to the Mammoth County Water District. This is a <i>beneficial impact</i> .	B	4.13-8 <i>None required.</i>	N/A
4.13-9 The proposed project would result in a net cost for the Mammoth Lakes Fire Protection District. This is a <i>less-than-significant impact</i> .	LS	4.13-9 <i>Implement Mitigation Measure 4.13-4(b).</i>	LS
4.13-10 <i>The proposed project would contribute towards the Southern Mono Hospital District's annual revenues through payment of property taxes. This is a beneficial impact.</i>	B	4.13-10 <i>None required.</i>	N/A
4.13-11 <i>The proposed project would result in an undetermined net cost to Mono County. This is a significant impact.</i>	S	4.13-11 <i>None required.</i>	SU
<u>4.14 Energy Conservation</u>			
4.14-1 The construction of the proposed project would involve the consumption of electricity and fossil fuels. It is estimated that approximately 2,000 BTU of gasoline, diesel fuel, and electricity are expended for every dollar of construction cost for fabrication and	LS	4.14-1 <i>None required.</i>	LS

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
<p>transportation of building materials, worker transportation, site development, and building construction. The construction process will also involve the consumption of water, mainly for dust abatement purposes. This is not considered a significant impact.</p>	LS	<p>4.14-2(a) <i>Energy efficient lighting (e.g., high-pressure sodium outdoor and fluorescent indoor lighting) shall be used rather than less efficient types. Where possible, miniature fluorescent lamps shall be used rather than incandescent lamps in fixtures. External lighting shall be controlled by photocells and/or time switches. Internal lighting systems shall employ separate switching schemes to ensure maximum use of daylight. Public area lighting, both interior and exterior, shall be time controlled for safety and protection.</i></p> <p>4.14-2b <i>Thermal insulation that meets or exceeds standards established by the State of California and the Department of Building and Safety shall be installed in all walls and ceilings.</i></p> <p>4.14-2c <i>Feasible opportunities for passive or natural heating and cooling shall be incorporated in the building designs, which could include: tinted or solar reflective double glazing and heat reflective draperies on appropriate exposures; windowless walls for certain</i></p>	LS
<p>4.14-2 The project is anticipated to consume approximately 20,415,200 kilowatt hours (Kwh) of electricity annually. This aggregate consumption amount is made up of approximately 6,432,400 Kwh for residential uses, 2,253,800 kWh for retail uses, 8,891,000 kWh for the hotel rooms (based upon full occupancy), and 2,838,000 kWh for restaurant uses. This is not considered a significant impact.</p>			

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SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		<p><i>exposures or appropriate passive solar inset of windows; thermal insulation in walls which meets or exceeds State and local standards; and placement of the focus of pedestrian activity within sheltered outdoor areas.</i></p>	
		<p>4.14-2d <i>The incorporation of high-efficiency air conditioning controlled by computerized energy management systems shall be installed to provide the following: variable air volume systems which result in minimum energy consumption and which avoid hot water energy consumption; 100 percent outdoor air economizer cycles to obtain free cooling during cool and dry climatic periods; sequential operation of air conditioning equipment in accordance with building demands; the isolation of air conditioning to any selected floor or floors; and time-controlled interior and exterior public area lighting as necessary for security purposes.</i></p>	
		<p>4.14-2e <i>The project sponsor shall consult with the Southern California Edison Company for assistance with energy conservation design features and other passive energy design features.</i></p>	
		<p>4.14-2f <i>The feasibility of geothermal energy as an alternative energy source shall be explored.</i></p>	

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2 PROJECT DESCRIPTION

2. PROJECT DESCRIPTION

The proposed project is comprised of 41 separate parcels under 36 different ownerships, totalling approximately 64.1 acres. The North Village Specific Plan Area focuses on creating visitor services and attractions, while emphasizing pedestrian access and mobility. Ultimate buildout of North Village would include the construction of approximately 2,000 new hotel/motel lodging units, bringing the total for the area to 2,250 (includes approximately 250 existing). In addition, approximately 400 new condominium units (in addition to 30 existing) and employee housing are planned for construction. Parcels developed for non-lodging purposes will be oriented toward visitor commercial uses.

The Environmental Impact Report (EIR) has been prepared to inform The Town of Mammoth Lakes officials and citizens concerning this project. The descriptions and illustrations of the project contained herein, although conceptual in nature, identify the significant features of the project. The final working drawings will be more detailed, but are not anticipated to vary significantly from the project design described in this EIR.

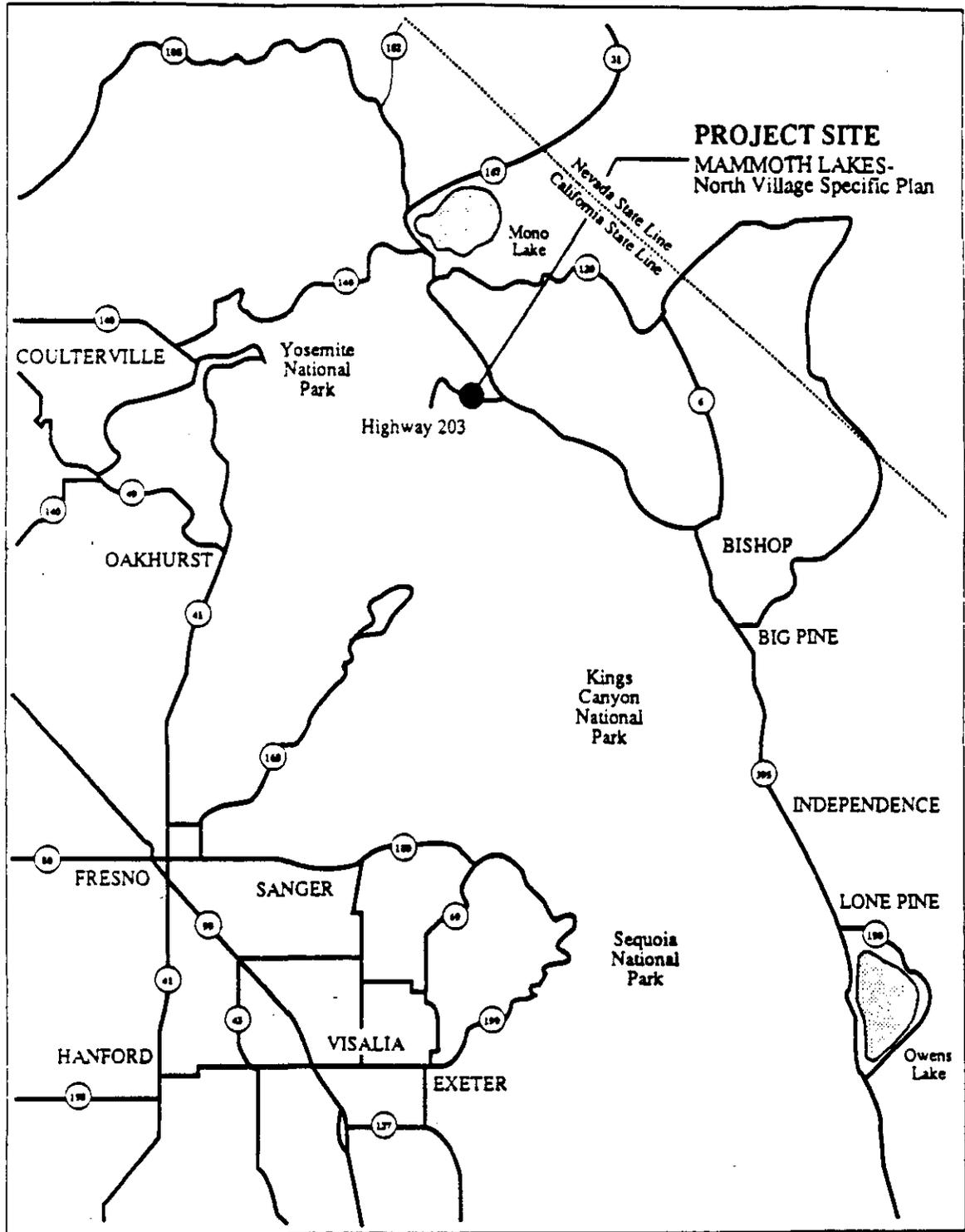
PROJECT LOCATION

The North Village Specific Plan Area is located within portions of Section 34, Township 3 South, Range 27 East. For the general site location, see the Regional Location Map (Figure 2.1-1) and the Vicinity Map (Figure 2.1-2). The project area is located adjacent to both the northerly and southerly sides of Main Street and Lake Mary Road, as well as both the westerly and easterly sides of Minaret Road. The project site contains land adjacent to all sides of the Main, Minaret, and Lake Mary Roads intersection.

PROJECT BACKGROUND

Under the Town of Mammoth Lakes Zoning Ordinance, existing zoning of parcels within the North Village area is primarily Commercial Lodging (C-L) and Commercial General (C-G), with some of the fringe parcels currently zoned Residential Multiple Family-2 (RMF-2), Residential Single Family (RSF), Public and Quasi-Public (P-S), and Open Space (OS). A map depicting current zoning is presented in Figure 2.2-1.

Approximately 34 acres (53%) of the Specific Plan Area have already been substantially developed (see Figure 2.2-2). Existing land uses within the project area are varied and include hotels, restaurants, visitor-oriented and general commercial operations, professional and medical offices, condominiums, single family homes, and community facilities.



SOURCE: MAMMOTH LAKES GENERAL PLAN

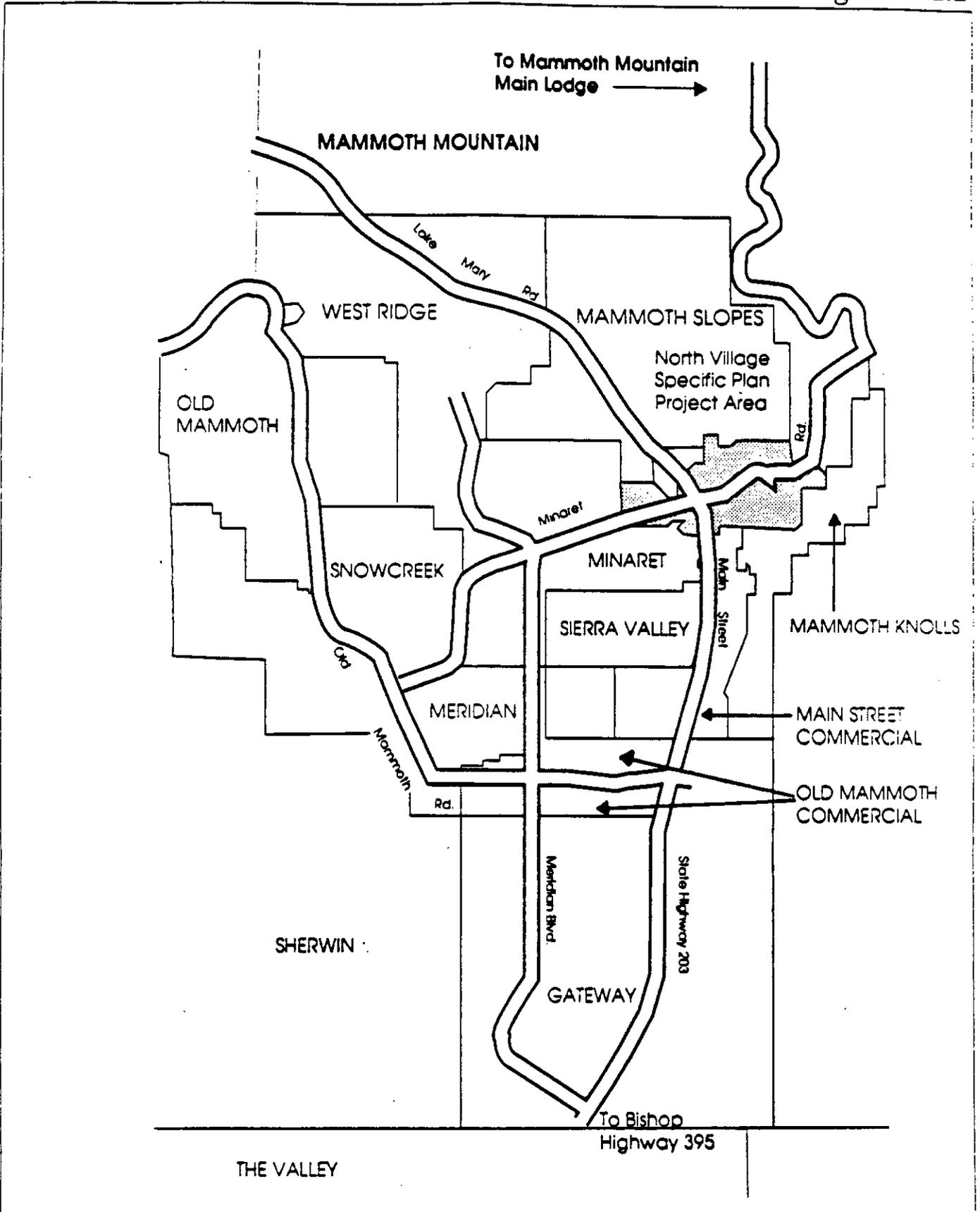


No Scale



Vicinity Map

Figure 2.1.2



SOURCE: Jack Johnson Company

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X

Existing Zoning Map

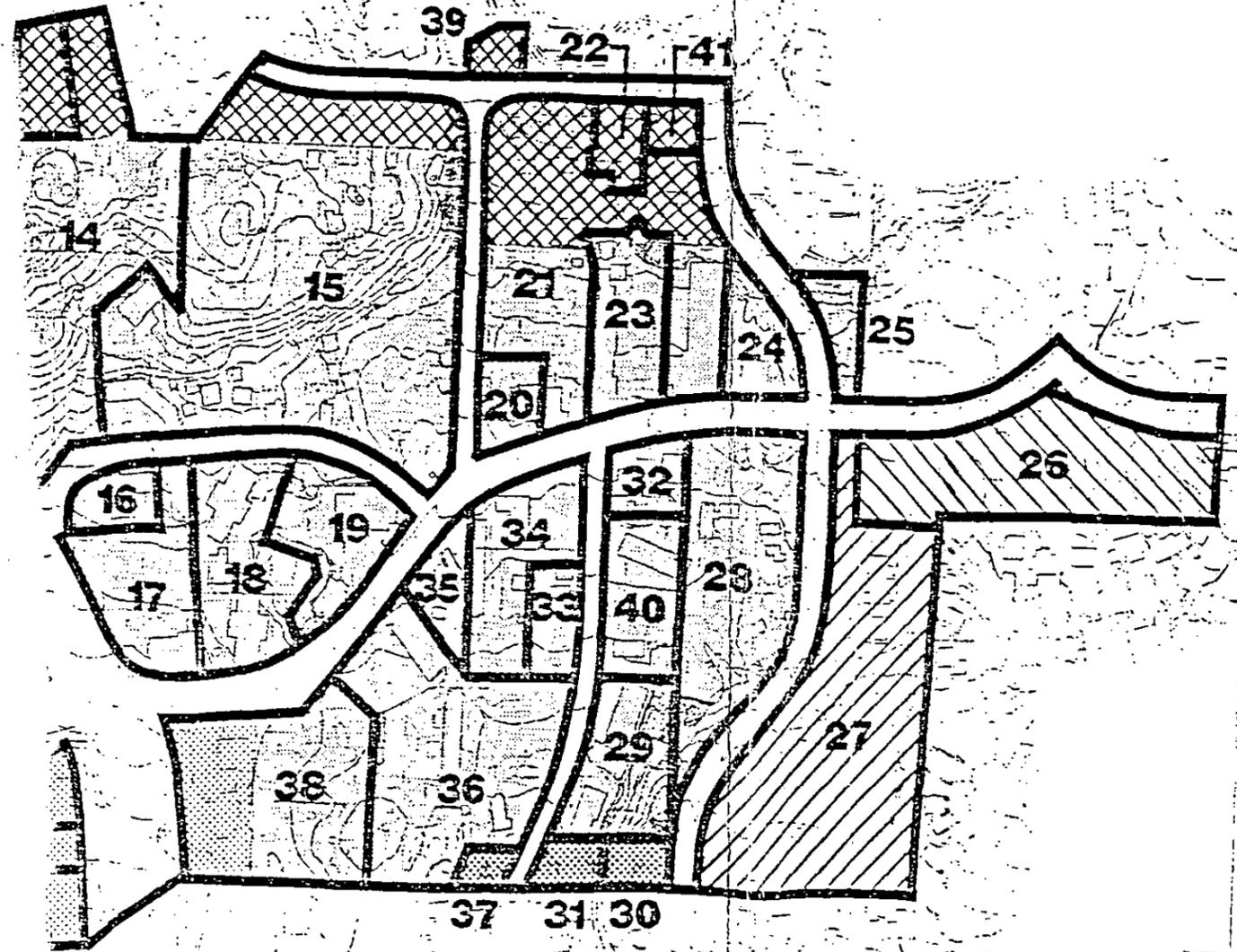
Figure 2.2-1

Existing Zoning Summary

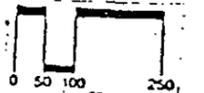
LOT NO.	OWNER	EXIT. ZONING	APPROX. ACREAGE	LOT NO.	OWNER	EXIT. ZONING	APPROX. ACREAGE
1	Hartman/Walker	CL	4.4	22	Thomas	RMF	0.4
2	Bruhweiler	CL	3.7	23	Rose	CG	1.2
3	Cushen	CG	0.6	24	Norton	CG	0.6
4	Tofal	CG	1.3	25	Trajtel	CG	0.3
5	Warta	CG	1.3	26	Forest Service	OS	3.0
6	Porter	CL	0.5	27	Town	PS	5.1
7	Trust	CL	0.4	28	N. Village Devt.	CG	2.6
8	Leisure Realty	CL	1.3	29	Bemer	CG	1.5
9	Manning	CL	0.7	30	Albrecht	RSF	0.2
10	Knight	CL	1.3	31	Leivers	RSF	0.2
11	Schweibert	CL	0.5	32	Angell	CG	0.4
12	Pavlovich	CL	1.0	33	Batchelder	CG	0.4
13	Friedman	RMF	0.5	34	N. Village Devt.	CG	1.4
14	Karwoski	CC/RMF	4.1	35	Berger	CG	0.5
15	N. Village Devt.	CC/RMF	8.9	36	Block	CG	3.4
16	Core	CG	0.4	37	High	RSF	0.2
17	Walker	CG	1.3	38	D. J. J. Co.	CG/CL	2.5
18	Mam.-Frsd. Cnd.	CG	1.8	39	Mammoth High	RMF	0.1
19	High Sierra Ent.	CG	0.9		Country Inns		
20	Lance	CG	0.5	40		CG	
21	Elliott	CC/RMF	3.6			RMF	

Existing Zoning Legend

-  CL COMMERCIAL LODGING
-  CG COMMERCIAL GENERAL
-  RSF RESIDENTIAL SINGLE FAMILY
-  RMF RESIDENTIAL MULTIPLE FAMILY
-  PS PUBLIC SPACE
-  OS OPEN SPACE

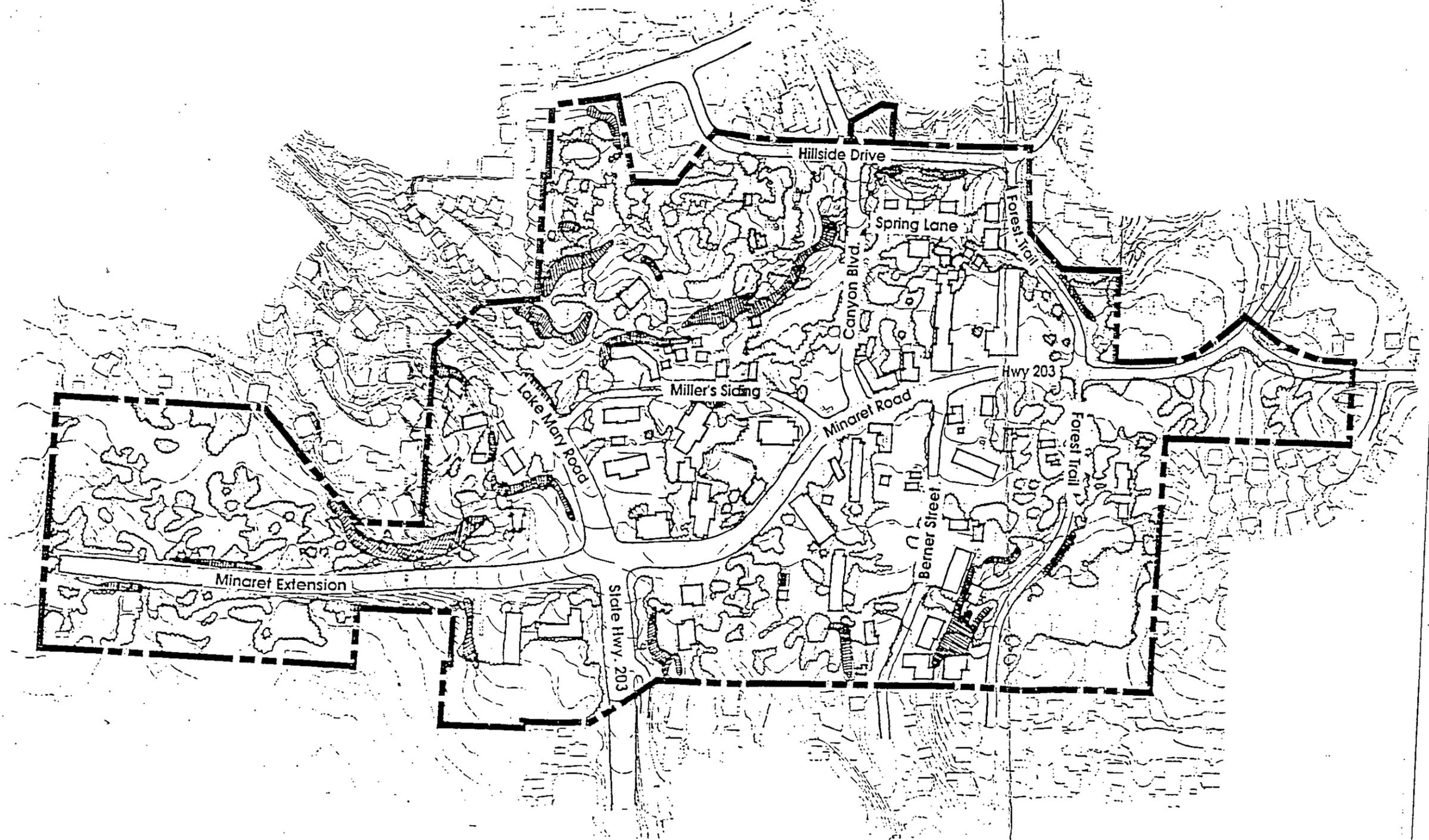


Source: Jack Johnson Company



X-1

Figure 2.2-1



Source: Jack Johnson Company



No Scale



90182

X-7

The identification and delineation of the North Village Specific Plan Area has occurred as a result of a number of factors. The primary factor is that a large proportion of the land which comprises the core of the North Village Area is held by a small group of landowners; all of whom have been involved in development elsewhere in the community. These landowners, recognizing the need for a cohesive, resort-oriented development in the Town, enlisted the cooperation of other adjacent and surrounding property owners. The North Village Association was formed in 1987 and is the official proponent of this Plan.

Prior to the development of the North Village Specific Plan, the Mammoth Mountain Ski Area, co-owners of several of the North Village "core" parcels, had planned to construct a pedestrian-oriented ski lift in the current project area to enable pedestrian access to the ski area's base facilities. Plans for the pedestrian-oriented ski lift have been retained and incorporated as a central feature of the North Village Specific Plan.

PROJECT OBJECTIVES

The North Village Specific Plan aims at fulfilling specific objectives. The proposed developments have been designed to implement the provisions in the North Village Specific Plan while fulfilling the goals and objectives of the Town of Mammoth Lakes General Plan. The North Village Specific Plan contains the following project objectives:

North Village Specific Plan Objectives

- Create a set of land use designations and development standards which will facilitate the development (or renovation) of the parcels comprising "North Village" as a concentrated, pedestrian-oriented activity center with restricted vehicular access.
- Create a set of land use designations and development standards that would be oriented toward year-round uses and visitor activity.
- Strengthen the existing winter visitor market.
- Improve Mammoth's attractiveness toward the market of spring, summer, and fall resort visitors.

PROJECT CHARACTERISTICS

The North Village Specific Plan is divided into the following development areas:

Plaza Resort

A pedestrian plaza resort area has been designed for approximately 15.2 acres which comprise the center of the North Village area. This area will serve as the "core" of the North Village development, and will contain the base of the Mammoth Mountain Ski Area (MMSA) lift to Warming Hut II facilities. Also proposed for development in the pedestrian plaza will be three hotels totalling 800 rooms, and approximately 60,000 square feet of new commercial space not including support commercial and convention facilities enclosed within the confines of the full service hotels. Commercial within the plaza area will be focused toward the visitor and will include specialty retail shops and eating establishments. Also planned for construction either above the commercial facilities or as free standing units are approximately 120 condominium units which may be operated as satellite facilities of the full service hotels. The Plaza Resort complex will be located on both sides of Minaret Road. Access to and travel between the two parts will be provided by an overhead walkway across Minaret Road.

Ski Lift

Included within the confines of the plaza area is the base of a planned ski lift facility which will transport skiers from the North Village Area to MMSA's base facilities. The lift is proposed to be a high speed enclosed gondola with a design capacity of 2,500 skiers per hour. No day-use skier parking will be provided at the ski lift, and its use will be oriented toward those skiers staying in accommodations in North Village or other facilities within walking distance of the lift or those accessing the facility via the public shuttle system.

A Use Permit Application for the gondola and ski lift has been submitted to the Town of Mammoth Lakes Planning Department independently of the North Village Specific Plan, as portions of the lift's easement/route extend beyond the confines of the North Village Specific Plan Area. However, the ski lift facilities are integral to North Village and its pedestrian orientation.

Ski Back

A ski back trail will be provided to enable skiers from MMSA to return to the lodging facilities or meeting places in North Village without use of private or public vehicles. The majority of the ski-back trail will be located outside the Specific Plan Area, between MMSA and North Village. The ski-back will originate at the base of Chair Lift #4 and will generally parallel the westerly/southerly side of State Route 203 from the ski area to the northerly portion of the Specific Plan Area at the northwesterly corner of State Route 203 and Forest Trail Road. Access from the ski-back to the marshalling area/bus stop on the northeastern corner of the intersection will be provided via an undercrossing. Pedestrian access from the marshalling area to the plaza area and the central core of North Village will be provided across Forest Trail Road, east of the Forest Trail and State Route 203 intersection.

Pedestrian Circulation System

Fundamental to the North Village Plan is the emphasis on pedestrian orientation and accessibility. This theme will be reinforced via the creation of a pedestrian walkway system to link facilities throughout North Village to the Plaza Core and to interconnect all development areas within the Specific Plan Area. Major features of the pedestrian circulation system are depicted on Figure 2-4.2 and include over three miles of sidewalks and walkways. Pedestrian access across Forest Trail Road linking the skier marshalling area with North Village, and pedestrian access via a bridge across Minaret Road to connect the westerly and easterly portions of the plaza, will also be provided.

Supporting Resort Development

Approximately forty acres surrounding the plaza area have been designated for the development of commercial and/or lodging facilities. Approximately 1,200 new hotel/motel lodging units, 280 condominiums, and employee housing units¹ are planned for this area, in addition to commercial facilities. These facilities will lend support and diversity to the plaza and will serve to strengthen the visitor orientation of North Village.

Recreational Facilities

Recreational facilities have been planned for development on several parcels in North Village and include an outdoor skating rink adjacent to the pedestrian plaza and tennis courts.

Open Space

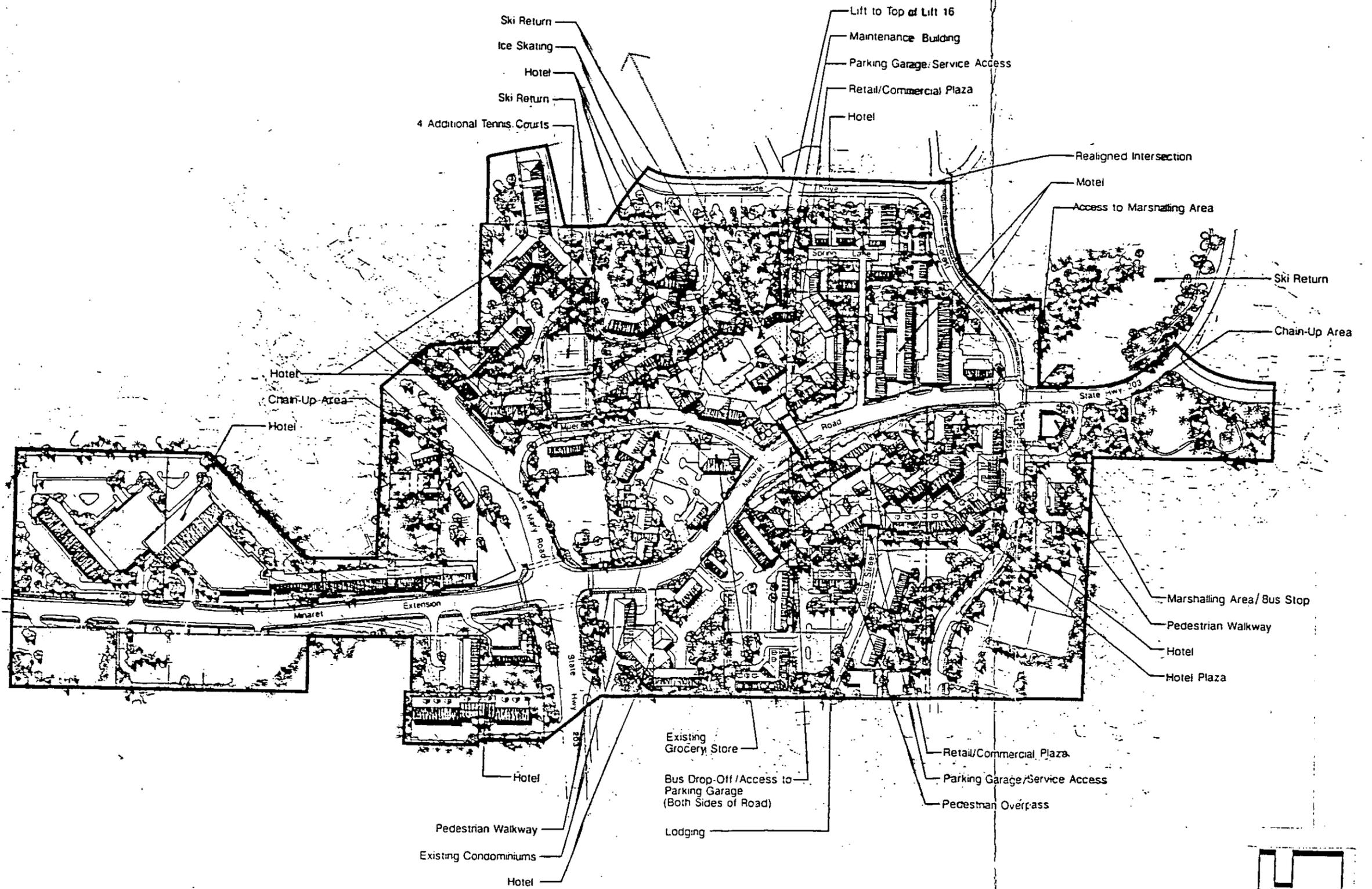
Approximately three acres in the northerly portion of the project site have been designated as open space. This area will contain the skier marshalling area. In the non-winter months, this area will serve as greenspace belt and buffer between the North Village Area and existing residential areas in Mammoth Lakes, particularly the Mammoth Knolls subdivision.

Community Facilities

Five acres in the northerly portion of the Specific Plan Area are owned by the Town of Mammoth Lakes and currently support community-oriented development, including community meeting areas and recreational facilities. No changes to development of this parcel are proposed by the North Village Specific Plan, and it is anticipated that any future development of this parcel by the Town of Mammoth Lakes would be similar in nature to existing uses.

Conceptual Site Plan

Figure 2.4-1



Source: Jack Johnson Company

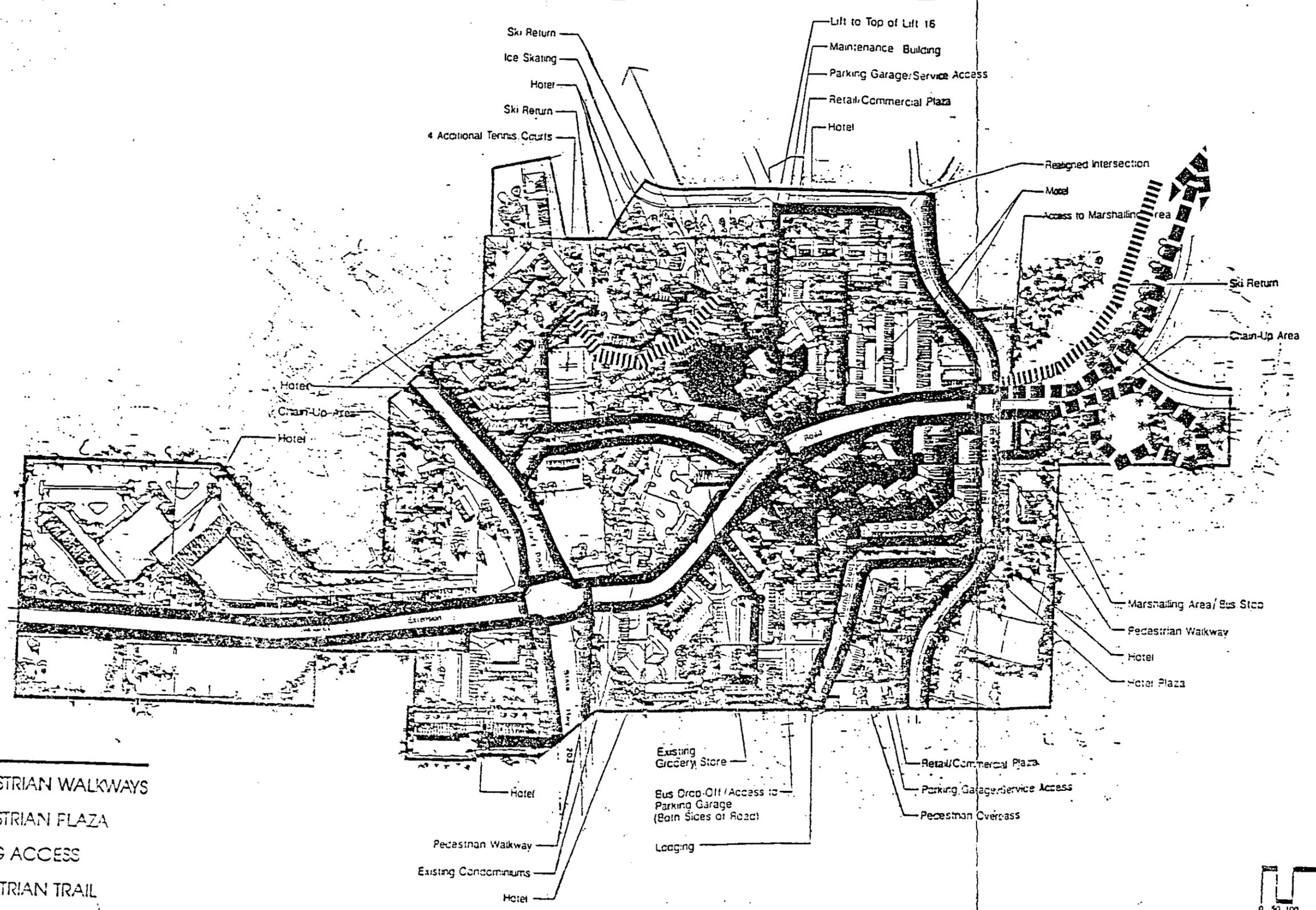


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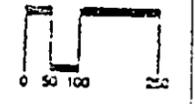
Pedestrian Circulation System

Figure 2.4-2



Legend

-  PEDESTRIAN WALKWAYS
-  PEDESTRIAN FLAZA
-  SKIING ACCESS
-  PEDESTRIAN TRAIL



SOURCE: Trans Tech

dip 90:12

0-1

ENDNOTES

1. Based on the Town's estimate that two-thirds of the workers generated by the development project will be in the very-low and low-income categories, there will be a need for approximately 800 affordable housing units (See the Jobs/Housing Relationship section).

3. GENERAL DESCRIPTION AND ENVIRONMENTAL SETTING

3. GENERAL DESCRIPTION AND ENVIRONMENTAL SETTING

OVERVIEW OF ENVIRONMENTAL SETTING

The project site is located in the Town of Mammoth Lakes, a resort community of approximately 4,500 residents situated on the eastern slope of the Sierra Nevada Mountains east of the San Francisco Bay area. The region is characterized by steeply sloping mountains (the eastern Sierra escarpment), eroded by glacial and water action into gently rolling moraines and alluvial fans which spread into the Owens Valley, Long Valley, and Mono Basin areas. The Eastern Sierra is considered geologically active, with numerous earthquakes in historic time and evidence of recent volcanic activity throughout the area.

The biological setting of the Town of Mammoth Lakes is a combination of Pine and Fir forest (with Jeffrey and Lodgepole Pines and White Fir predominating) and Sagebrush Scrub. A wide range of indigenous plant and animal species inhabit the area, including a number of rare and endangered species. Some introduced species exist in the vicinity.

The Town of Mammoth Lakes is in the precipitation shadow of the Sierra Nevada Mountains. The higher elevations (e.g., Mammoth Mountain) are known for their extensive snowfall. Within the Town of Mammoth Lakes, average annual precipitation runs about 20 inches. Air quality is generally good, however, extensive use of wood burning fireplaces and stoves has resulted in frequent intermittent violations of Federal PM_{10} standards.

The full range of municipal services are provided by the Town of Mammoth Lakes and other agencies. Founded and incorporated in 1984, the Town has grown slowly over the past decade, but is expected to approximately double in population during the next 15 years. The focus of the local economy has been wintertime tourist trade connected with local ski facilities. Extensive efforts have been made to promote the area as a 4-season recreation area.

3. General Description and Environmental Setting

RELATED PROJECTS

Below are other projects similar to the North Village Specific Plan in the area:

<u>Name/Location</u>	<u>Land Use</u>	<u>Size</u>
<u>Lodestar</u>		
Area 1	Condominiums	300 du.
Area 2	Condominiums	375 du.
Area 3	Single Family	40 du.
Area 4	Employee Housing	100 du.
Area 5	Condominiums	150 du.
	Resort Hotel	550 rooms
	Retail	80,000 square feet
<u>Snowcreek</u>		
	Condominiums/Houses	1,200 du
	Single Family	100 du
	Resort Hotel/Inns	1,500 rooms
	Commercial	150,000 square feet
<u>Juniper Ridge</u>		
	Condominiums	120 du.
	Resort Hotel	250 rooms
	Commercial	35,000 square feet
	Single Family	44 du.
<u>Deer Creek</u>		
	Resort Hotel	195 rooms
<u>Bluffs</u>		
	Single Family	60 du.
<u>Gateway</u>		
	Single Family	100 du.
<u>Shady Rest</u>		
	Mixed Housing	100-200 du.
<u>MMSA (Mammoth</u>		
<u>Mountain Ski Expansion)</u>		5,000 SAOT
<u>Sherwin Bowl Ski Area</u>		8,000 SAOT

**4. ENVIRONMENTAL SETTING, IMPACTS
AND MITIGATION MEASURES**

4.1 GEOLOGY, SOILS AND SEISMICITY

4.1 GEOLOGY, SOILS, AND SEISMICITY

INTRODUCTION

This section discusses the on-site geologic hazards associated with the proposed North Village Specific Plan. Emphases were on potential volcanic and seismic hazards. Data were extrapolated from earlier geologic reports of the California Division of Mines and Geology, the U.S. Geology Survey, the North Village Specific Plan, the draft Supplemental EIR for the Town of Mammoth Lakes Parks and Recreation Element of the General Plan.

SETTING

The Town of Mammoth Lakes is located near the southwest edge of the Long Valley¹ caldera. The Long Valley caldera formed about 700,000 years ago during the massive eruptions that deposited the Bishop tuff.² It is an oval depression, the site of a dormant volcano, approximately 20 miles long and 9 miles wide and surrounded by high mountains which constitutes the caldera wall. Glass Mountains form west and southwest walls and Benton Range the east wall. Near the center of the caldera, and off to the west, is a system of hills that mark the remnants of a resurgent dome (Figure 4.1-1). Mammoth Mountain is a smaller dome on the rim of the caldera.

During the past three million years, glaciers have formed and melted several times in the eastern Sierra. The tillites preserved in Town represent younger Pleistocene glacial deposits.

Topography

The land surface of Mammoth Lakes rises irregularly, but gently, toward the southwest from about 7,910 feet above mean sea level (msl) near the intersection of Joaquin Road and Main Street to about + 8,070 feet msl near Camp High Sierra off Lake Mary Road (Figure 4.1-2). The North Village project site is located at the intersection of the Main Street portion of State Route 203 and Minaret on a moraine of Tioga till.

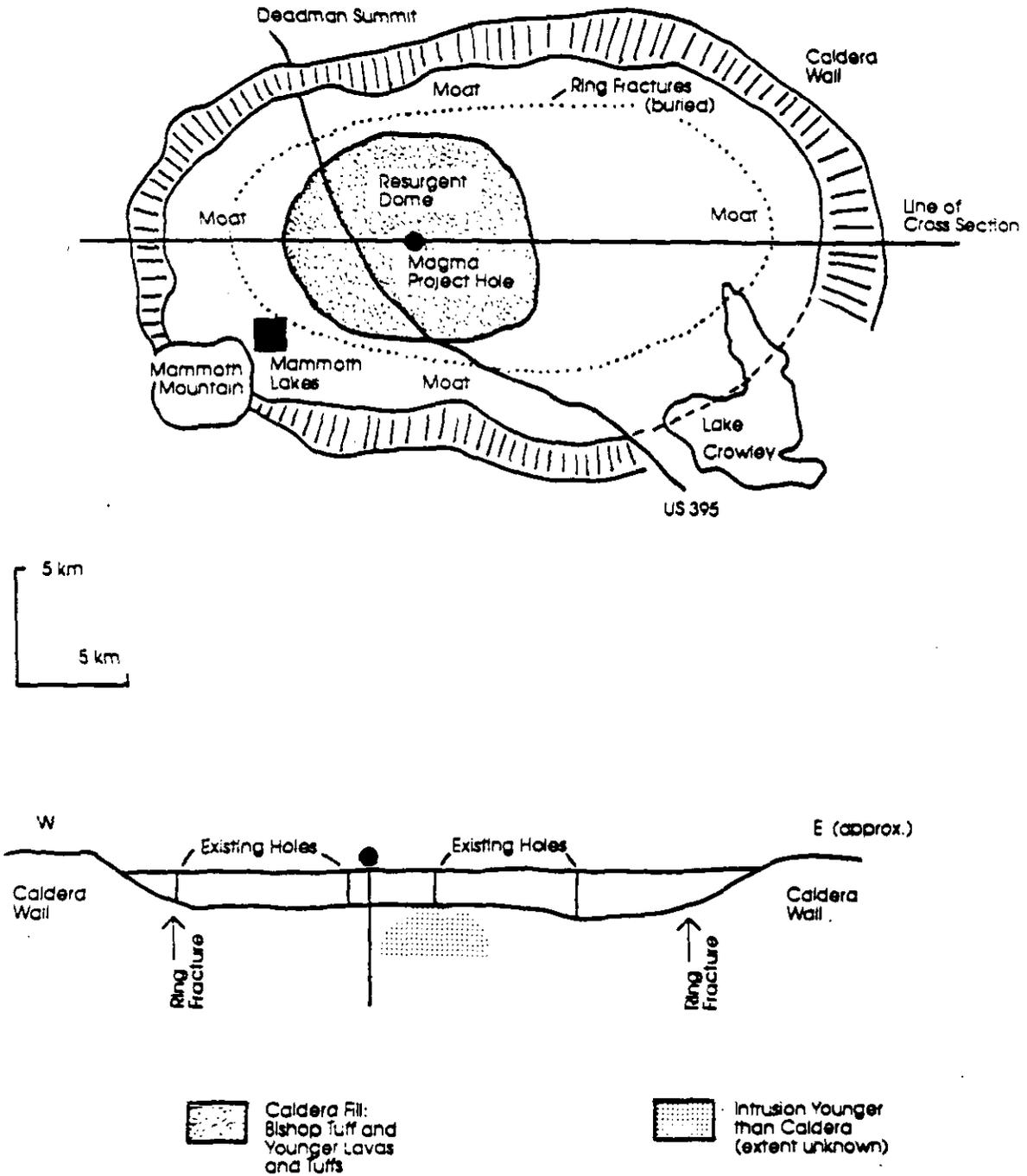
The elevation at the project site ranges from approximately 8,040 feet msl in the southeastern section (near the intersection of Minaret Road and Main Street) to 8,070 feet msl in the northwestern section. Slopes of the area are generally less than 5percent; severe natural slope instabilities are localized. The State

4.1 Geology, Soils and Seismicity

Highway 203-Lake Mary Road roughly marks the boundary between low instability to the north (0 to 1 percent slopes) and moderate instability (1 to 5 percent) to the south (Figure 4.1-3).

Long Valley Caldera

Figure 4.1-1

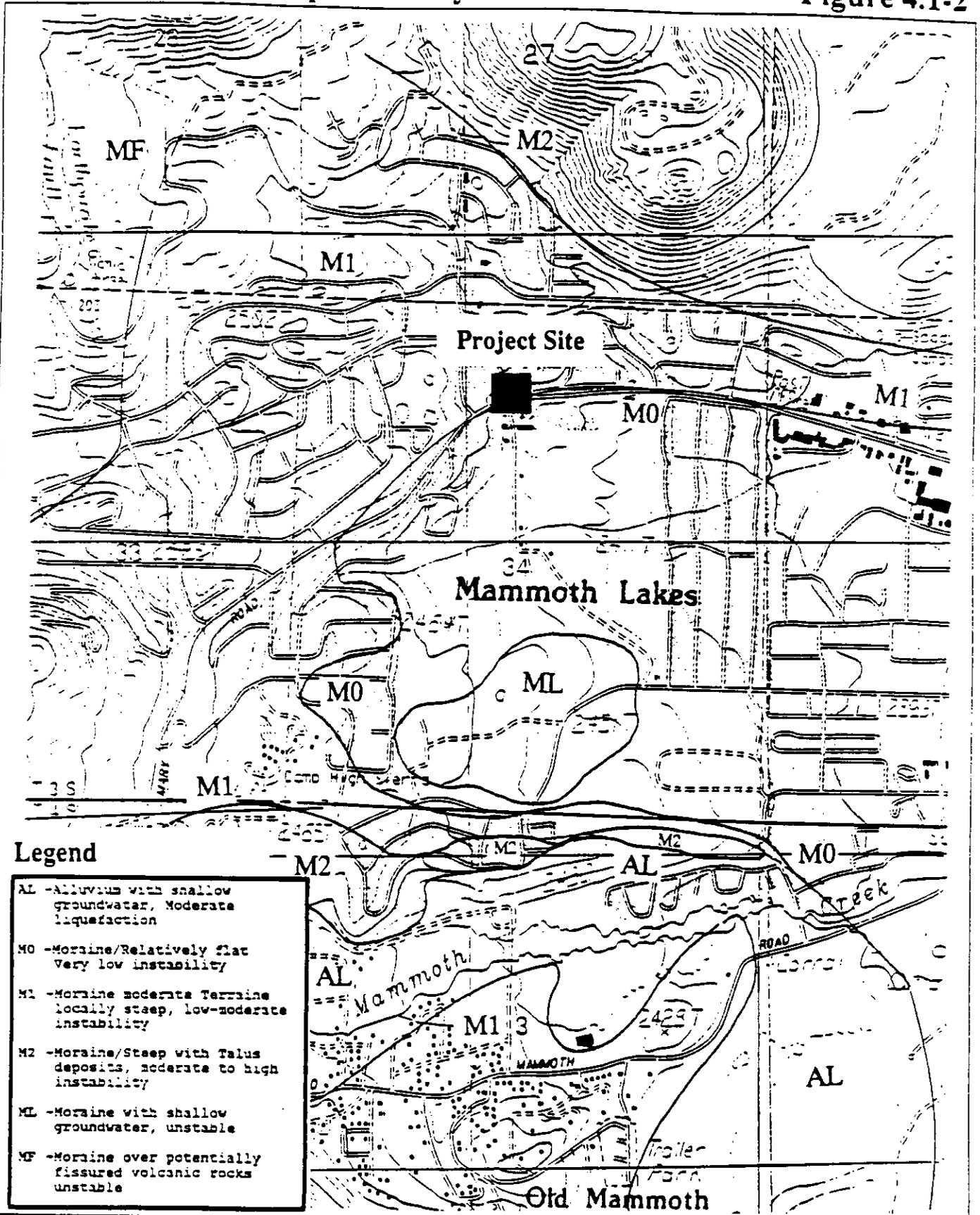


Source: Sandia Magma Energy Program, August 1989



Topography and Slope Stability

Figure 4.1-2



Legend

- AL -Alluvium with shallow groundwater, Moderate liquefaction
- M0 -Moraine/Relatively flat Very low instability
- M1 -Moraine moderate Terrain locally steep, low-moderate instability
- M2 -Moraine/Steep with Talus deposits, moderate to high instability
- ML -Moraine with shallow groundwater, unstable
- MF -Moraine over potentially fissured volcanic rocks unstable

SOURCE: North Village Specific Plan



However, several small areas with slopes greater than 30 percent exist:

- A semicircular spur in lots 14 and 15 (north of Lake Mary Road to about the junction of Canyon Boulevard and Hillside Drive).
- In the south, between Lake Mary Road and Minaret Extension, east of lots 1 and 2 and west of lots 11 and 12.
- Along the northeastern edge in lots 29 and 30.

Geology

The Town is situated near the junction of several different types of geologic material (Figure 4.1-4): Pliocene volcanic flow rock (about 12 million to 3 million years old); Pleistocene through Holocene volcanic and pyroclastic rock (less than 3 million years old); Pleistocene glacial deposits (about 2.5 million to 10 thousand years old); and Holocene alluvium (less than 10 thousand years old). About 80 percent of the developed area of the town is underlain by glacial deposits (moraine). The landform map (Figure 4.1-5) shows the general relationship of the geologic materials.

The glacial deposits preserved in Town represent younger Pleistocene materials. These include the Tahoe till (maximum ice about 65 thousand to 50 thousand years ago), the Tioga till (maximum ice about 20 thousand to 10 thousand years ago), and related outwash deposits of gravel and sand swept away from the glacial margins by meltwater streams.³

The till has been described as gravelly silty sand containing cobbles and boulders of granite as large as four feet in diameter. The unweathered material is dense to very dense and well consolidated.⁴ It is known to be at least 14 feet thick and is not water-bearing to that depth.

Faulting

There are several active and potentially active fault zones within 60 miles of the Town (Figures 4.1-4 thru 4.1-6). These include faults that are historically active (during the last 200 years), those that have been active in the geologically recent past (about the last 10,000 years, usually referred to as the Holocene) and those that have been active at some time during the Quaternary geologic period (the last 2 million years).

The Mono Lake, June Lake, and Hilton Creek faults are historically active but these are 10 to 15 miles away from the plan area. They form the northern extension of the Sierra Nevada frontal fault system.

Geology Map Legend For Figure 4.1-4

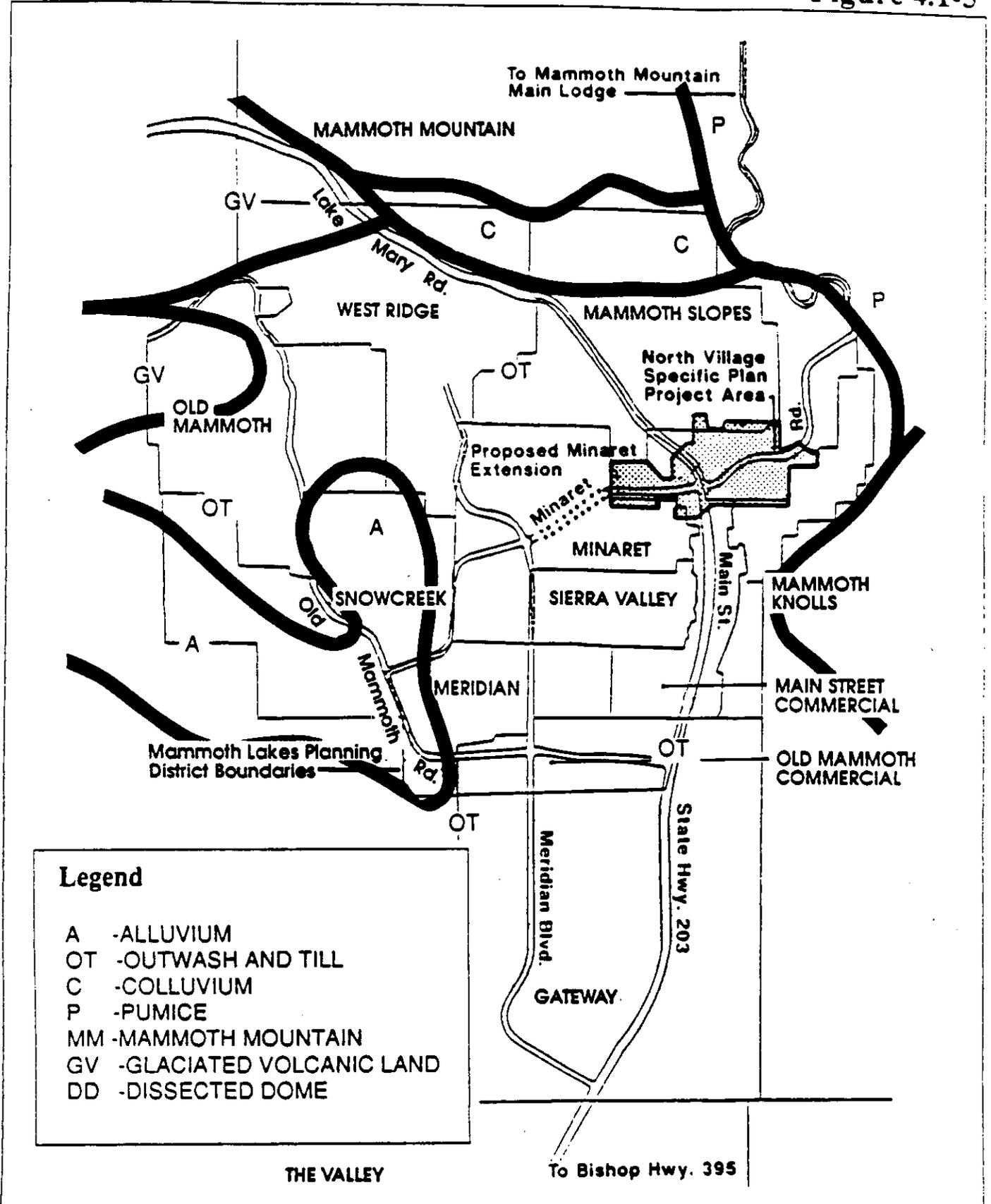
- Q = Alluvium, nonmarine and marine terrace deposits
- Qg = Glacial till and moraine deposits
- Qrv = Recent volcanic flow rocks; minor pyroclastic deposits
- Qrv^P = Recent pyroclastic and volcanic mud flow deposits
- Qv = Quaternary volcanic flow rocks, minor pyroclastic deposits
- Tv = Tertiary volcanic flow rocks; minor pyroclastic deposits
- Tv^P = Tertiary pyroclastic and volcanic mud flow deposits
- Mzv = Undivided Mesozoic volcanic and metavolcanic rocks
- m = Undivided pre-Cenozoic metasedimentary and metavolcanic rocks
- grMz = Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite
- gd = Gabbro and dioritic rocks; chiefly Mesozoic
- gr = Undated granitic rocks
- Pzv = Undivided Paleozoic metavolcanic rocks
- Pm = Permian marine rocks; minor pyroclastic rocks
- C = Carboniferous marine rocks; in part pyroclastic rocks
- SO = Silurian-Ordovician marine rocks; some greenstone

Quaternary volcanic rocks are shaded;
most are probably Holocene in age

- ★ = Eruptive center dated as younger than 2000 years.
Number refers to eruptions listed in Table 2.
- ✱ = Other Quaternary eruptive centers
- = Thermal spring location
- = Thermal well location
- = Epicenters of the three M_{2.5}-5.0 shocks of 1980
Mammoth Lakes earthquake swarm.

Land Forms

Figure 4.1-5

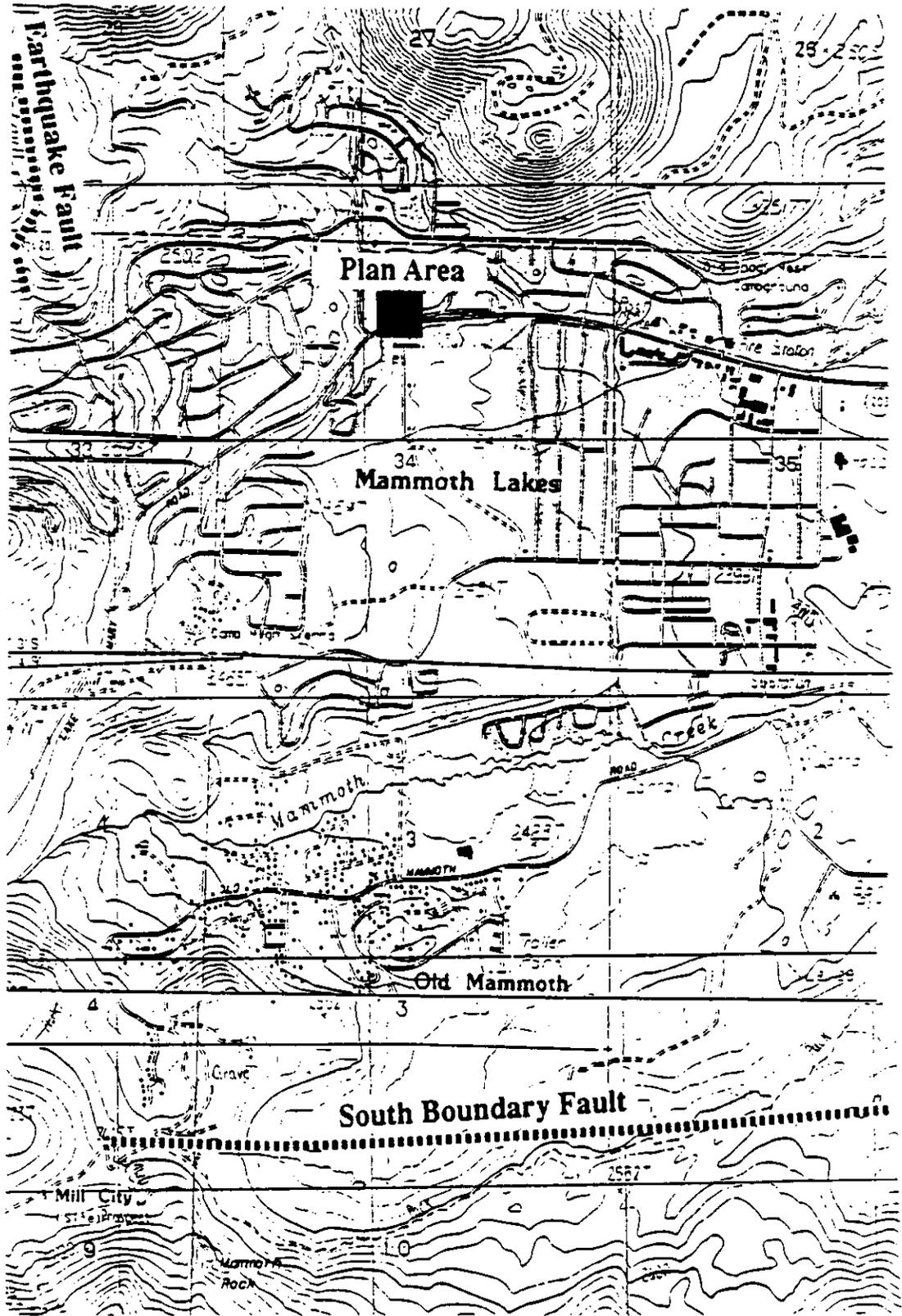


Legend

- A -ALLUVIUM
- OT -OUTWASH AND TILL
- C -COLLUVIUM
- P -PUMICE
- MM -MAMMOTH MOUNTAIN
- GV -GLACIATED VOLCANIC LAND
- DD -DISSECTED DOME

Source: Redrawn From Mammoth Lakes General Plan





SOURCE: U.S. Geological Survey

90182



The southern extension of this system includes the main trace of the Sierra Nevada fault and the Owens Valley fault. These also are historically active.

Holocene faults occur as branches within the major active fault zones and as segments of other faults in Mono and Inyo Counties. The faults that have been classified as Quaternary or older do not display evidence of recent movement. These include the Bodie Hills, White Mountains, Death Valley - Furnace Creek, and Saline Valley faults.⁵ Other faults exist throughout the County but have shown no evidence of activity during the last two million years.⁶

The nearest faults are the South Boundary, Earthquake, and Inyo crater fault zones (Kleinfelder & Associates).⁷ The South Boundary fault is about 2.5 miles south of the project area. Kleinfelder & Associates found no evidence of movement in the last 2 million years and the fault is, therefore, considered inactive. Inyo Craters Fault zone is mapped as terminating near the Mammoth Mountain Ski Lodge. Kleinfelder Inc., in 1976, concluded that it is active.

The Earthquake Fault is an open fissure a few meters wide and several hundred yards long which continues as a fault trace. Neither slip along the trace nor the timing of faulting can be verified. The crack might have resulted from shrinkage of volume during cooling of the lava rather than a true fault.

Each of the historically active faults is in an Alquist-Priolo Special Studies Zone, but none crosses or trends toward the site.^{8,9} Consequently, the potential for damage to the project by surface faulting is very low.¹⁰

Seismicity

The Mono Lake - Long Valley region is part of one of the most active seismic regions in the United States. Low and moderate magnitude earthquakes occurring within the caldera are felt frequently by residents of Mono and Inyo Counties. Very large shocks have occurred in the area and are expected to occur again. Each of the major fault zones is capable of generating a maximum credible earthquake of at least magnitude (RM) 6.2 on the Richter scale.^{11,12} The Owens Valley fault is capable of generating an RM8.3 earthquake.¹³ Earthquakes of these magnitudes are sufficient to create ground accelerations in bedrock and in unconsolidated deposits severe enough to cause major damage to structures, foundations and underground utility lines.^{14,15}

Seismic activity in the vicinity of the Town of Mammoth Lakes is one result of continuing tectonic movement along the eastern front of the Sierra Nevada. Regional deformation, faulting, groundshaking, and volcanism accompany tectonic movement. The present elevation and westward tilt of the region are the result of broad up-warping between about nine million and three million years ago, but the major

down-faulting that created the eastern front did not begin until the Pleistocene (less than 3 million years ago). The Sierra Nevada frontal fault system offsets glacial deposits as old as 65,000 years (Tahoe till) and as young as 20 thousand years old (Tioga till). During the last two thousand years, volcanism has formed a chain of domes, flows, craters, and pyroclastic deposits from the islands in Mono Lake to Mammoth Mountain. It is this active volcanism that is considered the proximal cause of local seismicity.¹⁶

In 1872, one of the largest historic earthquakes in California (estimated RM 8.0) occurred along the Owens Valley fault (one of the major active faults along the Sierra Nevada front) causing surface rupture for 60 miles. In 1980 a series of earthquakes, culminating in three M 6+ shocks caused damage and ground failures throughout the vicinity of Mammoth Lakes. Surface rupture occurred along numerous north to northwest-trending faults. The Hilton fault (about 12 miles southeast of the Town) experienced as much as one foot of offset. Surface rupture ranging from less than one inch to about three inches of offset also occurred on fault traces four miles east and one mile west of the Town.¹⁷ The most recently reported series of earthquakes, all smaller than RM2, began in November 1989 and continued through March 1990.

Volcanism

At least 30 volcanic events have occurred during the past 2,000 years in the Mono Lake - Long Valley area, including at least 10 eruptions in the Mono - Inyo volcanic chain during the past 600 years. The Long Valley caldera formed about 700,000 years ago, during the eruption of the Bishop Algidic and continues to be a center of volcanically-related seismic activity.

Actual volcanic eruption in the vicinity of the Town of Mammoth Lakes has not occurred in recent times. The most recent eruption occurred about 1890 beneath the southern part of Mono Lake about 25 miles north of the Town. Eruptions occurred about 1400 A.D. within four miles of the Town at Mammoth Mountain and at the southernmost Inyo Crater. Both eruptions were of the "phreatic" type; that is, they produced steam, water, mud, and other gasses and materials, probably as a result of groundwater being heated by magma.¹⁸

Soils

The soils in the Mammoth area are derived from glacial and volcanic deposits. They include alluvials and tills in varying stages of weathering and consolidation.

During construction of an underpass on the Lodestar site south of the project area, the Tioga till was exposed in cuts more than ten feet deep across the Minaret right-of-way. In the excavation, the exposed moraine is oxidized and loosened by root penetration to about 4.5 feet below the ground surface. Below this level is a boulder lag, one to two feet thick, of rounded to sub-angular cobbles, about eight inches in

diameter, embedded in an indurated gravel matrix. Below the lag deposit is at least six feet of un-oxidized, very densely compacted till. Few rootlets penetrate below the boulder lag.¹⁹

The topsoil is estimated to be less than two feet thick, but root structures and organic material are reported to penetrate the loose dry sand portions of the deposit as far as five feet below the ground surface.²⁰

Hazards

Several types of geologic hazards may occur in the vicinity of the Town of Mammoth Lakes that could have an impact on, or be impacted by, the proposed plan. They are not all of equal severity and they would not all affect the plan to the same extent. For convenience, they may be grouped into three types: geotechnical, seismic, and volcanic hazards. Slope instability and erosion are geotechnical events; they result from the intrinsic properties of the rocks and soils. Hazards related to seismicity include surface rupture, groundshaking, landslides, liquefaction, and seiche inundation. Hazards related to volcanism include flowage, flooding, phenomena, tephra eruption and gas emission.

Geotechnical Hazards

Slope Instability

Landslides, earthslips, mudflows and soilcreeps are expressions of soil conditions related to instabilities created by steep slopes, 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 is observable in Mono County, but usually is reported simply as a "landslide." Slope instability can be of static or dynamic origin. Earthquake activity induces some landsliding, but most slides result from the weight of rain-saturated soil and rock exceeding the effective shear strength of the underlying material. Erosion of supporting material at the foot of constructed slopes is another major cause of sliding. Landslides are a significant component of the natural erosional processes in the Sierra Nevada. Although an existing geologic material or condition may form the basis of an unstable situation, natural processes and human activities have initiated landslides in otherwise stable areas.²¹

Slopes in the plan area are generally less than 5 percent; therefore, severe natural slope instabilities are absent in the plan area. The Lake Mary Road section roughly marks the boundary between low instability to the north (0 to 1 percent slopes) and moderate instability (1 to 3 percent) to the south. As already mentioned in the topographic setting, there are localized areas with slopes greater than 30 percent. These areas are liable to instabilities if they are further disturbed and not properly engineered.

Geologic materials, such as clay minerals, have a great capacity to absorb water, resulting in a reduction of shear strength. The force of gravity (shear stress) can cause a water-soaked mass of rock or soil to slide when saturated clays reduce the shear strength of the material below its minimum stability threshold.

Certain formations of glacial and lacustrine origin, are only marginally stable in steep natural or constructed slopes because of their clay constituents.

The moraines 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 Town (i.e., at or near the project site), and to the east, are considered generally stable because of their relatively low topography, unless they are underlain by shallow groundwater (Figure 4.1-2). The till may contain isolated bodies of clay but subsurface and surface inspection indicates that generally the till is very dense and very sandy. Constructed slopes have been engineered to provide stability, and are subject to inspection by the Town to ensure their maintenance in good condition.

Erosion

Erosion potential is variable throughout the area. The highest erosion potentials occur in loose and/or shallow soils on steep slopes. Foundation components may be weakened by the loss of soil support created through erosion. If uncorrected, the effects can range from the nuisance level (sticking doors and windows) to the major structural damage level (shifted or collapsed foundations). Combined with seismic loads, the effect could be sufficient to make the difference between survival and destruction of a component of the foundation system during a major earthquake.²² Naturally occurring steep slopes are not a factor at the project site.

The loose, sandy portion of the moraine is subject to erosion, if its surface is disrupted or devegetated. Under existing conditions, the potentially erosive effects of overland flow from snowmelt and rainfall runoff are reduced by the ground-cover of fallen leaves and needles, and by the root systems of living trees. Also, the underlying till is dense enough, and contains sufficient silt-sized particles, to resist these relatively mild erosive forces.

Soil erosion also creates several other problems. The loss of the soil itself reduces the vegetal viability of an area (endangered wildlife habitat - see Section 4.3, Biology). The redeposition of the eroded soil in streams creates turbidity (endangering aquatic life - see Section 4.3, Biology and Section 4.2, Hydrology and Water Quality) and may reduce the water-carrying capacity of streams or drainage systems (aggravation of flood conditions - see Section 4.2, Hydrology and Water Quality).

Seismic Hazards

Surface rupture

Earthquake swarms and surface rupturing in the caldera are accompanied by uplift and deformation. These have increased concerns about the possibility of renewed eruptive activity.²³ Surface rupturing along the trace of a fault affects all types of material, however, it does not always show clearly in a loose or water-saturated soil. Damage due to surface rupturing is limited to the actual location of the fault-line break, unlike damage from groundshaking, which can occur at great distances from the fault. Even a moderate earthquake can be accompanied by enough surface rupturing to damage foundations and buried utility lines that have not been adequately protected where they cross fault traces.²⁴ There is no known fault trace crossing the project area. Therefore the risk from surface rupture is very low.

Groundshaking

Bedrock formations and unconsolidated deposits (soils) exhibit different responses to seismically-induced groundshaking. As a general rule, the severity of groundshaking increases with proximity to the epicenter of the earthquake. However, given similar location and seismic energy output, the least amount of damaging vibration would occur on a site that was completely composed of bedrock or densely compacted sediments, such as till. A site underlain by major thicknesses of loose alluvial material would experience considerably more damaging vibration because of the unconsolidated material's tendency to deform to a greater degree than the bedrock.²⁵

Landslides

Earthquake-induced landsliding of steep slopes can occur in either bedrock or unconsolidated deposits. Bedrock hills and hills composed of unconsolidated deposits (till, outwash, soil) respond differently to seismic vibration. General, the closer the hill is to the epicenter of the earthquake, the greater the amount of vibration it will experience. Firm bedrock usually can stand in steeper slopes, and withstand more severe vibration, than soils or glacial materials are able to maintain. However, rock type, grain size, degree of consolidation and angle of the bedding or jointing planes all contribute to the strength or weakness of a bedrock hillside. Deeply weathered till and fractured volcanic rocks are susceptible to slope failures.²⁶ As previously discussed, existing manufactured slopes have been engineered to be stable. Naturally occurring steep slopes are underlain by dense till composed of boulders and cobbles immersed in indurated sand and clay matrix.

Liquefaction

Another response to severe groundshaking that can occur in loose soils is liquefaction. This transformation from a solid state to a liquid state ("quicksand"), as a response to seismically-induced groundshaking, can cause ground settling, landsliding and lurch cracking. Earthquake-induced liquefaction does not affect bedrock or densely compacted sediments containing a wide gradation of grain-sizes. The soil characteristics of a liquefaction-prone deposit are saturated conditions, loose uniformly fine sand with

little or no clay-sized particles to act as binders, and sufficiently violent vibration to increase pore pressure beyond the shear strength of the sand particles.²⁷ The project site is underlain by dense compacted soils hence the liquefaction potential is low.

Volcanic Hazards

The hazards associated with volcanic events are of two kinds: the direct destruction by material issued from the volcano and the indirect damage caused by floods and mudflows. The hazards described below that would affect the area are expected to emanate from a possible vent zone southeast of the Town of Mammoth Lakes (Figure 4.1-4). The zone includes the epicenters of earthquake swarms and the focus of extensive deformations of the crust between 1982 and 1985. Although no eruptions have occurred in this portion of the caldera during the last 10,000 years, the behavior of the Mono-Inyo volcanic chain during that time makes this vent zone a likely location of a future eruption. The entire Town of Mammoth Lakes and the area for about ten miles in any direction is subject to flowage hazards from the possible vent zone. Shifting this zone several miles in any direction would not significantly alter the hazards analysis for the Town.²⁸

Tephra eruption²⁹

Fragments of lava or rock are blasted into the air by volcanic explosions, or carried upward on currents of hot gases. They fall downwind as deposits of ash (particles less than 0.08 inches in diameter), lapilli (0.08 to 2.5 inches), or blocks (greater than 2.5 inches), that are called tephra. They may be hot or cold, and may land a few yards or several miles from their vents. Close to the vents, the main hazards include high temperatures, burial, and impact of falling fragments: fires may be ignited by hot debris.

Based on the relationship between the thickness and distribution of the largest ash falls from volcanic events in the general Mammoth Lakes area during the last 10,000 years, the area subject to at least eight inches of compacted ash extends about 22 miles from the possible vent zone. The area of at least two inches of compacted ash fall is about 53 miles.

Flowage phenomena³⁰

Material erupted into the air or onto the flanks of a volcano flows downslope as lava or as a mixture of particles (lava blocks, lapilli, ash) and fluids (water, gases). Flow speed and direction is dictated by the specific composition, temperature of the flow, slope and topography of the area surrounding the volcanic vent.

Lava flows are streams of molten rock that move relatively slowly (depending on mineral content, viscosity and slope) and spread 10 to 30 miles from their sources. They usually move a few yards or a few hundred of yards per hour along paths that can be at least roughly predicted. Lava domes are masses of solid rock formed of viscous lava erupted slowly from a vent. Their direct hazards include local burial

by the dome itself or by rock debris scattered around the dome. Fires may be started because of the high temperature of the dome and debris.

Pyroclastic flows are masses of hot, dry rock fragments mixed with hot gases. They travel at speeds up to 100 miles per hour, and are extremely hot (several hundreds of degrees). They are extremely hazardous because of their speed, temperature and wide dispersion.

Debris flows are mixtures of water-saturated materials flowing under the force of gravity. The material may range from clay-sized (mud flows) to blocks several dozens of yards in diameter. They may be hot or cold, and usually are highly viscous. They can travel long distances at high speeds, down slopes or confined to valleys. Impact and burial are the hazards of debris flows.

Floods related to volcanic activity can be produced by melting of ice and snow during eruptions, and by heavy rains that may accompany eruptions (juvenile water and/or cloud seeding effects). Their hazards are similar to those of other floods, but they may be more damaging because of their high sediment and debris content.

Gas Emission³¹

Gas emission often precedes eruptions, and may continue for thousands of years afterward. The most common volcanic gas is steam, followed in order of abundance by carbon dioxide, sulfur compounds, chlorine compounds and minor amounts of carbon monoxide, fluorine, boron, ammonia, etc. Distribution is controlled by the wind, which also is responsible for diluting the concentration (and therefore, the effects) of the various gases. Near the vents, high concentrations of acidic gases may endanger life and injure respiratory systems and eyes. Concentration of heavy gases (like CO₂) in closed depressions can suffocate animals or people. Plant destruction or damage and metal corrosion are other hazards. These are associated with all volcanic activity. Wind direction frequency analysis indicates gases (and air-borne tephra) generally would travel east north east from eruptions in the Mono Lake - Long Valley area.

The possibility of such an occurrence in the Mono Lake - 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 U.S. Geological Survey.

Safety Element₂

The Town's Safety Element of the General Plan was adopted in 1984 and addresses, among other issues: geologic hazards and seismic potential, and seismically related landsliding on steep slopes with loose soils. An emergency response plan has been prepared in the event of volcanic activity (Finding #14). The plan is administered by the Mammoth Lakes Police Department (Finding #20).

Goals related to these Findings are to protect life and property (Geologic Hazard Safety Goal #12, Seismic Hazard Safety Goal #16), to condition or prohibit development in geologically hazardous areas (GHSG #13), to reduce or avoid adverse seismic impacts (SHSG #17), to participate in volcanic hazard response planning (Volcanic Hazards Safety Goal #14). Under Geologic Hazards, the findings identify poorly consolidated soils and steep slopes contributing to landslides (#10), erosion (#11), volcanic activity (#12), and volcanically related seismic activity, ash fall, pyroclastic surges and flows (#13). Under Seismic Hazards, the findings identify several active faults capable of generating M7.0 earthquakes (#15), a groundshaking intensity rating of MM-IZ to MM-X for most of the region (#16), several active faults displaying recent surface rupture, and mapped within Alquist-Priolo Special Studies Zones (#17), potential liquefaction areas at Sherwin Meadows and near Old Mammoth District (#18), and faster effective volcanic hazard response (VHSG #15).

The following policies regarding Geologic Safety (#18 through #25) and Seismic Safety (#26 through #32) appear in the Element. Those Policies indicated with asterisks (*) are directly applicable to the proposed North Village project.

Geologic Safety

- *18. The Town shall require developers to complete a preliminary soils and foundation analysis, and prepare a comprehensive erosion control plan to prevent erosion and siltation of streams in the Community, through conditions stated in the Town Development Code.
- 19. The Town shall require detailed geotechnic studies of sites with slopes of 20percent or greater, land slide or liquefaction potential, or other potential geotechnic hazards, through requirements in the Town Development Code.
- 20. The Town shall encourage clustered development in areas with problem soils and other geotechnic problems, through requirements in the Development Code, in order to reduce impact to fragile areas or reduce development exposure to hazard areas.
- *21. The Town shall encourage grading and foundation plans which minimize excavation. Off-site disposal of soils shall be discouraged, and where excavation is necessary, balanced cut and fill will be encouraged. Further, if excavated soils must be moved off-site, designated borrow pits shall be used and sculpted to fit the surrounding topography. Fill materials shall be extracted from Town designated areas.
- *22. Soil erosion and soil transport during construction shall be controlled through requirements in the Town Development code, including:
 - a) Disturbed soils surfaces covered with mulch or grass until vegetation is re-established and/or permanent surface is overlaid.

- b) Minimization of exposed graded areas for extended periods through project phasing.
 - c) Sprinkling of disturbed soils.
 - d) Covering, windfencing around, or wetting of stockpiled topsoil or dusty building materials.
 - e) Use of wind erosion construction barriers in sites exposed to wind erosion during construction.
 - f) Limitation of construction equipment and vehicle speeds to 15 miles per hour on construction sites.
 - g) Use of sedimentation basins or ponds to prevent sediment reaching streams and the Town drainage system.
- *23. The Town shall prohibit activities which could potentially devegetate or loosen soil surfaces, unless a comprehensive water and wind erosion control plan is prepared and adopted. Of particular concern are intensive recreational activity areas (such as hiking and horseback riding trails).
24. The Town shall participate in any updating and implementation of hazards response planning including an emergency evacuation facilities plan and training programs.
- *25. The Town shall require major developments to prepare and Specific Area Plans to address hazard emergencies such as evacuation, shelter, communication issues, etc.

Seismic Safety

- *26. The Town shall ensure that new development modernization projects and public works facilities projects will be constructed to reduce structural damage during seismic events through conditions in the Town's Development Code, including:
- a) The strict enforcement of the Uniform Building Code sections regarding seismic design, grading and excavation.
 - b) Upgrading of utilities serving the development to withstand projected earthquake loadings and/or to shut off utility in case of failure (e.g., gas pressure drop valves).
 - c) Requiring detailed geotechnic studies for development sites with liquefaction, landslide, and faulting potential to insure appropriate siting and design is utilized in project development.

27. The Town shall adopt the state criteria for regulating development within the Alquist-Priolo Special Study zones.
28. The Town shall designate open space uses for areas which have been identified in EIR's or special studies to present potential hazards which cannot be satisfactorily mitigated to allow for more intensive development.
- *29. The Town shall ensure that adequate emergency access is available to evacuate peak populations during emergencies through:
 - a) Designation of an additional emergency access road alignment(s) to accommodate buildout populations.
 - b) Completion of the existing roadway system.
 - c) Encouragement of continued airport improvements to improve its use for emergency evacuation.
30. The Town shall develop an Emergency Plan for Mammoth Lakes 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.
- *31. The Town shall initiate emergency training programs for Town employees and community volunteers and shall initiate a public education program which advises people on what to do in an emergency.
32. The Town shall utilize interagency agreements (i.e., mutual and joint use agreements) and support the consolidation of public safety services where appropriate, in order to establish a more efficient and coordinated emergency service system.

Administration and training of personnel involved in the emergency response plans for the Town is carried out by the Unified Command System. Members of the Command meet at least once each calendar quarter to coordinate and participate in response exercises. Additional equipment and volunteers are being acquired to assist the Command. The County Office of Emergency Services is in the process of updating the emergency response plan.³³

4.1.2 IMPACTS AND MITIGATION MEASURES

Section 15382 of the CEQA Guidelines defines a significant effect on the geologic environment as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project."³⁴ Further, Section 15126 (a) of the Guidelines stipulates that the EIR analyze "significant environmental effects the project might cause by bringing development or people into the area affected." The example used in the Guidelines is that of a subdivision astride an active fault having the effect of attracting people to an area where they would be exposed to seismic hazards.

The examination of geologically related issues, i.e. geology, geotechnology, soils, topography, seismicity, and volcanism in this report is based on information obtained from site observation, from the review of existing literature, including reports, maps and conceptual drawings provided by the town, and from personal and telephone communications with persons involved with, or concerned about, the proposed plan. The mitigation measures recommended to reduce, eliminate or avoid potential geologically related effects of, or on, the proposed project are not intended to be an exhaustive catalogue of all conceivable actions. They are based on existing techniques, generally recognized by geotechnical consultants in California to be applicable, feasible, and conservative in approach. They do not always rely on structural solutions, such as building more retaining walls, or installing heavier foundations. The timing of excavation activities, the continuation of current inspection procedures, and the maintenance of on-going clean-up and repair programs often provide the most effective environmental protection.

In general, it is the responsibility of a project applicant to implement the mitigation measures through the planning, design, construction and occupation phases of the project. The mitigation measures should be required as part of the grading/construction permits, unless otherwise specified. It is the responsibility of the Lead Agency, the Town of Mammoth Lakes, to monitor the mitigation measures through plan checking, periodic reporting procedures, and on-site inspections. Many "monitoring" programs already exist in the form of planning policies, required standards of construction and permit approval procedures that are administered routinely by departments of public works, branches of building inspection, and similar agencies in the public sector. Other mitigation and monitoring programs have been formalized as conditions of project approval agreed upon by the Lead Agency and the applicant.

Most of the detailed recommendations regarding specific techniques and designs to reduce, eliminate or avoid geologically related hazards will be provided by the reports of geotechnical investigations for proposed projects. Plan review, field inspection and site observation also are involved in the mitigation of geotechnical effects. The completed site development plans would be reviewed by the Lead Agency to determine conformance with the recommended geotechnical procedures. Final field inspection of the mitigation measures would be performed by a Certified Engineering Geologist, or a similarly qualified professional, during the 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. The recommendations of the geotechnical report and the inspecting professional would be incorporated in the work.

Impact

4.1-1 **If the project were implemented as proposed, it could create new or increased slope instability. This is a *potentially significant impact*.**

The site is not now subject to slope instability because the natural slopes are relatively shallow. The soil is very dense and manufactured slopes have been engineered to provide adequate stability.

However, development would involve substantial grading, especially in lots 14 and 15. If new cuts and fills were not similarly engineered, or if any proposed ponds saturated areas downslope or placed undue stress on areas downslope, slope failures could occur.

Mitigation Measure

Implementation of Mitigation Measures 4.1-1(a) through 4.1-1(e) would reduce Project impacts to a less-than-significant level.

- 4.1-1(a) *Soils and foundation analyses shall be approved by the Public Works Director prior to final Project design approval, as stipulated in the Town's Safety Policy #18. All measures required by the Public Works Director shall be incorporated into grading plans and building plans.*
- 4.1-1(b) *New slopes shall be constructed at an angle and degree of compaction that will ensure stability, as stipulated in the standards of the Town's Municipal Code.*
- 4.1-1(c) *All work shall be overseen by a licensed Civil Engineer (CE), Certified Engineering Geologist (CEG), or similar appropriately qualified professional, who shall report to the Town in order to ensure the standards of the applicable Codes are met.*
- 4.1-1(d) *Any impacts resulting from any of the above measures not analyzed by this EIR shall be subject to further environmental review and approval by the Planning Commission prior to approval of the final Project design.*

Impact

4.1-2 **If the project were implemented as proposed, it could create new or increased soil erosion. This is a *potentially significant impact*.**

The site is slightly erosion-prone in its natural condition and moderately erosion-prone where soils are disturbed by human activities. The subsoils are dense, the slopes are shallow, and the natural ground

cover is generally intact. The existing constructed slopes for the extension of Minaret Road are angled, compacted, and protected with riprap or vegetation to prevent erosion. If new slopes, foundation excavations, pad cuts-and-fills, etc., are not similarly engineered, the erosion potential of the site would increase to moderately high or high.

Mitigation Measure

Implementation of Mitigation Measure 4.1-2 would reduce the proposed Project impacts to a less-than-significant level.

4.1-2 *A comprehensive Erosion and Sediment Transport Control Plan shall be prepared and approved by the Town prior to issuance of any grading or building permit. The Plan shall be included in the Project design, as stipulated in the Town's Safety Policy #18. The Plan shall also meet the requirements of the Regional Water Quality Control Board and the Town Municipal Code.*

The language and specifications of such plans vary, depending on site conditions, but the general principles to be adhered to are listed in the Town's Safety Policies #21, 22 and 23. Further types of recommendations to be applied as appropriate are listed in Endnote 35 of this section of the report.³⁵ All work shall be overseen by a CE, CEG, or similar appropriately qualified professional, who shall report to the Town to ensure the standards of the applicable Codes are met.

Impact

4.1-3 *If the project were implemented as proposed, it could significantly alter the topography of the site. This is an unavoidable, significant impact.*

Topographic alteration is unavoidable during the development of any site. The proposed site includes irregular slopes that would be leveled or obscured by building pads and landscaping. This impact cannot be avoided if the site is developed as proposed. The site does not contain other unmitigable conditions or pose undue geo/seismic risks (see below) that would require the Town to invoke Safety Policy #28, designating it as permanent open space. However, the town may consider preserving the existing character of property; i.e., preserving some of the existing steep slopes (i.e., 30 percent) during project design.

Mitigation Measure

Implementation of Mitigation Measure 4.1-3 would reduce Project impacts to a less-than-significant level.

4.1-3 *Prior to issuance of grading or building permits, geotechnical studies shall be completed and their recommendations shall be incorporated in the Project design, as stipulated in the Town's Safety Policy #26.*

Impact

- 4.1-4 **If the project were implemented as proposed, it shall increase the number of people living in and visiting an area subject to seismic activity. This is a *less-than-significant impact***

Some increased density is unavoidable following the development of any site, regardless of its location in a high or low seismically active area, or of its proposed use. The entire Mammoth Lakes region, and about 45 percent of the rest of California, is in the UBC Seismic Zone 4, the highest activity zone in the code. The findings of the Town's Safety Element recognize this situation. The Element provides Goals and Policies, to be met by the Town and by developers, that reduce or avoid the risks of living in and visiting a seismically active region.

The Town is implementing the Safety Policies regarding emergency response in the event of destructive seismic activity (Policies #24, #30 and #32). The project site is not subject to known surface faulting, earthquake-induced landsliding, liquefaction or seiche inundation hazards. Generally, the project site is subject to the same groundshaking hazards as other areas in the Town located on outwash/fill (see Figure 4.1-5).

Mitigation Measure

- 4.1-4 *The Project Sponsor shall complete the geotechnical studies and incorporate their recommendations in the project design, as stipulated in the Town's Safety Policy #26. All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.*

Impact

- 4.1-5 **If the project were implemented as proposed, it shall increase the number of people living in and visiting an area subject to volcanic activity.**

Some increased population density is unavoidable following the development of any site, regardless of its location in a high or low volcanically active area, or of its proposed use. A cumulative increase in the number of persons who potentially would need assistance during an emergency would occur as the population of the site becomes more dense.

The Town is adjacent to a possible vent zone in the Long Valley caldera and near the epicenter of the volcanic hazards zones associated with volcanic eruptions in the Mono Lake-Long Valley area. Because the project site is centrally located in the Town, it is subject to the same flowage phenomena, tephra eruption and gas emission hazards as the rest of the developed portion of Mammoth Lakes.

The Findings of the Town's Safety Element recognize this situation and provide Goals to be met by the Town that reduce the risks of living in and visiting a volcanically active region (Geologic Safety Policies #20 and #24, and under Seismic Safety Policies #28 through #32).

According to Dr. David P. Hill, a volcano expert of the U. S. Geological Survey (USGS), Menlo Park, seismic stations in the Long Valley region have been increased to forty and a network of other instruments are in place. Volcanic and volcano-seismic activity are being monitored by the USGS: it is expected that at least several hours, and probably several days, warning-time could be provided for any threatened eruption.³⁶

As discussed earlier in this chapter, the Town is implementing the Safety Policies regarding emergency response in the event of destructive volcanism. The Project Sponsor is also assisting the Town in completing the existing and emergency access roadway system to the project site (Safety Policy #29).

Most of the site is not adjacent to or near a creek valley where floods are likely to concentrate. The risk to life and property at the site appears to be about the same as that which exists throughout the community.

Mitigation Measure

- 4.1-5a *The plan includes improvements on Lake Mary, Lakeview and Minaret Roads; these would provide residents of the slopes subdivision with improved travel routes to both of the evacuation routes leading out of the town.*
- 4.1-5b *The developer shall cooperate with the Town in designing and disseminating information to assist citizens and visitors in responding to emergency situations that are likely to arise (Safety Policy #31). All structures shall be designed and built to at least the standards of UBC Seismic Zone 4.*

CUMULATIVE IMPACTS

Cumulative development would increase the permanent and temporary population of the Town of Mammoth Lakes. As a result, an increased number of people living in and visiting the Town would be exposed to landsliding, groundshaking, and associated hazards that commonly occur in a seismic- and volcanic-active area. However, implementation of the General Safety and Seismic Safety Elements of the Town of Mammoth Lakes General Plan would reduce the risk associated with these unavoidable impacts.

ENDNOTES

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2. Alfors, J.T., "Regional Geology of the Mammoth Lakes Region, California" in Mammoth Lakes, California Earthquakes of May 1980, California Division of Mines and Geology, Special Report 150, edited by R.W. Sherburne, 1980, pgs 1-6.
3. Bailey, R.A., and R.P. Koeppen, Preliminary Geologic Map of Long Valley Caldera, Mono County, California, U.S. Geological Survey, Open File Report 77-468, 1977, scale 1:62,500.
4. Platz, T.A., RPE #42039, Grading and Pavement Recommendations, Minaret Road Extension, Mammoth Lakes, Mono County, California, Sierra Geotechnical Services, Inc., 7 February 1990, 18 pages, 2 maps (scale 1:480), 7 plates (test pit logs).
5. Jennings, C.W. et al, Fault Map of California, Geologic Data Map series, Number 1, California Division of Mines and Geology, 1975, scale 1:750 000.
6. Strand, R.G., "Geologic Map of California, Mariposa Sheet", in Geologic Atlas of California, Olaf P. Jenkins, editor, California Division of Mines and Geology, Sacramento, California, 1967, scale 1:250 000.
7. J. H. Kleinfelder & Associates; Preliminary Geotechnical Study for the Allan Davis Project, Mammoth Lakes, California. 1977. 14pp.
8. Alquist-Priolo Special Studies Zones: the State of California has delineated special studies zones around active and potentially active faults in the state. The zones extend about 660 feet on either side of identified fault traces. No structures for human occupancy may be built across an identified active fault trace. An area of 50 feet on either side of an active fault trace is assumed to be underlain by the fault, unless proven otherwise. Proposed construction within the Special Studies Zone can take place only following the completion of a geological report prepared by a California Registered Geologist.
9. California Division of Mines & Geology, Special Studies Zones Map, NW 1/4 Mt. Morrison Quadrangle, Effective Date 1 January 1982, scale 1:24 000.
10. California Division of Mines and Geology, Fault-Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zone Act of 1972, revised 1987.
11. Maximum credible earthquake: the largest Richter magnitude (M) seismic event that appears to be reasonably capable of occurring under the conditions of the presently known geological framework. In the Bay area, M8.3 is the maximum credible earthquake for the San Andreas fault, M7.5 for the Hayward and Calaveras faults, and M7.0 for the Rodgers Creed and Green Valley-Concord faults.
12. Richter scale: a logarithmic scale developed in 1935/36 by Dr. Charles F. Richter and Dr. Beno Gutenberg to measure earthquake magnitude by the amount of energy released, as opposed to earthquake intensity as determined by local effects on people, structures, and earth materials.
13. R.D. Borcherdt, et al., Maximum Earthquake Intensity Predicted on a Regional Scale, U.S. Geological Survey, Miscellaneous Field Investigations Map MF-709, 1975, scale 1:125 000.
14. Greensfelder, R.W., Maximum Credible Rock Acceleration from Earthquakes in California, California Division of Mines and Geology, Map Sheet 23, 1974, scale 1:2 500 000.
15. Greensfelder, R.W., "Seismicity, Groundshaking and Liquefaction Potential," in: M.E. Huffman and C.F. Armstrong, Geology for Planning in Sonoma County, California Division of Mines and Geology, Special Report 120, 1980, pages 5 to 14.

16. Kilbourne, R.T., and C.L. Anderson, "Volcanic History and 'Active' Volcanism in California" in California Geology, August 1981, pgs 159-168.
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21. Oakeshott, G.B., California's Changing Landscapes, A Guide to the Geology of the State, 2nd edition, McGraw-Hill Book Company, San Francisco, 1978, 378 pages.
22. Association of Bay Area Governments (ABAG), Manual of Standards for Erosion and Sedimentation Control Measures, Berkeley, revised, June 1981.
23. Miller, C.D., Potential Hazards from Future Volcanic Eruptions in California, U.S. Geological Survey, Bulletin 1847, 1989, 17 pgs, 3 figures, 2 tables, 1 plate, map scale 1:500 000. Unless otherwise noted, descriptions of volcanic phenomena included in the AWARE are from this Bulletin.
24. Huffman, M.E. and C.F. Armstrong, Geology for Planning in Sonoma County, California Division of Mines and Geology, Special Report 120, 1980, 31 pages, 5 plates, map scale 1:62 500.
25. R.D. Borchardt, et al., Maximum Earthquake Intensity Predicted on a Regional Scale, U.S. Geological Survey, Miscellaneous Field Investigations Map MF-709, 1975, scale 1:125 000.
26. Borchardt et al, 1975, op. cit.
27. Greensfelder, 1980, op. cit.
28. Miller, 1989, op. cit.
29. Ibid.
30. Miller, 1989, op.cit.
31. Ibid.
32. Safety Element, Town of Mammoth Lakes General Plan, 1984, pages 186 through 216.
33. Fire Chief J. Sweeney, personal communication with EIP Associates, 21 June 1990.
34. Office of Planning and Research, CEQA: The California Environmental Quality Act, Statutes and Guidelines, 1986, revised June 1986.
35. This list contains many of the recommendations of the Association of Bay Area Governments (ABAG), Manual of Standards for Erosion and Sediment Control Measures, revised, June 1981. They are applicable through most of the State with little or no modification.

Confine construction to the dry season, whenever possible.

If construction needs to be scheduled for the wet season, ensure that erosion and sediment transport control measures are ready for implementation prior to the onset of the first major storm of the season.

Locate staging areas outside major streams and drainage-ways.

Keep slope lengths and gradients to a minimum.

Discharge construction runoff into small drainage at frequent intervals to avoid buildup of large potentially erosive flows.

Prevent runoff from flowing over unprotected slopes.

Keep disturbed areas to the minimum necessary for construction.

Keep runoff away from disturbed areas during construction.

Stabilize disturbed areas as quickly as possible, either by vegetative or mechanical methods.

Direct flows over vegetated areas prior to discharge into public storm drainage systems.

Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or siltation fences.

Removal and disposal of all project construction-generated siltation that occurs in off-site retention ponds is the responsibility of the project sponsor.

Use landscaping and grading methods that lower the potential for downstream sedimentation. Modified drainage patterns, longer flow paths, encouraging infiltration into the ground and slower stormwater conveyance velocities are examples of effective methods.

Control landscaping activities carefully with regard to the application of fertilizers, pesticides or other hazardous substances. Provide proper instruction to all landscaping personnel on the construction team, and to residential landscapers.

36. D. Hill, U.S. Geological Survey, telephone communication with EIP Associates, 16 June 1990.

4.2 HYDROLOGY AND WATER QUALITY

4.2 HYDROLOGY AND WATER QUALITY

SETTING

The North Village Specific Plan Area covers an area of approximately 64.1 acres and is located within the northwest portion of the Town of Mammoth Lakes. The town is situated within the boundaries of the Long Valley caldera, on the eastern side of the Sierra Nevada. The Sierra Nevada lies along the west and south margins of the caldera. Mountains to the immediate north of the township range in elevation from 9,386 feet to 8,258 feet. The plan area is situated at elevations between 8,040 feet and 8,070 feet, with slopes generally less than five percent.

The average annual air temperature in the study area is approximately 5.6° C with high temperatures of about 32.2° C and low temperatures of approximately -29.4° C. The total precipitation averages about 20 inches per year, although with a study-area altitude greater than 7,000 feet, most of the precipitation occurs as snowfall. The majority of the runoff occurs in the spring as snowmelt.

Surface Water

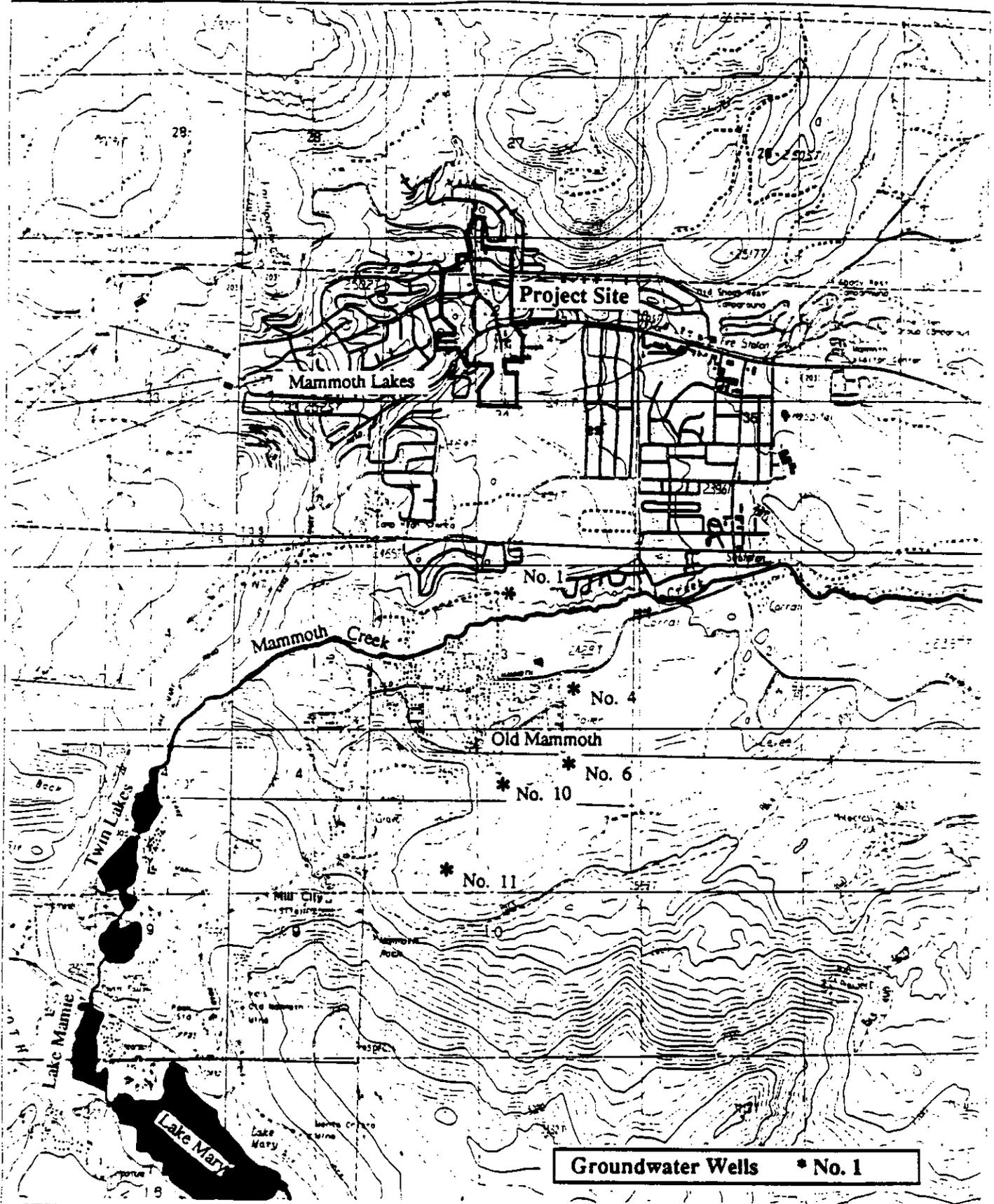
The project site lies within the Mammoth Creek Basin, shown on Figure 4.2-1 and has a total watershed area of 27,110 acres. Mammoth Creek originates from Lake Mary, located southwest of the town at an elevation of 8,913 feet and various tributaries near the Mammoth crest area of Inyo National Forest. At a junction below the Hot Creek Fish Hatchery, it becomes Hot Creek. Hot Creek drains an area of visible thermal activity and flows into Long Valley, where it joins the Owens River immediately upstream of Crowley Lake. Water from Crowley Lake represents more than 50 percent of the water entering the Los Angeles-Owens River aqueduct.¹

The majority of the project site is contained within the drainage of Murphy Gulch which eventually flows into Mammoth Creek, just west of the Highway 395 and SR 203 intersection. Murphy Gulch is a seasonal stream and has very little or no flow during dry months but does carry significant runoff volumes during the spring snow melt, as well as during heavy rainfall periods.

An integrated storm drainage system is not complete for the Town. The majority of the community is traversed by numerous natural or man-made surface channels, and drainage problems are prevalent.² Existing drainage facilities for the plan area comprise a 42-inch diameter reinforced concrete pipe located in Canyon Drive east to Minaret Road, increasing to a 54-inch pipe and continuing east on Berner Street and finally connecting into storm drains in Main Street and discharging into Murphy Gulch. The drainage system was installed to alleviate severe runoff problems in the Murphy Gulch area. A 43,560 cubic foot siltation basin was constructed at the downstream end of the storm drain to settle sediments before the stream enters Mammoth Creek.³ Storm drainage facilities for the project area are shown on Figure 4.2-2.

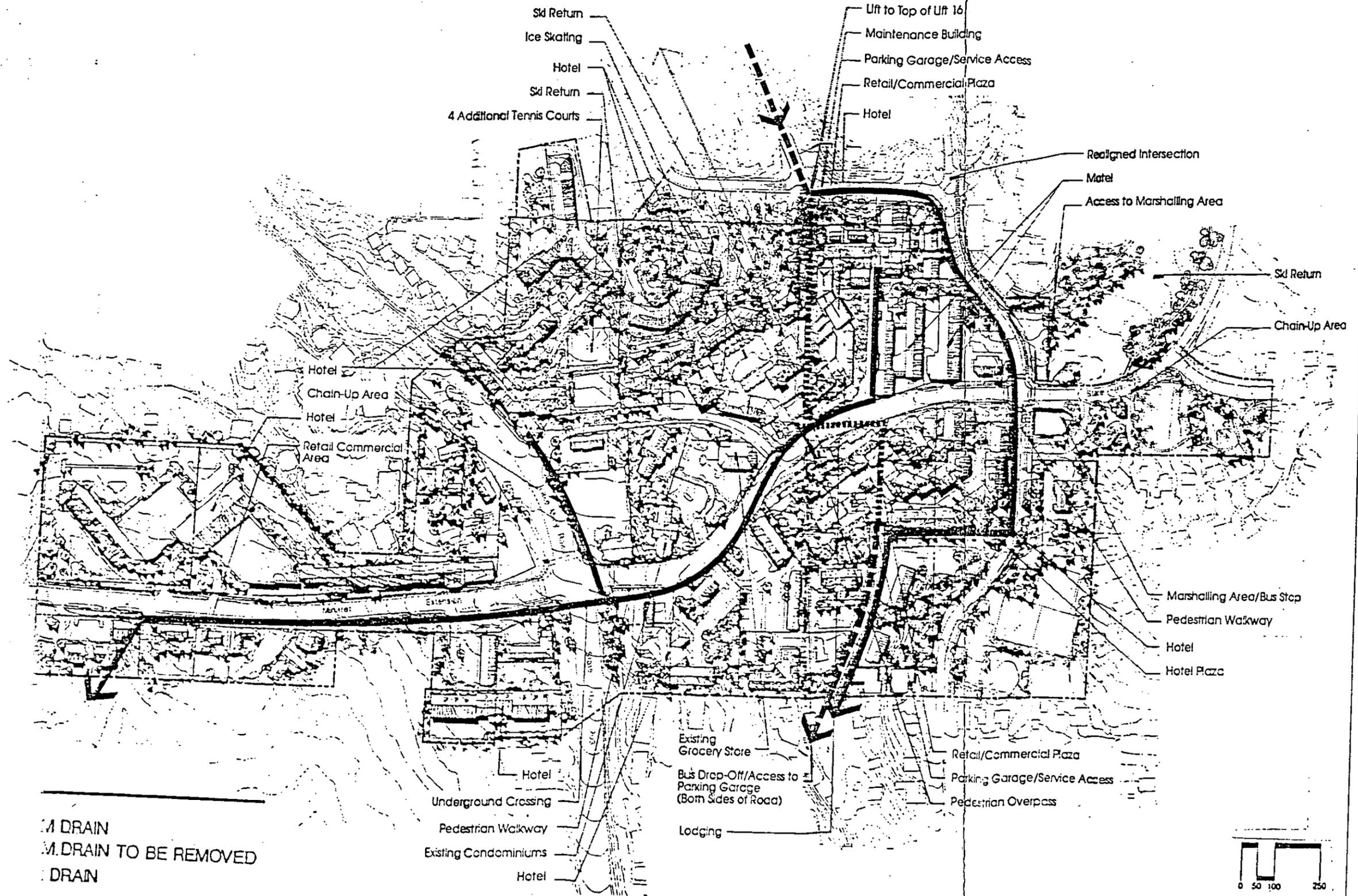
Mammoth Creek Basin

Figure 4.2-1

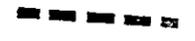


Storm Drainage System

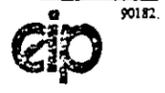
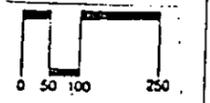
Figure 4.2-2



Legen

-  M. DRAIN
-  M. DRAIN TO BE REMOVED
-  DRAIN

Source: Jack Johnson Company



90182

A detailed storm drainage plan for the community has been prepared under the direction of the Mono County Public Works Department. The Mammoth Lakes Storm Drainage Plan sets forth an improvement program to rehabilitate existing developed areas and policies, standards, and procedures to guide future development. The Storm Drainage Plan proposes to retain or improve natural streams where possible, rather than replacing them with storm pipe for aesthetic, cost and functional reasons.

The Federal Emergency Management Agency is preparing revised Flood Zone Maps for the Town of Mammoth Lakes. Potential flood hazard areas in the Town of Mammoth Lakes are located along the length of the Mammoth Creek drainage channel. The project site is not located within a flood hazard zone.

Groundwater

The project site is located within the Long Valley Groundwater Basin, shown on Figure 4.2-3. The basin is bordered to the west and southwest by the Sierra Nevada, to the north by Bald Mountain and Glass Mountain, and to the east by Round Mountain.⁴ The basin has a total area of 248,600 acres.⁵ The groundwater system consists of a shallow unconfined groundwater system, a shallow, generally non-thermal confined groundwater system and a deeper geothermal system.⁶ Groundwater is found erratically in the Recent and underlying older alluvial deposits. Deeper underlying volcanics could contain extensive openings locally and have been considered possible sites for artificial recharge.⁷

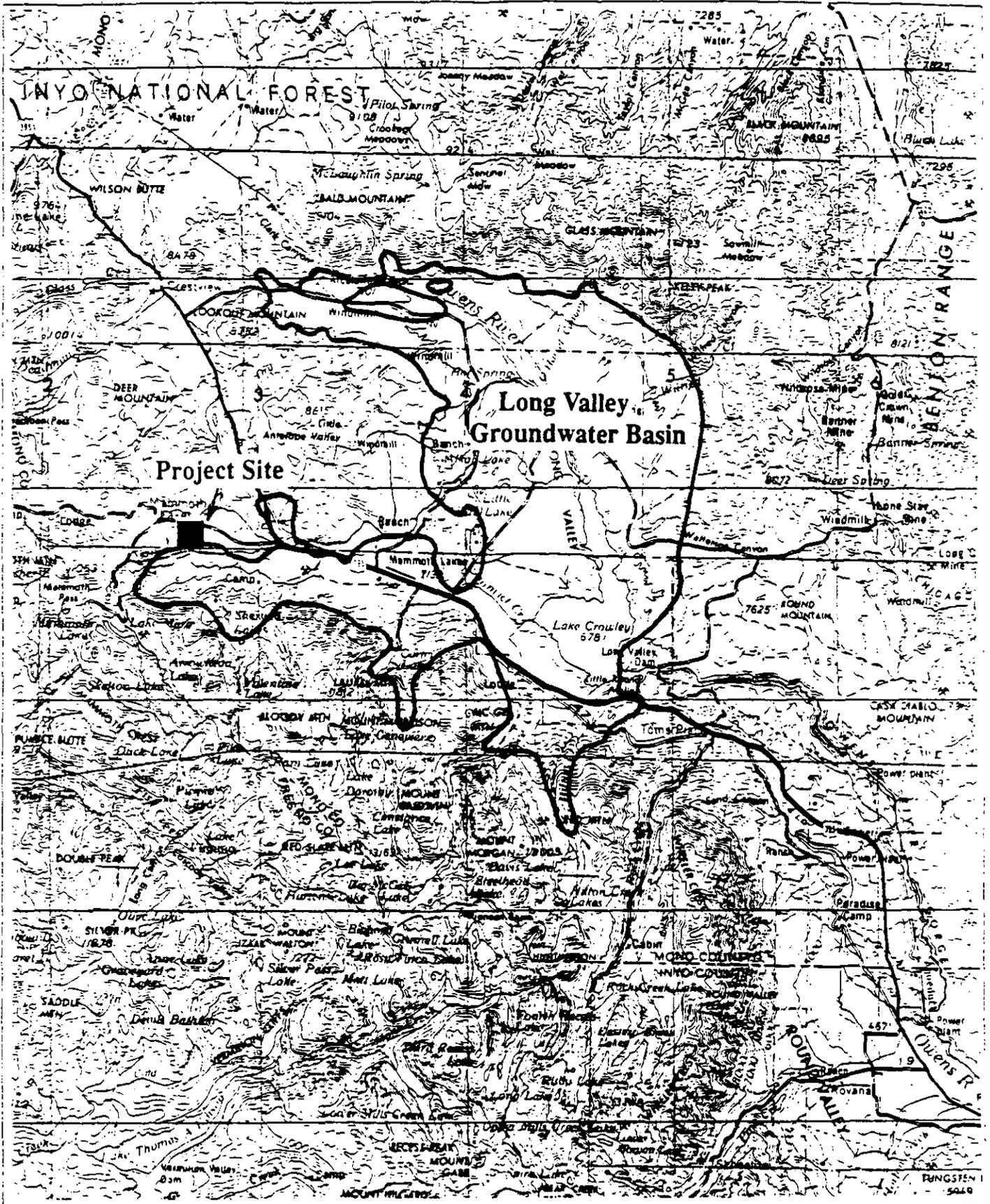
The movement of groundwater in the shallow non-thermal system is generally from west to east, and southeasterly towards the Owens River gorge area where it may seep through the tuffaceous deposits into Owens Valley. Recharge occurs around the caldera rim, within the western portion, and beneath the resurgent area in the northwestern-central portion of the caldera. Groundwater discharge also occurs in springs located around the caldera rim, and along the south and east sides of the resurgent area.⁸

Depth to groundwater within the Specific Plan Area is anticipated not to occur within 50 feet of ground level surface. Groundwater wells used for water supply are generally located to the south of Mammoth Lakes, south of Old Mammoth Road. Active wells of the Mammoth County Water District are shown on Figure 4.2-1, and characteristics are outlined in Table 4.2.1. A test well drilled to the northwest (TH-9) was found to be dry and a well drilled in the northeast (TH-8) could be developed but contained excessive amounts of arsenic and mercury.

Water level fluctuations are associated with seasonal recharge, seismic events and aseismic rock deformation. A water level rise of 0.63 feet was documented in a test water well on November 23, 1984 as a response to a magnitude 5.8 earthquake with an epicenter located 25 miles southeast of Mammoth Lakes.⁹

Long Valley Ground Water Basin

Figure 4.2-3



SOURCE: California Dept. of Water Resources



No Scale



TABLE 4.2.1
ACTIVE WELLS IN MAMMOTH LAKES VICINITY

Well No.	Date Constructed	Date Sampled	Groundwater Depth Depth to Water ¹ (feet)	Water Quality Problems	Production Rate (gpm) ²
1	7/76	4/88	176.0	elevated iron and low Ph	700 gpm
4	12/85	1985	379.0	elevated arsenic	190 gpm
6	11/87				1,000 gpm
10	10/87	1987	16.6	iron/manganese and low pH	1,200 gpm

¹ Depth to groundwater below ground surface.

² gpm = gallons per minute.

³ Production rate will produce a water level of approximately 300 feet.

Water Quality

Streams fed by melting snow and runoff from the high Sierras are generally calcium carbonate in character with total dissolved solids concentrations of less than 200 mg/l. and generally have excellent water quality. The water is soft to moderately hard. Groundwater is suitable for domestic and irrigation uses. It is either calcium bicarbonate or sodium bicarbonate in character and has a TDS concentration ranging from 100 to 400 mg/l.¹⁰ Test wells and active wells of the Mammoth County Water District have shown elevated levels of iron, low Ph, and excessive amounts of manganese, mercury and arsenic. Iron/manganese treatment is currently required at Well Nos. 6 and 10.

Regulation

Federal regulation 40 CFS 130.40 requires each state to classify its surface water according to two segmental categories, (1) water quality class and (2) effluent limitation class. The segments are used to determine priorities for federal and state grants for the construction of water quality control facilities. Mammoth Creek has been classified by the California State Water Quality Resources Control Board as an effluent-limited segment (E1-1-A). An effluent limited segment of this type is a stream reach that is suspected of violating the water-quality objectives requisite to maintain the stated beneficial uses. The quality of the water in Mammoth Creek is suspected of violating the numerical objectives for coliform bacteria, nutrients and possible sediment. The affected beneficial uses of Mammoth Creek are: (1) Municipal supply, (2) cold-water habitat, and (3) contact and noncontact water recreation. Other beneficial

uses are groundwater recharge (Mammoth Creek and Hot Creek), agricultural use (Mammoth Creek, Lake Mary, and Hot Creek), and wildlife habitat (Mammoth Creek and its lakes and Hot Creek).¹¹

Erosion

Past development activities in the community, which were conducted under limited development control, have created significant erosion problems. The largely uncontrolled runoff is accelerating erosion thereby increasing sediment loads and creating water quality problems in Mammoth Creek. These problems are also aggravated by direct discharges to Mammoth Creek or surface runoff from heavily developed commercial areas containing sediment, oil, grease and nutrients.¹² The quality of Mammoth Creek water has declined in recent years, based on samples from Hot Creek.¹³

In June 1983, the Lahontan Regional Water Quality Control Board adopted "Guidelines for Erosion Control in the Mammoth Lakes Area", attached as Appendix C. The Guidelines prescribe erosion control requirements which must be complied with during all phases of development, above 7,000 feet which consists of : 1) six or more dwellings units, or 2) commercial developments including soil disturbance of 1/4 acre or more.¹⁴ The Guidelines specify that drainage collection, retention and infiltration facilities should be constructed and maintained to prevent transport of the runoff from a 20-year, 1-hour design storm from the project site.

IMPACTS AND MITIGATION MEASURES

The North Village Specific Plan proposes the construction of 2,000 new hotel/motel lodging units, 400 new condominium units and retail/commercial plazas within a site area of 64 acres. Approximately 3 acres in the northerly portion of the plan area have been designated as open space. The proposed plan as shown on Figure 4.2-2 represents a substantial increase in impervious surfaces. New drainage facilities to carry the increased runoff will be of great importance.

The CEQA Guidelines indicate that a project will normally be considered to have significant adverse effects on water resources if it, substantially degrades or depletes groundwater resources, interferes substantially with groundwater recharge, causes substantial flooding, or substantially degrades water quality either through pollutants or siltation.

Surface WaterImpact

- 4.2-1 Development under the Specific Plan will substantially increase and intensify development, thus increasing surface runoff from the Plan area. This is a *potentially significant impact*.

The proposed general plan revision would result in the intensification of land use and development. Of the total 64.1 acres, presently only approximately 34 acres have been developed. Under the North Village Specific Plan, approximately 61.1 acres (or 95% of the study area) will be developed. Intensified land development increases the amount of land covered with roadways, rooftops and other impermeable surfaces, and would result in an increase in the rate and amount of stormwater runoff. Plaza areas between plan elements, that is, hotel and commercial areas, in particular, will increase runoff. The storm drainage system downstream is limited and any increase in runoff resulting from the proposed plan would constitute a significant adverse impact on downstream drainage.

The Specific Plan incorporates a drainage plan to control this excess flow. An additional 54-inch stormdrain pipe would be installed parallel to the existing storm drain. Portions of the route of the upstream 42-inch pipe will be modified. The southern portion of the plan area will be drained to the south by a storm drain installed in Minaret Road.

Mitigation Measure

Implementation of Mitigation Measure 4.2-1 will reduce project impacts to a less-than-significant level.

- 4.2-1(a) *A more complete hydrology analysis for design purposes shall be required to be completed to estimate the amounts of runoff which will be required to be retained on-site.*
- 4.2-1(b) *Runoff control shall be designed to meet the Lahontan Regional Water Quality Control Board's requirements and must be approved by the Town prior to issuance of any grading permits. Design shall be to the standards of the Storm Drain Master Plan.*
- 4.2-1(c) *The following water conservation procedures shall be incorporated into project elements where feasible:*
- *Landscape with low water-using plants;*
 - *Install efficient irrigation systems that minimize runoff and evaporation and maximize the water that will reach the plant roots, such as drip irrigation, soil moisture sensors, and automatic irrigation systems; and*

- *Use pervious paving material whenever feasible.*

Groundwater

Impact

- 4.2-2 **Quality of groundwater would not be affected by project construction activities, and will result in less-than-significant impacts to groundwater quality or quantity.**

Groundwater for the majority of the community is not anticipated to occur within 50 feet of the ground surface. Construction of new development will not require excavation below the water table, and will not result in significant impacts on groundwater. The quality of the groundwater would not be affected by these construction activities.

Recharge to the underlying aquifer occurs from the valley fill. Development will remove approximately 27 acres of pervious surface and decrease the recharge area of the basin; however, the total basin area is 248,600 acres and this decrease will not significantly impact groundwater recharge.

Mitigation Measure

- 4.2-2 *No mitigation measures required.*

Water Quality

Impact

- 4.2-3 **The quality of surface runoff could be degraded as a result of development. This is a potentially significant impact.**

The quality of surface runoff could be degraded as a result of development. Grading activities during the construction period of new projects within the community for foundations, structures and parking lots, would expose soils to the erosive forces of wind and storm runoff to a potentially significant degree. This could adversely affect downstream water quality through erosion, the transport of sediments and dissolved constituents entering the natural receiving waters and increasing turbidity and contaminant load. Deposition of eroded soil in the storm drains downstream of the community would decrease their capacity and have an adverse impact from possible local flooding within the area.

Runoff from developed areas tends to contain higher levels of suspended solids, as well as gasoline and other hydrocarbons, oil and grease, rubber, lead and other automotive related contaminants, than the runoff from undeveloped lands. These contaminants already exist in the surrounding environment and the incremental increase of contaminants in the surface runoff due to the increase in urban development would not have a significant impact on water quality. These impacts should be viewed in a cumulative manner.

as increasing urbanization leads to a degradation of the waters of Mammoth Creek. However, the plan includes storm drainage improvements as described under Impact 4.2.1 which will reduce the potential for pollutants to enter surface waters.

Mitigation Measure

Implementation of Mitigation Measure 4.2-3 will reduce project impacts to a less-than-significant level.

4.2-3(a) For each individual project considered under this development concept, disturbance of soil requires a Waste Discharge Report to be filed with the Lahontan Regional Water Quality Control Board and a Waste Discharge Permit to be issued for the project to ensure that proper control measures for the protection of water quality are taken and adhered to during all phases of the project.

4.2-3(b) See Mitigation Measure 4.1-2

CUMULATIVE IMPACTS

The proposed Project in combination with future projects within the Town will result in a substantial increase of paved and other impervious surfaces within the Mammoth Creek Basin. This will result in 1) significant increases in surface runoff, 2) a decrease in total pervious areas available for groundwater recharge, and 3) may lead to substantial degradation of water quality from surface flow over the increased area of paved surfaces.

The Lahontan Regional Water Quality Control Board has implemented Erosion Control Guidelines which attempt to reduce the impacts of development on the drainage of the watershed and water quality of Mammoth Creek. However, retention or detention facilities reduce peak flow by retaining the majority of the stormwaters and releasing water over a longer period of time. Use of these facilities for the cumulative proposed projects may result in a change in flow regime (for example, continuous dry weather flows and extended low flow periods) within the downstream water courses of Murphy Gulch and Mammoth Creek. The mitigation measures required by the LRWQCB reduce the impacts related to a change in the stream flow regime cannot be determined at this point, and may not be significant.

Cumulative development will result in a significant increase in impervious surfaces and may reduce areas of land available for groundwater recharge. Development is not anticipated to have a significant impact on recharge within the groundwater basin as it represents only a small portion of the total basin area of 248,600 acres. Mitigation measures required by the LRWQCB to reduce water quality impacts from development will reduce impacts from cumulative development to a less-than-significant level.

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4.3 BIOLOGICAL RESOURCES

4.3 BIOLOGICAL RESOURCES

OBJECTIVES AND METHODS

Biological resources on the proposed project site were assessed during field surveys conducted by EIP biologists on June 16-18 and June 26-27, 1990.¹ Additional surveys were conducted by Mark Bagley, a botanist, and Timothy Taylor, a wildlife biologist, in April and May 1990.^{2,3} During these efforts, the site was examined on foot to determine the types and extent of suitable wildlife habitats and to identify as many plant and wildlife species as possible.

The search for plant and wildlife species was conducted with special emphasis directed toward identifying the presence of any Species of Special Concern previously identified through a literature search as occurring in the region.⁴ The list of rare plant or animal species potentially occurring within the study area, was refined using geographic distribution and habitat information provided in standard floristic and wildlife manuals and rare plant status reports prepared for the California Native Plant Society (CNPS).⁵ Additional references were consulted to generate a list of all vegetation and wildlife which could be reasonably expected to occur in the region.⁶ This list, all species positively identified during the field survey, and the scientific names of all plant and animal species referred to in this section are presented as Appendix A.

SETTING

The proposed project is located at the 8,000 foot (2440m) level in the eastern Sierra Nevada of Mono County between Mono Lake and the City of Bishop. The eastern Sierra is affected by a rain shadow formed by the higher peaks of the range and precipitation is usually much less on the eastern side than on the west at the same elevation. It is estimated that precipitation at the Valentine Reserve of the University of California (located 0.5 mile south of the proposed project) is 25 inches annually, while at similar elevations west of the Sierra crest there is approximately 45 to 50 inches annually.⁷ Estimates of precipitation at the same elevation as Mammoth Lakes but to the north and south are approximately 15 to 20 inches annually. It is likely that the relatively low passes (lower than 10,000 feet) in the region around Mammoth Mountain allow additional precipitation from winter storms to cross the crest. This additional precipitation, falling mostly as snow in winter, is reflected in the vegetation present on the site. Summer thundershowers can be common but do not add appreciably to the annual precipitation totals. Summer rainfall may, however, allow some species to persist in areas where they may not otherwise occur.

Temperatures in the area of the proposed project range between 65 and 80 degrees Fahrenheit for highs and between 40 and 50 degrees Fahrenheit for lows during the summer months. Daily ranges during the winter months range from highs of 35 to 45 degrees Fahrenheit to lows from 15 to 25 degrees Fahrenheit.⁸

The combination of relatively high precipitation and relatively moderate temperatures has resulted in a mix of species representative of the more moist western slopes and the drier eastern slopes. The predominate vegetation on the site consists of Jeffrey Pine-Fir Forest.

VEGETATION

Jeffrey Pine-Fir Forest

The forest community on the site of the proposed project is dominated by Jeffrey Pine and Lodgepole Pine. White Fir and Red Fir are common associates; Red Fir is more common on the upper portion of this site than on the flatter side across Main Street.

In areas where trees form dense stands there is little in the way of understory vegetation. In more open locations, however, there is a diverse understory of sagebrush scrub and montane chaparral species, including Big Sagebrush, Antelope Bitterbrush, Snowberry, Squaw Currant, Snowbush, Tobacco Brush, and Greenleaf Manzanita.

Common herbaceous perennials include Mule's Ears, Paintbrush, Phlox, Nuttall's Linanthus, Anderson's Lupine, and Pussypaws. Numerous annuals can be found in open areas at various times of year but are of greatest abundance in the spring. A list of plants seen or collected in April and May can be found in Appendix A.

Plant Species of Special Concern

A search of the California Natural Diversity Data Base (CNDDDB) indicates a potential for five species of concern: hoary draba, Kobresia, Mono Milk Vetch, Mono Lake lupine and Mono County lupine.⁹ A summary of these plant species is found in Appendix B.

Both hoary draba and kobresia occur at elevations higher than the present site, and in different habitat as well. Both are common in other states as indicated by the California Native Plant Society (CNPS).¹⁰ Neither were seen during field surveys conducted in April and May 1990, and it is unlikely that they occur on the site.

Mono milk vetch is listed as rare by the State of California and by the US Fish and Wildlife Service as having enough information to support federal listing. This species grows in pumice or gravelly, sandy soil in Great Basin scrub and occasionally in montane coniferous forests. Known locations occur to the north and east of Mammoth Lakes. Mono milk vetch was not found during the April and May 1990 survey. Only *A. purshii* var. *lectulus* was included in the Valentine Flora.¹¹

Of the remaining plants on the list, Mono Lake lupine commonly occurs with Mono milk vetch to the north of Mammoth Lakes in similar habitat. This species is found along Smokey Bear Flat. It was not found on the site of the proposed project.

Mono County lupine is known only from the type locality "between Mammoth and Earthquake Fault, Mono Co., California" and was collected by the horticulturist Lester Rowntree on July 16, 1935. It was named by Alice Eastwood of the California Academy of Sciences (CAS) from this one specimen¹²; no other examples are known, and no other populations have been located. According to the original description no habitat was given, but it can be assumed that it would be montane coniferous forest.¹³ Mono County lupine was not found during field surveys.

Wildlife

The scattered growths of mixed conifers on the proposed project site have low structural diversity and, as a result, are relatively low in animal species and numbers. While Lodgepole Pines provide little in the way of wildlife values, the Jeffrey Pine component of this mixed conifer ecosystem is valuable to wildlife due in large part to the food value of their seeds. Pine seeds are included in the diets of more wildlife species than any other genus of trees except the oak.¹⁴ The bark and foliage also serve as important food sources for squirrels such as Douglas's Squirrel and Lodgepole Chipmunk and Mule Deer. Jeffrey Pines also provide vital nesting cover for several bird species such as the Pygmy Nuthatch, Brown Creeper, White-Headed Woodpecker and Clarks's Nutcracker all recorded on or near the project site.

Despite the encroachment of urbanization with its disturbance of habitats and wildlife species themselves and the introduction of pets which harass and destroy many wild animals, the project site is still being used by wildlife. A Coyote was observed near the site. Black Bear scats were plentiful and a number of Mule Deer were seen in addition to the smaller birds and mammals which can exist near human developments. In general, the area continues to provide good wildlife habitat values, particularly on the undisturbed sites.

Wildlife Species of Special Concern

Although no Threatened or Endangered wildlife species are known to reside on the project site and none were observed during the wildlife survey, a search of the CNDDDB for sensitive wildlife species which might occur on the study area or in nearby areas indicated that two State listed species, the Great Grey Owl (Endangered) and the Wolverine (Threatened) and one recently listed federal species, the Spotted Owl (Threatened) are known to have occurred in the region. The proximity of human habitation and the absence of suitable habitats for these species within project boundaries argues strongly for their absence from the site.

Specific searches for the newly listed Spotted Owl were conducted throughout the project site every other night for eight consecutive nights between April 12-20, 1990. Beginning about one hour after official sunset, recorded Spotted Owl calls were played at 100 meter intervals along transects through or near the project site following guidelines provided in the Spotted Owl Inventory and Monitoring Handbook.¹⁵

No responses were elicited from Spotted Owls during this survey.¹⁶ Only one Great-horned Owl was heard calling from the Lodgepole Pine forest south of the project on the night of April 14. The results of this survey in conjunction with the lack of suitable habitat components such as old growth trees, snags, a more complete canopy closure and available water on the project site indicate strongly that the Spotted Owl is not present in the area.

In addition to the listed species, three species classified by the California Department of Fish and Game as species of special concern in California were found to have distributional ranges which include the project site. These include the Northern Goshawk, the Yellow Warbler and the Pacific Fisher. Again, for the reasons stated above for listed species, it is extremely unlikely that any of these candidate species would be able to utilize the project sites. The status of all sensitive wildlife species is summarized in Appendix B.

IMPACTS AND MITIGATION MEASURES

As presently conceived in the North Village Conceptual Development Plan, the residential and commercial developments planned for this site would result in the alteration or elimination of most of the native vegetation and wildlife resources presently on the property. Site plans available at this time do not specifically note which trees and other vegetation would be removed but it can be assumed from the intensity of the proposed development that most would be removed. Specific grading and drainage plans, final elevations and other details of the project were not available, consequently, some worse-case assumptions were used to evaluate certain elements of the proposed project.

The loss of wildlife habitat in California, especially in this rapidly developing area, threatens the continued existence of a number of wildlife species which depend on these areas for most or all of their life requirements. In addition to the water, food and shelter available in these montane habitats, forest corridors are used for concealment during daily passages to and from foraging and nesting sites and during seasonal migrations in much the same way that man uses a highway. Any activity which interrupts or blocks these corridors severely restricts or eliminates their use by wildlife.

Because of the foraging, nesting and roosting opportunities provided by these habitats, their loss would cause the extirpation or displacement of most wildlife presently residing on the site. The more mobile birds and mammals such as the Coyote and Mule Deer would be dispersed into nearby, undeveloped areas. Less mobile mammals, reptiles and amphibians would be destroyed during construction. Some of the bird species observed during the field survey adapt to planned, landscaped urban environments and may return to the site after project completion.

Disturbances and disruptions during project construction will scatter and fragment wildlife communities forcing survivors into already occupied habitats to cause cumulative negative impacts on all wildlife in the area. Increased population pressures will reduce habitat values through excessive foraging, weakening populations through increased competition for resources and reducing reproductive success. Construction noise will impact wildlife by curtailing exploratory behavior, limiting access to food and shelter and disrupting breeding behavior. Noise impacts will likely extend the total area from which wildlife will be displaced well beyond the project boundaries.

Vegetation

For the purposes of this EIR, significant impacts to vegetation are considered to include:

- a loss of vegetation cover,
- a change in vegetation type,
- a loss of any species of concern, and
- a loss of large, specimen trees.

A loss of vegetation cover is the removal of most, if not all, of the vegetation on the site, and is the result of clearing land for urban development such as buildings or parking lots. Loss of cover is considered significant since it results in lowered wildlife habitat values and can lead to soil erosion, blowing dust, and other environmental problems.

A change in vegetation type refers to a change from one vegetation type or community to another: for example, a change from forest to an urban landscape. This type of change in vegetation is often considered significant but it may be positive or negative depending on the nature of the change.

A significant impact to vegetation would be the result of one or more of these losses or changes.

Impact

4.3-1 As presently conceived in the North Village Specific Plan, the recreational and commercial developments proposed for this site would result in the alteration of most of the scattered native vegetation and wildlife resources presently on the property. Cover may actually be increased in some areas as a result of landscape planting, however, this increase may not increase habitat values since the replacement vegetation would be "urban" and represents a loss of plant species diversity. This would be considered a *potentially significant impact* of the project.

Mitigation Measure

Implementation of Mitigation Measure 4.3-1 will reduce project impacts to a less-than-significant level.

- 4.3-1(a) *The project shall preserve existing native vegetation to the maximum extent feasible. Landscaping shall emphasize the use of native plants indigenous to the Jeffrey Pine-Fir Forest, Sagebrush Scrub, and Riparian plant communities. Whenever possible native plants used onsite shall be selected for their replacement habitat value. Site designs shall be subject to the Design Review procedure of the Town.*
- 4.3-1(b) *All trees greater than 12 inches dbh (diameter breast height) and significant stands on the Project site shall be mapped prior to issuance of grading permits or clearing. A registered forester or arborist shall then determine the age and condition of these trees and whether they should be retained or removed based upon health and visual significance of the trees, except for removal required by approved improvements. Once this determination is made those trees should be retained and integrated into the design of the Project. A program of specific protection measures shall be prepared by the developer and approved by the Town prior to issuance of any construction permits (e.g., construction fencing, grading controls, grading design, etc.). Any trees removed unavoidably by the final Project approval shall be in accordance with Town policies. Off-site replacement will need the approval of the Town of Planning Director.*
- 4.3-1(c) *Construction and site development, such as grading and trenching, shall be prohibited within the dripline of retained trees. Equipment shall not be stored or driven under trees. Grading shall not cover the ground surface within the dripline of existing trees. Grading limits shall be clearly defined and protected.*
- 4.3-1(d) *Landscape materials shall be used that allow for the protection and preservation of existing trees. Native plant species, preferably from seed or cuttings from local plants, shall be used*

where possible. The Landscape Plan shall be approved by the Planning Director prior to issuance of any construction permits.

4.3-1(e) *Irrigation, fertilization, and other landscape management practices shall be designed to minimize effects on existing trees and other vegetation.*

4.3-1(f) *Proper disposal methods for all coniferous slash shall be used in order to prevent the spread of bark beetles.*

Impact

4.3-2 The proposed project will result in a change in vegetation from conifer forest to urban development within portions of undisturbed vegetation. As in the case of changes in vegetation cover, this change in vegetation will likely result in a lowering of habitat values. The change must be considered *less-than-significant* due to fragmented nature of habitat.

Mitigation Measure

Implementation of Mitigation Measure 4.3-2 will reduce project impacts to a less-than-significant level.

4.3-2 *Implement Mitigation Measure 4.3-1 above.*

Impact

4.3-3 Any loss of a plant species of concern would be considered significant. Field surveys done in late June, 1990, a time of flowering for all species of concern, failed to find any of the six species of concern. As a result it is expected that there will be *no significant adverse effects* on any species of concern.

Mitigation Measure

4.3-3 *None required.*

Wildlife

A preliminary site plan for the proposed project showing the locations of the proposed buildings, recreational facilities, roadways, and open space was available during the preparation of this report. Specific grading and drainage plans, final elevations and other details of the project were not available, but it can be assumed from the intensity of the proposed development that most of the fragmented native wildlife habitat would be removed.

Impact

4.3-4 Development of the project would result in the loss of 25 acres of fragmented native wildlife habitat. This is a *less-than-significant impact*.

As presently designed, the commercial/urban and recreational development planned for this site would result in the alteration or elimination of much of the native vegetation and wildlife resources presently on the property. However, as little of the 25 acres are contiguous, the habitat value of the site is not equivalent to undisturbed contiguous forest. Portions of the remaining habitat are surrounded by residential development which further reduces habitat value.

Mitigation Measures

Implementation of Mitigation Measures 4.3-4 will reduce project impacts to a less-than-significant level.

4.3-4(a) *To retain wildlife values, as much native vegetation as possible shall be retained and protected during construction. A Revegetation Plan, prepared by a qualified botanist and approved by the Town of Mammoth Lakes, shall be completed prior to the commencement of the project which will describe in detail the species of trees and shrubs which will be used, where they will be planted, and in what numbers, and the methods of planting and maintenance which will ensure successful growth. It shall include a monitoring program to follow the progress of new plantings and ensure replacement of unsuccessful plants. Landscaping with native species of trees and shrubs should be undertaken to enhance wildlife use of cleared areas. Any trees removed unavoidably by the final Project approval shall be replaced on a one-to-one basis on or off-site. Off-site replacement will need the approval of the Town Planning Director.*

4.3-4(b) *Under the recently enacted AB 3180, once mitigation plans designed to offset habitat losses are approved and the specific areas where they will be located are identified, the proponent must provide a program to monitor their progress for a period of time (usually three to five years) deemed sufficient by the Planning Director to assure their successful development. Adequate security shall be deposited with the Town to ensure successful implementation of this measure.*

Impact

4.3-5 Disturbances and disruptions during project construction scatter/disperse and fragment existing wildlife communities onsite, forcing survivors into already occupied habitats to cause cumulative negative impacts on all wildlife in the area. This is a *potentially significant impact*.

Increased population pressures reduce habitat values through excessive foraging, weakening populations through increased competition for resources and reducing reproductive success. Construction noise can have impacts on wildlife by curtailing exploratory behavior, limiting access to food and shelter and disrupting breeding behavior. Noise impacts would likely extend the total area from which wildlife would be displaced beyond the project boundaries.

Mitigation Measure

Implementation of Mitigation Measure 4.3-5 will reduce project impacts to a less-than-significant level.

4.3-5 *All construction activities, including movement and storage of vehicles and the storage of building and other materials, shall be confined to areas slated for development. Care shall be taken during construction to avoid damage to vegetation and habitats not directly involved in project construction. Any damaged vegetation shall be replaced on a one-to-one basis on- or off-site. Off-site replacement will need the approval of the Town Planning Director.*

Impact

4.3-6 **Increased erosion and siltation as a result of construction and grading activities could alter vegetation in the project area. This is a *potentially significant impact.***

Increased erosion and siltation can reduce habitat productivity which may impact forage for wildlife.

Mitigation Measure

Implementation of Mitigation Measure 4.3-6 will reduce project impacts to a less-than-significant level.

4.3-6 *To prevent erosion and siltation into intermittent creeks, areas cleared of vegetation, fill or other materials should be stabilized after clearing and grading. Hay bales, silt screens or similar devices should be used to prevent siltation. To further protect the drainage system and prevent erosion, all grading and construction should be completed during the summer months, or, after October 15 of each year be in a condition to be stabilized within 48 hours should inclement weather threaten.*

CUMULATIVE IMPACTS

Cumulative development in the vicinity may directly and indirectly contribute to the loss of wildlife habitat and the displacement of wildlife species.

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4.4 LAND USE AND PLANNING

4.4 LAND USE AND PLANNING

SETTING

Mammoth Lakes is surrounded by the Sierra Nevada on the West and the White Mountains on the East. Its dramatic mountain scenery, rich natural resources and diverse recreational opportunities have long attracted residents and visitors. Indians once lived and traded in the area, goldseekers prospected in the 1870's, and skiers, hikers, sightseers, fishermen and hunters enjoy the area today. The tremendous growth in the ski industry in the 1960's and 1970's changed the Town of Mammoth Lakes from a small community of 390 people in 1960 to its present permanent population of 5,000. The Mammoth Mountain Ski Area, one of the nation's leading ski resorts, has been hosting over one million skiers each winter season since 1988.

The Town of Mammoth Lakes, incorporated in August 1984, includes within its boundaries the Mammoth Mountain Ski Area and the Lakes Basin - recreational and scenic assets that make the Town a year-round resort community. Almost 90 percent of the visitors originated from Southern California Counties. Mammoth is currently one of the largest ski resorts in the West, and with the addition of June Lake to the Mammoth Mountain Ski Area, the diversity of skiing opportunities will be even greater.

Tourism has created a local economic base that is highly dependent on seasonal visitors to the area. In addition, Mammoth Lakes also serves as the commercial and retail services center for Mono County, where Main Street Commercial, between Old Mammoth Road and Minaret Road, is presently the predominantly central business area. Because winter tourism is more diffused throughout the greater Mammoth area, the overall summer business climate is considered far less than the winter. Balancing the summer and winter economy is one of the optimum goals of the Town of Mammoth Lakes. Local employment is highly seasonable, as is the economy, and is almost exclusively involved with the operation of recreational and associated support facilities (accommodations, services and associated supply of goods). A small fraction of the labor force is employed in the government bodies providing services to local residents (schools, Town, County, U.S. Forest and others).

EXISTING LAND USE

Existing land uses in the Mammoth Lakes community are characterized by a wide range of land use type, intensities and ownership patterns. The urbanized portion of the community consists of less than 2500 acres of privately-owned land which is surrounded entirely by land administered by the U.S. Forest service. Other nearby major land owners include the U.S. Department of the Interior (The Bureau of Land Management and the National Park Service) and the City of Los Angeles.

To the west of the community are National Forest System lands used for active and passive recreation which include the Lake Mary/Twin Lakes Basin, Red's Meadow, Mammoth Mountain and Devils Post Pile National Monument administered by the National Park Service. The Mammoth Mountain Ski Area (MMSA) is the most important land use activity and employer in Mammoth Lakes. Major activity nodes at the MMSA are the main lodge, warming hut II, chair 2, and chair 15.

A major characteristic of the community is the seasonality of land use activities. During the seven month winter season when the MMSA is available for skiing, activity is centered in the Town of Mammoth Lakes. During the summer months of July, August, and September, activity shifts to areas outside of the Town, and includes hiking, camping, fishing and other outdoor recreation activities. As a result, many businesses experience large fluctuations in demand for services and products. October and November are the lowest period of visitor and business activity. The existing development reflects the recreational-retail visitor orientation of the Town.

North Village, located in the Minaret District, is one of 6 existing distinct shopping areas in Mammoth Lakes which have a combined total of 486,750 square feet. Each center contains a mixture of tourist, service, retail, food and restaurant, office and hardware uses. The other 5 centers include:

- "The Village Center" - predominantly food and retail with a tourist orientation;
- "Gateway Center" - convenience-oriented with a Thrifty, clothing stores, offices and a hardware store;
- "Mammoth Mall" - retail, gift and office-oriented;
- "Minaret Village" - convenience, retail, food and tourist-oriented with Von's, Giovanni's and the Outfitter as major tenants; and
- "Sherwin Plaza" - convenience, office and service uses.

Commercial areas parallel the major roadways, principally Highway 203 (also known as Main Street), Old Mammoth Road (Old Mammoth Commercial) and Minaret Boulevard. The Main Street Commercial District is the oldest business district in the community and is characterized by haphazard strip commercial development. Parking, snow storage, pedestrian and auto access and circulation present problems in the area during peak winter months. The area lacks any cohesive architectural theme which further contributes to an impression of fragmentation. However, the Minaret Commercial District is also auto-oriented and primarily serves the winter visitor although some non-winter, non-visitor uses are established in this area.

Residential land uses primarily make up the remaining area surrounding ten commercial strips. Approximately 6900 dwelling units exist in Town. The vast majority, approximately 4,120 units are condominiums which dominate the Town's urban landscape. In the past, the absence of urban design consideration and the lack of rigid application of required zoning setbacks and height limits has resulted in a community image which reflects missed design opportunities.

Lodging residential uses, approximately 920 units, are presently concentrated in the three major commercial districts. Mobile home residential uses are a minor component of the total dwelling unit supply.

The Industrial Land use sector contains approximately 119,430 square feet of industrial space (General Plan, October 1987) of which approximately 11,110 square feet are vacant. Industrial uses along Sierra Park and Sierra Manor roads in the Old Mammoth District do not conform to existing zoning district designations and conflict with adjacent residential and commercial uses. These incompatible uses are encouraged to relocate to the industrial park in the Gateway District.

A critical factor which will dictate the level and scheduling of land development projects in North Village is the availability of adequate infrastructure and/or public facilities needed to accommodate the proposed development. Significant improvements will be required for the area's roads, sewer and water lines, and utilities including telephone connections. With the exception of roads, the Land Use Element addresses goals, policies, and implementation standards for providing the necessary public facilities improvements for the EIR area.

General Plan Policies

The Town of Mammoth Lakes General Plan

The Town General Plan designates the Specific Plan project area as Minaret Commercial District #2. The district is designated as an Activity mode with surrounding low and high density residential, commercial and institutional uses. Its main constraint within the General Plan is its road and major circulation problems. The area offers special planning opportunities for Specific Plan infill development in order to achieve architectural unity and invite pedestrian use. Adequate off-street parking, a trail/pedestrian path system, transit mode construction, parking structures and overhead transit to connect to Warming Hut II are part of other special planning opportunities to be implemented.

Relevant objectives and principles of the General Plan are shown below. A discussion of the relationship of the proposed project to each is shown in italics:

1. To provide for community development that is consistent with the community's general health, safety and welfare.

The proposed project would provide a place of recreation, employment, seasonal housing, retail development, and fiscal success. The positive impact of the creation of an Activity Node in the Minaret District would allow a consistency with the Town General Plan and would alleviate the traffic congestion off Highway 203.

2. To preserve and maintain the unique natural setting and mountain resort character of Mammoth Lakes while accommodating changing community needs and conditions.

The proposed project would provide the opportunity for infill development within the Specific Plan Area, allowing for the open space existing structures and the community needs and conditions to form in the planned setting in the Minaret District.

3. To preserve and maintain the natural environment and wildlife of the area.

The proposed project will maintain its open space natural environment and habitat. The Specific Plan proposes to utilize the natural contouring of the Minaret District to enhance the North Village image and to maintain the mountain side character of Mammoth Lakes.

4. To provide opportunities for economic growth and diversification.

The North Village Specific Plan allows for a development phasing plan that would assure the fiscal marketability of the variety of uses through the next 10 to 15 years. The Plan proposes North Village as an important Activity Node that could improve economic stability, establishing the community as a year-round destination resort.

5. To provide a wide range of housing, employment and community facilities for the Town.

The proposed project proposes a mix of uses on the project site including housing, employment and community facilities. A detailed development and land use phasing plan will be submitted for approval prior to any ground-breaking for North Village.

6. To provide a land use plan and policies that provide suitable types and intensities of land use.

The North Village Specific Plan is a proposed revision to the existing Town Zoning Ordinance. Existing and proposed land uses have been specifically noted in the Land Use Plan. The intensity and density of these uses will be determined by the conceptual plan and finally approved by the North Village Design Review Committee.

7. To establish conservation and development policies for the wise management of the Town's resources.

The proposed project establishes a land use policy plan that sets appropriate types and intensities of land use commensurate with future recreation development, public service and facility capabilities, and sensitive environmental opportunities and constraints.

8. To establish transportation policies that will promote the development of a comprehensive transportation system for the community.

The proposed project specifically addresses the advantages of street and road improvements based on the prospective density and mix of uses. A comprehensive transportation system for the community is detailed in the EIR.

9. To establish policies for the development of public services and facilities in accordance with the community's needs and the Town's resources to provide for those needs.

The proposed project addresses the needs of permanent residents of Mammoth including the provision of: public facilities and services, improved retail and service commercial development, and adequate housing opportunities.

Zoning Plan

The Mammoth Lakes Zoning Plan (March 8, 1989) for the study area and surrounding properties is depicted in Figure 2.2-1. Most of the project site and study area is zoned C-G (Commercial General, 56 percent) and C-L (Commercial Lodging, 25 percent), under the Town of Mammoth Lakes Zoning Ordinance. This zoning designation allows some growth and prospective expansion capabilities for most of the underdeveloped parcels. Other fringe parcels of the 64.1 acres are currently zoned Residential Multiple Family-2 (RMF-2, 6 percent), Residential Single Family (RSF, 1 percent), Public and Quasi-Public (P-S, 5 percent), and Open Space (OS, 3 percent).

With approval of a conditional use permit (CUP) for the C-L and C-G, each parcel could have most types of offices, automobile service, personnel services, retail shops, department and grocery stores, hotels and motels, recreation facilities, restaurants, churches, schools, laundries and other commercial uses. All uses and implementations should be in compliance with the Town Zoning Ordinance, and should abide by the Town General Requirements and Development Standards. (See Specific Plan, Table 7, Land Use Matrix).

The North Village Specific Plan Area Development

The proposed North Village development concept was designed by a team of planning and engineering consultants, using input from experts in the economic and financial feasibility sector. The conceptual development plan focuses on the creation of visitor services and attractions, while emphasizing pedestrian access and mobility. Ultimate build out of North Village could include the construction of approximately 2,000 new hotel/motel lodging units bringing the total for the area to 2,250 (250 are existing); approximately 400 new condominium units (in addition to 30 existing condominium parcels developed for non-lodging purposes) which will be oriented toward visitor commercial uses; approximately 191,000 square feet of commercial/retail space; and approximately 60,000 square feet of total restaurant space.

The plan incorporates the following major features: a plaza resort, a high-speed gondola, a ski back trail, a pedestrian circulation system, resort development, recreational facilities, open space, housing, and community facilities. As the center of the project, the plaza resort will contain the focal point of North Village: the high-speed gondola. The gondola fits into the pedestrian focus of the project since only skiers staying within North Village or other facilities within walking or shuttle distance will be likely to use the gondola. There will be no day-use skier parking associated with the facility. Also associated with the plaza will be hotels, condominiums, and accompanying retail developments. Surrounding the plaza will be the above mentioned features which are designed in support of the plaza.

The North Village area is presently characterized by a loose mixture of hotel and restaurant uses, some retail business oriented toward skiers, a few office and service businesses, a 31-unit condominium complex, and a vehicle service yard. There is a general lack of unity or relationship among uses. Building styles range from Swiss to Modern to metal preform tilt-up buildings. Individual ownership parcels range from 0.2 acres to 8.9 acres. There are 41 separate ownerships within this 64.1 acre study site.

The North Village Development Phasing Plan

It is anticipated that development of the North Village Area will occur over a 10 to 15 year period. Initial development in the project area has been planned to occur in the plaza to establish it as the focal point of activity and to promote from the outset the pedestrian orientation of the project (Table 4.4-1). Facilities planned for construction are based on a desired mix of uses and only reflect the needs of the community to provide land use guidelines and development standards for the area. The initial development phase includes an underground parking structure, a 300-room luxury hotel, and a gondola ski lift facility. Ancillary to development of these first-phase facilities will be the completion of the majority of the infrastructure and circulation improvements required by total buildout of North Village. Basically, the need for the majority of the planned improvements will be triggered by two events: 1) the construction of the first hotel in the plaza area, and 2) the proposed abandonment of lower Canyon Boulevard (i.e.,

**TABLE 4.4-1
NORTH VILLAGE DEVELOPMENT PHASING PLAN SUMMARY**

Event	Starting Date (Construction Yr)	Anticipated Completion Date (Construction Yr)
Lake Mary/Lakeview Improvements	1	1
Minaret Road Improvements	1	2
Canyon Blvd. Abandonment and Access Realignment	2	2
Underground Parking Structure	1	2
Millers Siding Improvements	1 or 2	2
Gondola	1	2
First Hotel in West Plaza	1	2
First Block of Plaza Commercial with Condominiums	1	2
Second Hotel in Plaza (East Plaza)	3	5
Closure of Berner	3	5
Second Block of Commercial	3	5
Pedestrian Access Across Minaret Road	3	5
Development of 10% Additional Properties in North Village	3	7
Two Additional Hotels	4	7
Second Hotel in West Plaza	4	7
Development of 50% Remaining Property	4	7
Development of Remaining 40% of Property	8	15

Canyon Boulevard east of Hillside to Minaret) and realignment of lower Canyon traffic to Forest Trail. Most infrastructure improvements (sewer, water, storm drain, and utilities) will be installed when the roads which they parallel are being improved or realigned.

Present Pattern of Development of North Village

An analysis of existing land uses within the 64.1 acre North Village Specific Plan Area was completed and is included in Table 4.4-2. Currently, the largest single component of land use, over 25 acres, is vacant, undeveloped land that could be developed under the existing Town General Plan and Zoning Ordinance and Specific Plan Area. Approximately 22 acres have already been developed for resort-oriented and supporting commercial uses compatible with those which are proposed for North Village, although there is no central focus to this existing development. Three acres in the Specific Plan are reserved as Permanent Open Space, and the remaining 14 acres currently support land uses which are considered incompatible with the ultimate development concept for North Village.

**TABLE 4.4-2
EXISTING AND PROPOSED LAND USE IN NORTH VILLAGE**

<u>Land Use</u>	<u>Existing Acreage</u>	<u>Proposed Acreage</u>
Vacant	25	0
Commercial/Lodging/General	12	13
Open Space	3	3
Plaza Resort	0	16
Resort Commercial/Restaurant	5	27
Recreational/Quasi-Public	5	5
Non Resort	14	0
Total	64	64

*non-resort uses include industrial uses, private home sites, and non-visitor oriented commercial operations such as office buildings.

While these 41 lots are owned by different individuals and agencies, the Specific Land Use (see Figure 4.4-1) apply only six designations allowing for a mix of uses. It is anticipated, therefore, that the vacant land will be developed according to the Town Specific Plan standards and guidelines; existing compatible uses will be retained, renovated, or replaced in kind; and existing non-supporting uses will ultimately be replaced by resort-supporting uses in conformance with the General Plan.

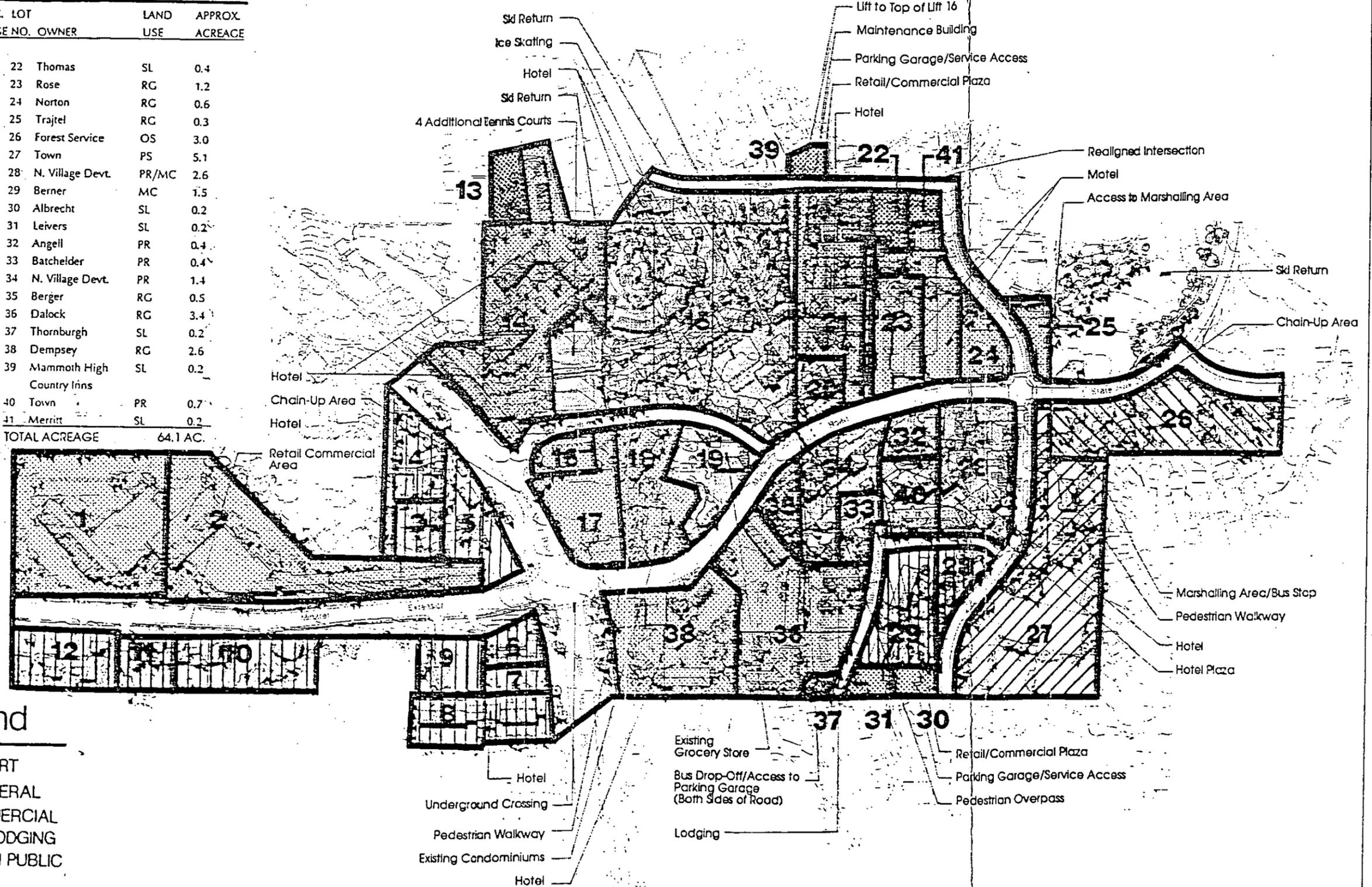


Existing and Proposed Land Use Map

Figure 4.4-1

Specific Land Use Designations

LOT NO.	OWNER	LAND USE	APPROX. ACREAGE	LOT NO.	OWNER	LAND USE	APPROX. ACREAGE
1	Hartman/Walker	RG	4.4	22	Thomas	SL	0.4
2	Bruhwiiler	RG	3.7	23	Rose	RG	1.2
3	Cushen	MC	0.6	24	Norton	RG	0.6
4	Tofal	MC	1.3	25	Trajtel	RG	0.3
5	Warta	MC	1.3	26	Forest Service	OS	3.0
6	Porter	MC	0.5	27	Town	PS	5.1
7	Trust	MC	0.4	28	N. Village Devt.	PR/MC	2.6
8	Leisure Realty	MC	1.3	29	Berner	MC	1.5
9	Manning	MC	0.7	30	Albrecht	SL	0.2
10	Knight	MC	1.3	31	Leivers	SL	0.2
11	Schweibert	MC	0.5	32	Angell	PR	0.4
12	Pavlovich	MC	1.0	33	Batchelder	PR	0.4
13	Friedman	SL	0.5	34	N. Village Devt.	PR	1.4
14	Karwoski	RG	4.1	35	Berger	RG	0.5
15	N. Village Devt.	PR	8.9	36	Dalock	RG	3.4
16	Core	RG	0.4	37	Thornburgh	SL	0.2
17	Walker	RG	1.3	38	Dempsey	RG	2.6
18	Mam.-Frstd. Cnd.	RG	1.8	39	Mammoth High	SL	0.2
19	High Sierra Ent.	PR	0.9		Country Inns		
20	Lance	PR	0.5	40	Town	PR	0.7
21	Elliott	RG	3.6	41	Merritt	SL	0.2
		TOTAL ACREAGE	64.1 AC.				



Land Use Legend

	PR	PLAZA RESORT
	RG	RESORT GENERAL
	MC	MIXED COMMERCIAL
	SL	SPECIALTY LODGING
	PS	PUBLIC-QUASI PUBLIC
	OS	OPEN SPACE

Source: Jack Johnson Company



The applicant contracted Pannel, Kerr, Forster (PKF) to prepare an economic analysis of the North Village concept. This report suggests a specific schedule of development and a specific mix of uses to prevent the "worst" case scenario from happening (see Table 4.4-1). A carefully phased development plan could help to preclude market saturation as the success of North Village is as essential as it is critical to the vitality and economic success of the Town of Mammoth Lakes.

The study emphasizes that new hotel facilities in phase I of the North Village project must create a critical mass to balance the retail, restaurant, and entertainment amenities which will also be part of the first phase of construction. There should be a minimum of two hotels, with a total of 400 to 500 rooms and a strong group orientation. These facilities would add only 10 percent to the total 4,834 hotel/motel and condominium rooms that were available for the 1988-89 ski season. A mid-priced to first class national chain affiliation, preferably with hotel companies which have strong ties to the corporate group and tour group segments is desirable. An additional 500 to 1000 rooms should be developed in later phases, as the market warrants.

Furthermore, according to the report, mid-priced facilities with group orientation would allow a smooth transition from the present lodging environment to a full-service ski-in-ski-out hotel facility. The hotel components of phase II would then have a higher-priced, more luxurious orientation. By that time, air service may be well established. Surveys of tour operators and travel agencies indicate that such a full service hotel supported by regularly scheduled air service would gain strong customer support.

In terms of retail development, PKF indicated that there appears to be market support for the development of approximately 100,000 to 170,000 square feet of specialty retail, restaurants and entertainment facilities to be primarily supported by the hotel occupants. The facility should be pedestrian oriented and include amenities suitable for leisure activity. The retail component is essential for the North Village area to become a center of activity in Mammoth. While the existing retail centers have relatively high vacancy rates, it is believed this is a result of scattered locations, quality and design of the available space.

Three other shopping districts are presently proposed for the Mammoth Lakes area which could impact considerably the success of the North Village design and affect the orientation of the established "shopping areas". Snowcreek, along Mammoth Road, will have a 39-acre hotel and commercial resort center. Juniper Ridge, at the western extension of Meridian Boulevard is proposing 250 hotel units and a 120 condominium units plus 40 single family lots, condominium complex with ancillary conference and commercial facilities. Likewise, Doe Ridge, located near the Mammoth/June Lakes Airport, is proposing a 150 room full-services and golf course with ancillary commercial uses.

In addition, it is felt that the demand for retail space will increase with the full build out of the hotel component of this project as well as the hotel components from Snow Creek, Juniper Ridge, etc. It is critical, however, that the development of a portion of the proposed lodging accommodations and a

proportionate amount of the retail component be built simultaneously in order to fulfill the demand that is anticipated from visitors utilizing these facilities.

IMPACTS AND MITIGATION MEASURES

Land Use Patterns

Impact

4.4-1 **The visual impact of the high-speed Gondola over a 20-foot easement over the residential population may not be a desirable feature. This is considered a *significant impact*.**

While construction of the Gondola contributes significantly to the development of this area, there is an outstanding issue of land use compatibility and privacy associated with the Gondola due to its proximity to neighboring residences. Even though air right easements have been obtained, it is unclear whether the clear right of way will be obtained. Opposed residents may impact the final decision on whether this feature is implemented.

Mitigation Measures

4.4-1 *The design of the system shall make use of existing trees to off-set visual impacts; in addition, colors and non-glare glass/materials shall be used to further off-set visual impacts. However, the impact will still be significant and unavoidable.*

Impact

4.4-2 **Development of the site with high-rise uses will result in the casting of shades and shadows on the project site and surrounding areas. This is considered to be a significant impact.**

The purpose of the North Village Specific Plan is to set forth land use development guidelines and standards to direct future land uses. In order to establish a cohesive visual image in the Specific Plan Area, the Architectural Guidelines were established. Building heights, setbacks and landscaping, along with Specific Architectural Standards are presented in the Specific Plan.

Mitigation Measures

4.4-2 *The Architectural Guidelines of the North Village Specific Plan shall be followed to avoid the cumulative loss of sun exposure, incorporate height constraints, improve architectural image, establish setbacks and implement other design issues.*

Impact

4.4-3 **The proposed project would create significant changes in the existing physical land use patterns and demands both in the project area and throughout the commercial areas of Mammoth Lakes. This is a potentially significant impact.**

The intent to accelerate and commit to the development of this area according to a comprehensive plan would create a more intensive, impacting commercial district. Given that the location of North Village is in conformance with the General Plan as the new Town Activity Node, and that the General Plan anticipated the eventual build-out of the North Village area at maximum densities, the appearance of this area and visitor's perceptions of Mammoth Lakes could likely change from that of a casual small town to an orderly planned resort.

Mitigation Measures

4.4-3 *The North Village Specific Plan suggests a specific schedule of development and specific mix of uses to prevent worst case scenario from happening. A carefully-phased development plan shall help to preclude market saturation, as the success of the North Village's economic climate is as essential as it is critical to the vitality of the Town of Mammoth Lakes. Modification of the phasing plan shall be approved by the Planning Commission of the Town of Mammoth Lakes. Modification of use permitted shall be subject to Town Council determination as part of the approval process of this Specific Plan or any future modification.*

Impact

4.4-4 **The proposed project represents a much more intense use of the land than the existing zoning and present use. This is considered a *potentially significant* impact.**

The North Village Specific Plan is a proposed revision to the existing zoning ordinance for the 64.1 acres which comprise the project area. Existing and surrounding residential land uses are likely to feel the changes most dramatically. Residents of this project and adjacent areas have perceived North Village as a small neighborhood convenience shopping area with some tourist-oriented activities rather than as a growing residential community. This is understandable, given the fact that 34 acres (53 percent) of the Specific Plan Area have already been substantially developed.

Once built out, the modified North Village would consist of mostly commercial uses: full-service hotels, upscale retail shops, high-quality restaurants and a high-speed Gondola lift; thus, present uses would not only be enhanced, but upscaled, and fiscal changes in land ownership would result.

Mitigation Measure

4.4-4 *Prior to every development phase of the proposed project, the plan for that proposed phase shall be submitted to the Town of Mammoth Lakes, North Village Design Review Committee and the North Village Association for approval of transition of uses between new urban development and existing adjacent uses.*

Impact

4.4-5 The proposed project represents an opportunity to see infill development of existing land areas. This is not a significant impact.

The Town General Plan and Zoning Ordinance encourage infill of commercial and residential development. Pressure to develop competing centers adjacent to North Village is small because all of the adjacent land is either developed, under Forest Service jurisdiction or in an approved Master Plan (Lodestar). The financial success of North Village is dependent on several factors: national affiliation of hotels for marketing purposes; adequate meeting and conference facilities to increase midweek and shoulder seasons; variety of food and beverage services; variety of recreational activities such as ice skating, outdoor entertainment, festivals and cultural events; pedestrian access to the retail and ski areas; and a strong architectural statement to create a distinct identity.

Mitigation Measures

4.4-5 *None required.*

Tourism and the Economic Base

Impact

4.4-6 The proposed project would meet a part of the increased demand for visitor accommodations in Mammoth Lakes. An increasing demand would be established as the project becomes a year-round recreational facility of the Mammoth region. This is not a significant impact.

Mitigation Measures

4.4-6 *None required.*

Impact

4.4-7 The proposed project is anticipated to generate a peak population of 2,300 people on-site. These visitors would contribute to the economic base by means of expenditures spent for accommodations, ski lift tickets, ski rentals, food, services and other goods. The proposed development is designed more to capture potential new market demand by business and guided town groups than to answer the existing demand. This is not a significant impact.

Mitigation Measures

4.4-7 *None required.*

Impact

4.4-8 The proposed project would promote property tax bases on 1 percent of the assessed value which would amount to about \$1 million annually after build-out. These new tax revenues to Mono County and the Town of Mammoth Lakes would be generated by the hotels and commercial sales. This is not a significant impact.

Mitigation Measures

4.4-8 *None required.*

Consistency with the Town of Mammoth Lakes General Plan, Land Use Element

Impact

4.4-9 The proposed project would be consistent with the General Plan Land Use Element which considers the Minaret Commercial District, an activity node, and a site for Specific Plan Planning Opportunities. This is not a significant impact.

Mitigation Measures

4.4-9 *None required.*

Consistency with the Town of Mammoth Lakes General Plan

Impact

4.4-10 The proposed North Village Specific Plan would be consistent with the Town of Mammoth Lakes General Plan, with the exception of minor changes in land use designation from residential to commercial and circulation element changes which permit the rerouting of Canyon Blvd. (see Traffic impacts)

Mitigation Measures

4.4-10 *None required.*

4.5 JOBS/HOUSING RELATIONSHIP

4.5 JOBS/HOUSING RELATIONSHIP

INTRODUCTION

This section examines the potential effects of the North Village Specific Plan on the balance of jobs and housing for the Town of Mammoth Lakes. The relationship of jobs and housing has become a major issue because of recent commercial developments, proposed expansion of the ski area and escalating housing prices.

The North Village Specific Plan proposes 2,000 hotel units, 400 resort condominiums, approximately 191,000 square feet of commercial/retail, 60,000 square feet of restaurant, a skating rink and a ski lift that will connect the slopes of Mammoth Mountain with the hotel complex.¹ In addition, an unspecified number of employee housing units is planned. A potential of 1,612 new permanent jobs could be generated from the ultimate development of the Specific Plan. While new jobs may benefit the Town of Mammoth Lakes, the resulting impacts on housing demand are significant.

SETTING

Population

The permanent population of Mammoth Lakes in 1990 was estimated at 5,200 by the State Department of Finance (DOF)--about half of Mono County's total population. As shown in Table 4.5.1, Mammoth Lakes experienced its greatest growth during the decade of the 1970s, with population growth rates averaging 21.2 percent per year. During the 1980s, annual growth rates fell to 2.6 percent. According to the Mammoth Lakes General Plan (1987) by the year 2005, resident population is projected to increase to 8,000 people, an annual increase of 5.4 percent.²

Mammoth Lakes' population is composed of permanent year-round and seasonal residents. The seasonal population is heavily dependent on the ski industry, therefore, the population fluctuates with the four seasons, as well as year to year depending on snowfall levels--greater the snowfall, greater number of temporary jobs and tourists. During a peak winter weekend, the seasonal and tourist population has risen to as high as 30,000 people, almost six times the permanent population.

TABLE 4.5.1
PERMANENT POPULATION OF MAMMOTH LAKES
(1970-2005)

	<u>1970</u>	<u>1980</u>	<u>1990</u>	<u>2005</u>
MAMMOTH LAKES	1,318	4,089	5,200	8,000
Ann. % Inc.		21.2%	2.6%	5.4%
MONO COUNTY	4,016	8,577	10,355	N/A
Ann. % Inc.		11.4%	2.1%	

Source: 1970, 1980 U.S. Census, Department of Finance, *Mammoth Lakes General Plan*, 1987.

Income

The median household income of Mammoth Lakes and its immediate surrounding unincorporated areas increased from \$19,600 in 1980 to an estimated \$26,200 in 1990. Despite rising median income, over half of the households in the area had incomes that were 80 percent or less than the median County income of \$34,000 in 1990. 30.5 percent of the households in 1990 were in the very low income category (State Housing and Community Development definition of households earning 50 percent or less of County median) and 20.9 percent in the low income categories (51-80 percent of County median).

Housing

According to DOF estimates, Mammoth Lakes' housing stock increased by 1,659 units between 1980 and 1990, from 5,649 units to 7,308 units. In 1990, the number of permanent households in the Town of Mammoth Lakes was only 2,298. Therefore, total housing units outnumbered households by a factor of three to one. This illustrates the large housing stock of seasonal and temporary rental dwelling units. Despite a large housing stock, "affordable housing", which is housing that families in the very low and low income categories can afford, is needed in Mammoth Lakes.

Composition of the Housing Stock

As shown in Table 4.5.2, single family units accounted for 31.2 percent of the Town's 1980 housing stock and multiple family housing units for 65.3 percent. Over the decade, multiple units comprised over three-quarters (77.5%) of the total housing growth. This resulted in a decline in the percentage of single-family

units (29.7%) and an increase in multiple family units (68.1%) in 1990. Of the total existing housing stock, approximately two-thirds is made up of condominium units.

Currently, there are approximately 250 hotel/motel lodging units and about 30 condominium units within the boundaries of the North Village Specific Plan. Although the number of existing units to be removed is uncertain, for the purposes of this EIR, it is assumed that about 150 existing units will be removed during the analysis period.

TABLE 4.5.2
HOUSING COMPOSITION OF MAMMOTH LAKES
(1980 & 1990)

	<u>1980</u>	<u>Percent</u>	<u>1990</u>	<u>Percent</u>	<u>1980-90</u>	<u>Percent</u>
Single Family	1,764	31.2	2,173	29.7	409	24.6
Multiple Family	3,691	65.3	4,976	68.1	1,285	77.5
Mobile Homes	<u>194</u>	<u>3.4</u>	<u>159</u>	<u>2.2</u>	<u>-35</u>	<u>-</u>
TOTAL UNITS	5,649	100.0	7,308	100.0	1,659	100.0

Note: May not equal 100% due to rounding and negative growth.

Source: State Department of Finance Estimates.

Tenure

According to the 1980 Census data, renter occupied units represented 55.8 percent of all occupied units in Mammoth Lakes and owner occupied units accounted for the remaining 44.2 percent. Recent estimates show a slight increase in the renter proportion (56.1%).

Vacancy

The vacancy rates for the Town of Mammoth Lakes are very high. According to the 1990 DOF housing estimates, 5,042 units out of 7,308 total units or 69 percent were vacant in Mammoth Lakes. This rate is misleading since a majority of the units are short-term rentals--a reflection of the resort nature of the town. Furthermore, approximately 88 percent of the condominium units in Mammoth Lakes were used for seasonal occupancy; five percent of the condominiums were owner occupied and the remaining seven percent rented to permanent households.

Price of Homes and Affordability

The 1990 Inyo/Mono Advocates for Community Action's (IMACA) survey report, Affordable Housing Needs Assessment, found that housing prices in the Mammoth Lakes Market Area eliminated single family units from the affordable housing stock and limited the number of condominium units that could be purchased by moderate-income families.³ For very low- and low-income families, purchasing a housing unit was not possible. Apartment units with two-bedrooms renting for about \$650-700/month were beyond the affordable levels of very low- and low-income households. See Table 4.5.3 below for the results of the housing survey. As discussed in the IMACA study, affordable housing is defined by the State as that which is affordable (paying less than 30 percent of households income) to household earning less than 80 percent of the County median income.

TABLE 4.5.3
SURVEY OF AVERAGE HOUSING PRICES AND APARTMENT RENTS
(1989 Sold Listing)

Single Family Unit	\$198,000(148 units)
Condominium Unit	\$118,400(780 units)
Mobile Home	\$ 17,700
Apartment Unit (2-Br.)	\$600/mo.+ \$100 utility

Source: Inyo Mono Advocates for Community Action, 1990.

This survey also found about 350 affordable rental units in town, but it concluded that given the number of existing households in the very low- and low-income categories, there is a current need and demand for 966 affordable housing units for permanent residents and an additional 300 affordable units for seasonal residents. By 1995, the report projected the need for 1,232 affordable units for permanent residents.

In 1985, the State Housing and Community Development (HCD) prepared the Regional Housing Needs Plan which allocated the regional housing needs to the local areas. The Plan called for the construction of 387 affordable units in Mammoth Lakes by 1992.⁴ Currently, Mammoth Lakes is not in compliance with these numbers. In 1990, HCD developed new housing needs numbers for the period 1990 to 1997 for Mono County.⁵ At this time, allocations to the local levels have not been developed by the Inyo-Mono Association of Governmental Entities.

TABLE 4.5.4
HOUSING NEEDS FOR MONO COUNTY
BY INCOME CATEGORIES
1990-1997

<u>Very Low</u>	<u>Low</u>	<u>Moderate</u>	<u>High</u>	<u>Total Units</u>
82 units	74 units	91 units	164 units	411 units

Four income categories: very low income (less than 50% of the areas median income), low (50-80%), moderate (80-120%), and high (more than 120%)

Note: Includes the Town of Mammoth Lakes.

Source: State Housing and Community Development

Employment

Over half (55%) of Mono County's jobs and labor force were in the Town of Mammoth Lakes in 1990 (2,981 jobs and 3,094 labor force).⁶ The six largest private sector employers comprise almost a third of the Town's jobs. The largest employer in Mammoth Lakes is the Mammoth Mountain Ski Resort which employs up to 1,900 workers during the peak winter months. However, the number of jobs fluctuate according to the time of year and snow condition. This is exemplified by the fact that in June of 1989, Mammoth Mountain Ski Resort employed only 470 workers.

Currently, on the North Village site, there are approximately 280 hotel/condominium units, 34,000 square feet of commercial/retail, and 16,000 square feet of restaurants. Based on these existing units and square footage, there are approximately 150 jobs currently on the proposed North Village Specific Plan site (See Table 4.5.5).

TABLE 4.5.5
ESTIMATES OF EXISTING EMPLOYMENT ON THE NORTH VILLAGE SITE

	Unit or Sq. Ft.	Emp/Unit	Employment
Hotel Units	250	.10	25
Condo Units	30	.30	9
Commercial/Retail	33,000 sq. ft.	500	67
Restaurants	15,000 sq. ft.	300	50
TOTAL			151

Source: Mountain Environment

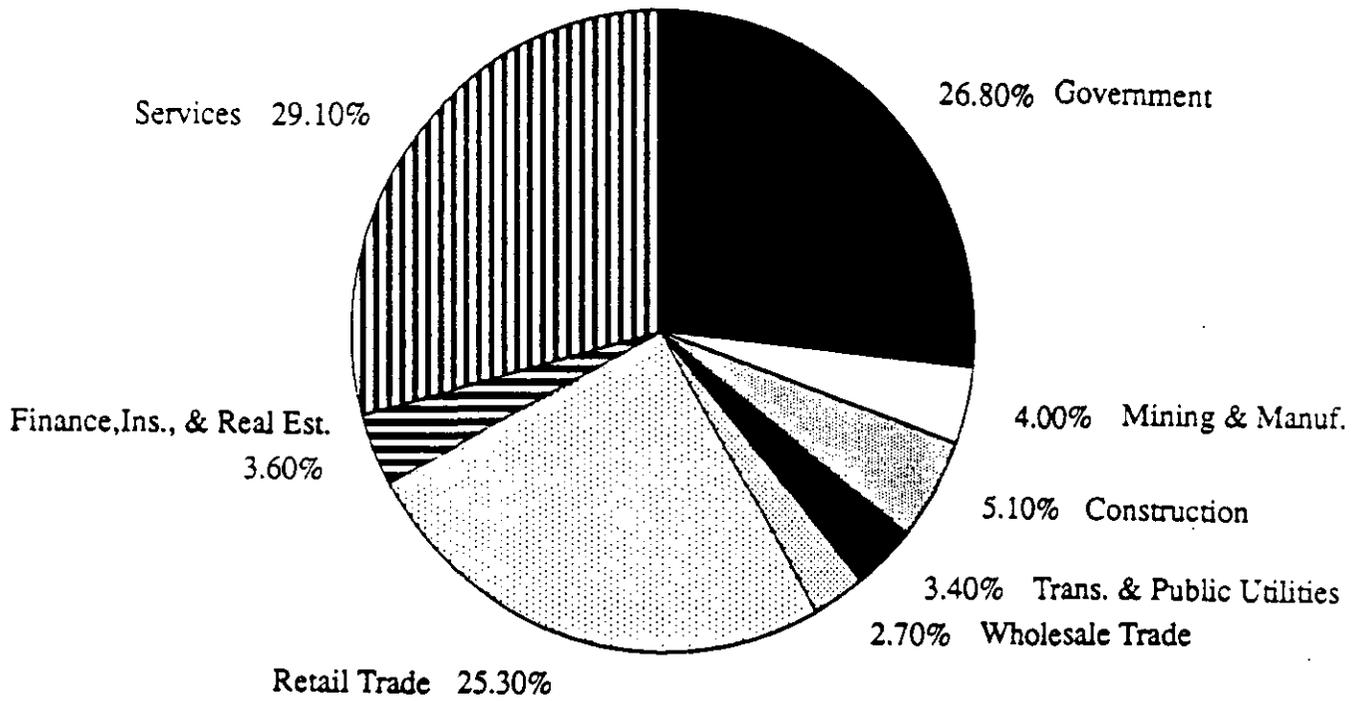
Unemployment

The May, 1990 unemployment rate for Mammoth Lakes stood at 3.7 percent, this compared to 3.9 percent for Mono County and 5.4 percent for the state as a whole.⁷ A year ago (May 1989), the unemployment rate was as high as 8.3%--highest for the whole year. Again, unemployment rates can fluctuate with the seasons and year by year.

Employment by Sector

As shown in Figure 4.5-1, the largest number of jobs in Inyo-Mono Counties are in the service industry (28.4%), followed by retail trade (26.3%) and government (25.3%). (The State Employment Development Department combines Inyo and Mono Counties for detailed employment data). According to the EDD, between 1987 and 1992, the fastest growing sector are projected in the construction industry (39.1%) and the finance, insurance and real estate (FIRE) industry (37.5%).

Employment By Major Industry
Inyo-Mono Counties 1987



IMPACTS AND MITIGATION MEASURES

Employment Impacts

4.5-1 As presented in Table 4.5-6, the proposed North Village Specific Plan could potentially generate 1,612 permanent on-site jobs and 106 temporary construction-related jobs. This is a *beneficial impact*.

**TABLE 4.5-6
EMPLOYMENT OPPORTUNITIES OF THE
PROPOSED NORTH VILLAGE SPECIFIC PLAN**

<u>Land Use</u>	<u>Size</u>	<u>Employment Factor</u>	<u>Jobs (FTE's)</u>
Budget Hotel	600 units	.10 emp./unit	60
Moderate Hotel	650 units	.20 emp./unit	130
Full Serv. Hotel	700 units	1.00 emp./unit	700
Bed & Breakfast	50 rooms	.20 emp./room	10
Resort Condo	400 units	.30 emp./unit	120
Commercial/Retail	191,000 sq. ft.	500 sq. ft./emp.	382
Restaurant	60,000 sq. ft.	300 sq. ft./emp.	200
Ski Lift			<u>10</u>
TOTAL EMPLOYMENT			1,612

Sources: Federal Highway Administration; North Village Specific Plan (July, 1990)

Based on the project description: 600 budget hotel units; 650 moderate units; 700 full service units; 50 bed and breakfast rooms; 400 condominium units; 191,000 square feet of new commercial/retail space; 60,000 square feet of new restaurant space; and one ski lift, the North Village Specific Plan could generate 1,612 new full-time employees.

The employment projections are based on assumptions of employment generation factors (ie. number of employees per square feet or room/units). Jobs associated with hotels (managers, maids, food preparers/servers, maintenance, etc.) are based on the following employment generation assumptions: budget hotel (.10 jobs per unit); moderate hotel (.20); full service hotel (1.0); bed and breakfast (.20); and resort condominiums (.30). Commercial/retail jobs are projected based on a factor of 500 square feet per commercial/retail employee. Included in the Specific Plan is a ski lift and recreational facilities (skating

rink and tennis courts). The ski lift will transport skiers from the North Village area to the Mammoth Mountain ski facilities and will employ 10 lift operators. The recreational facilities which include an outdoor skating rink and tennis courts will be serviced by the hotel.

A portion of the new jobs could be filled by current unemployed residents, but this should be minimal considering the relatively low unemployment rate of Mammoth Lakes. It is anticipated that a sizable portion of the new labor force to fill the jobs generated from the North Village development will come from immigrants.

Specific occupations will be required to fill the new jobs generated from the North Village project. A large segment of the occupations will be service related. These include food and beverage preparers, waiters/waitresses, and hotel cleaners. Other needed occupations will be sale and retail related (sales clerks, cashiers); managerial (restaurants, retail store, hotels); and construction. Typically, service related jobs fall into the lower income categories, thus creating a greater demand for affordable housing.

As shown below in Table 4.5.7, approximately 106 temporary, construction-related employment positions would be generated from the North Village project. This estimate is based on assumed construction values of \$41,200 per hotel unit, \$89,000 per condo unit and \$63 per square foot per commercial/retail/restaurant space. It also assumes that 25 percent of total value goes to labor, and that the average salary of a construction worker is approximately \$22,000 per year.

TABLE 4.5.7
CONSTRUCTION-RELATED EMPLOYMENT GENERATED BY NORTH VILLAGE

	Hotel Units	Condo Units	Commercial/ Restaurants	Skating Rink	Ski Lift	Total
Units or Sq. Ft.	2000	400	251,000	--	--	
Value/Unit or Sq. Ft.	\$41,200	\$89,000	\$63/SF	--	--	
Total Value (1,000's)	\$82,370	\$35,636	\$15,813	\$900	\$5,000	
Total Value to Labor	25%	25%	25%	25%	25%	
Average Ann. Salary	\$22,000	\$22,000	\$22,000	\$22,000	\$22,000	
Person Yrs.	936	404	180	10	57	1587
Construction Workers						106

Source: Construction Industry Research Board, California Economic Development Department.

Mitigation Measure

4.5-1 *None required.*

Housing Impacts

4.5-2 **Employment created from the hotel and commercial development in the North Village Specific Plan area will increase the population of the Town of Mammoth Lakes and its surrounding area by as much as 2,828 people, with an accompanying housing demand of 1,230 units. This is a *significant impact*.**

All units anticipated in the Specific Plan are hotel or resort condominium units, except for an undisclosed number of employee housing units in the Specific Plan area. Population increases from the proposed Specific Plan are anticipated from the jobs that are created from the hotel and commercial development.

The projections of population and housing needs are based on current jobs to population and household size assumptions.

(1) 1.612 jobs / .57 jobs to population ratio = 2,828 people

(2) 2.828 people / 2.3 household size = 1,230 housing units

Since the Specific Plan does not indicate any development of permanent resident units, new employees and their families will need to find housing elsewhere in town or outside Mammoth.

Based on the type of jobs to be created, it is likely that about two-thirds of the North Village employees will be in the low-income category, therefore an additional 800 affordable housing units will be needed.⁸ The 800 affordable housing units are a worst-case scenario, since a portion of the new workers will already reside in Town. Furthermore, a portion of the employee housing demand could be met through alternative housing facilities such as employee dormitories.

Since there is a present unmet need for affordable housing in Mammoth Lakes, any additional demands created by the North Village Specific Plan is considered a significant impact on the Town's ability to meet the needs for affordable housing.

Mitigation Measures

Implementation of Mitigation Measure 4.5-2 will reduce project impacts to a less-than-significant level.

4.5-2(a) *One hundred percent of the housing for employees generated by uses within the project shall be provided onsite, including affordable employee housing based upon Health and Safety code section 50079.5 and 50105 criteria unless the Town Council allows a portion of this housing need off-site; through an in-lieu fee, or equivalent program. If the Town adopts an*

employee/affordable housing program, requiring on- or off-site housing or in-lieu fees prior to any phase of development, provision of housing in accordance with that ordinance shall constitute adequate mitigation.

4.5-2(b) *Any housing constructed off-site shall be subject to further environmental review to insure that significant or cumulative environmental effects are mitigated on a site specific basis.*

4.5-2(c) *Employee housing, in-lieu fee, or an equivalent program as approved by the Town Council shall be in place prior to or concurrent with the non-residential development generating the need for such housing.*

ENDNOTES

1. The commercial/retail and restaurant square footage is described below:

	<u>Commercial/Retail</u>	<u>Restaurant</u>
Plaza	45,000 sq. ft.	15,000 sq. ft.
Hotel	18,000 sq. ft.	6,000 sq. ft.
Surrounding Area	<u>128,000 sq. ft.</u>	<u>39,000 sq. ft.</u>
	191,000 sq. ft.	60,000 sq. ft.

Assumptions:

- Restaurants equals about 25 percent of total commercial footage.
 - Surrounding area footage is based on 130 sq. ft. of total commercial per unit.
 - Half of existing commercial in the surrounding area to be removed. (16,000 sq. ft. of commercial/retail and 9,000 sq. ft. of restaurant).
2. *Town of Mammoth Lakes General Plan, 1987.*
 3. The Town of Mammoth Lakes and the non-profit Inyo Mono Advocates for Community Action have commissioned Laurin Associates to prepare this Affordable Housing Needs Assessment for the Mammoth Lakes Housing Market Area.
 4. *Town of Mammoth Lakes General Plan, 1987.*
 5. Department of Housing and Community Development, Housing Policy Division.
 6. California Employment Development Department, Labor Market Information Division, 400-C Report, 1990.
 7. Ibid.
 8. Estimates of very low and low households provided by the Town of Mammoth Lakes.

4.6 UTILITIES

4.6 UTILITIES

WATER

SETTING

Water Supply

Water for the Town of Mammoth Lakes is provided by The Mammoth County Water District (MCWD). The MCWD provides water to over 2,000 service connections and has a service area covering approximately 3,640 acres, including 2,500 acres of privately owned land.

Lake Mary (elevation 8,917 feet) is the main water supply source for the District providing up to 5 cubic feet of water per second.¹ Water from Lake Mary is diverted to the District's surface water filtration plant through a submerged surface water intake structure. Following filtration, water is stored in a two million gallon storage reservoir located near this filtration plant. The District has a surface water entitlement of 2,760 acre-feet per year (994.8 million gallons). This water right also limits the rate of diversion from Lake Mary to 2,250 gallons per minute (gpm), equivalent to 5 cubic feet per second (cfs), which is the design capacity of the District's surface water filtration plant.²

Groundwater wells represent Mammoth Lakes other major source of water. Groundwater in the area varies greatly in terms of level, quality, and quantity. The Mammoth Lakes General Plan EIR states that geophysical studies have identified at least two separate aquifers in the Mammoth Basin. These aquifers are estimated by MCWD to be at least 500 feet deep. However, it is unknown how much water the aquifers actually contain or how much percolation occurs either into or out of the aquifers.

The active groundwater production wells operated by MCWD are District Wells No. 1 in the Town, and 6 and 10, which are located in Snowcreek. These active production wells have a combined rated capacity of 2,900 gpm.³ Drilled in 1976, Well No. 1 produces about 700 gpm. Although originally used only to meet seasonal peak demands, this well has been used throughout the year since 1987 to enable the District to meet its current water demand. Well No. 6, completed in November 1987, is equipped to produce around 1,000 gpm and is currently producing 700 gpm. Completed in October 1987, Well No. 10 is equipped to produce about 1,200 gpm and is currently producing 1,000 gpm.⁴ A description of the District's active production wells and booster pumping system is provided in Table 4.6-1.

**Table 4.6.1
MCWD WELL AND BOOSTER PUMPING SYSTEMS**

Pumping System Name & Location (Construction Year)	Number of Pumps	Electric Motor	Capacity and Head Each	Elevation	Remarks
Tank T-2, South of Lake Mary Road (1979)	2	100 hp 3500 rpm	900 gpm 300 ft.	8,270	PR No. 12 with 2-8" PRV in series
Timber Ridge, end of Division Road (1985)	2	50 hp 3500 rpm	350 gpm 350 ft.	8,832	PR No. 15 with 1-4" PRV
Mammoth Knolls (Proposed)	2	-	-	8,220	Requires PRV
Well No. 1 (1979)	1	150 hp 1750 rpm	600 gpm 595 ft.	7,925	300 ft. bowl setting, 150 hp, 1800 rpm, LPG engine & right angle drive, flow is metered.
Well No. 6 (1988)	1	100 hp	1000 gpm		Well depth: 382 ft.
Well No. 10 (1988)	1	100 hp	1200 gpm		
I & M Plant	2	100 hp	1000 gpm		
I & M Plant	2	75 hp	1000 gpm		

Water Distribution

The District's water distribution system is divided into several pressure zones. These pressure zones are separated by closed gate valves and pressure-reducing valves. The project site is located within Pressure Zone No. 3, which receives water directly from District Well No. 1.⁵ The water distribution system in the Town consists of a network of water lines ranging from two to twelve inches in diameter. Most of the water lines serving residential properties in the Town are eight inches in diameter.

A waste water design will determine which lines will be abandoned within North Village. In large, a new water distribution system will be created. This system will draw water from Knolls tank which currently receives water from Lake Mary. The Dry Creek Wells, discussed on page 4.6-7, may supplement the water stored in the tank following their completion.

The District's fire flow requirements are a minimum of 750 gpm for one-half acre lots or larger, 1,000 gpm for one-quarter acres lots or smaller, 1,250-1,500 gpm for multi-family residences, and 1,000-1,500 gpm for commercial areas.⁶

Local Water Demand

During 1989, the average water demand from District customers amounted to 2,444 million gallons per day. The peak water demand for 1989 was 5,296 million gallons. The ratio of maximum day water use to average day water use during 1989 equalled 2.17 to 1.⁷ Based upon an analysis of 23 distinct water billing types from February 1988 to March 1989, the following average annual water consumption rates were determined:

**TABLE 4.6-2
ANNUAL WATER DEMAND**

<u>Category</u> ¹	<u>Gallons</u>	<u>EDU</u> ²
Single Family	81,778	1.000
Multi-Family ³	64,794	0.792
Condominiums	50,400	0.616
Mobile Home/RV	64,524	0.789
Dormitory	17,016	0.208
Motel	34,744	0.425
Restaurant Seat	5,391	0.066
Bar Seat	5,391	0.066
Landscape ⁴	37,372	0.457

Source: Capital Expansion Long Range Financial Plan, Mammoth County Water District, August 1989

¹ Includes interior and outside water uses

² Equivalent Dwelling Unit, expressed in terms of annual demand divided by the single family residence demand

³ Includes apartment, duplex, triplex, motel manager, and quadplex

⁴ Based on 1,000 square feet of grassed landscape area

Estimated water demand varies seasonally, increasing dramatically in dry or summer months due to irrigation and watering. During average precipitation years, there is adequate surface water to meet existing needs except during the months of January, February and March, when the MCWD uses well water to supplement the Lake Mary water supply. However, it is not known whether these supplies shall be adequate under drought conditions. During a severe drought, pumping from wells may have to be done year-round, which could result in an overdraft of groundwater supplies.

The MCWD Board of Directors set forth the determination in Resolution No. 03-15-90-06 that there is a threatened or existing water shortage within the District during 1990. In an effort to assure the efficient use of current water supplies, the MCWD Board adopted ordinances placing some restrictions on the use of its potable water. Effective October 1990, the following Level 4 water restrictions have been instituted:

1. All existing variances granted by the District for irrigation are null and void.
2. North of Meridian Blvd. has two days remaining to water for 1990:
Saturday, October 6 and Saturday, October 13, 1990.
During the hours between 5:00 a.m. and 9:00 a.m. only multi-family and/or commercial properties may irrigate.

During the hours between 5:00 p.m. and 9:00 p.m. only single family dwellings and/or mobile home areas may irrigate.
3. South of Meridian Blvd. has two days remaining to water for 1990:
Friday, October 5, and Friday, October 12, 1990:
During the hours between 5:00 a.m. and 9:00 a.m. only multi-family and /or commercial properties may irrigate.

During the hours between 5:00 p.m. and 9:00 p.m. only single family dwellings and/or mobile home areas may irrigate.
4. The Dempsey Golf Course will not receive any additional water from the District's system. They may irrigate using the water contained within their lakes on-site.
5. The Town may continue irrigating the green belt along Main Street with reclaimed wastewater.
6. Mammoth High School and Elementary School may irrigate the playing fields at these facilities between 5:00 a.m. and 9:00 a.m., only on Fridays within the month of October.

7. Shady Rest Park playing fields may be irrigated between 12:00 a.m. and 4:00 a.m., only on Mondays within October.

The previous Level 1, 2, and 3 restrictions continue to be in effect. Violation of any of these regulations may, after one written warning, result in the installation of a flow restricting device in the service line of the customer or the shut-off of water service. MCWD has, however, granted variances to some condominium projects, residences, and other customers.

MCWD does not provide any unconditional guarantee of priority or reservation of capacity regarding water availability. The project proponent must acquire a water permit from MCWD prior to any construction activities. Such permits are issued by MCWD solely on a first-come first-serve basis and only to the extent there is remaining available capacity in the physical facilities for conveyance and treatment.⁸

Future supplies identified by MCWD include wells that have been drilled and pump tested in the Dry Creek area. Groundwater supplies available for MCWD use from the Dry Creek area are being projected at this time to be approximately 2,000 acre-feet. The first Dry Creek Well is to be completed in the summer of 1991, while the second will be developed when needed. MCWD has projected an annual water demand of 5,946 acre-feet under General Plan buildout. The cumulative impacts of potential future developments shall require MCWD to connect available groundwater supplies from the Dry Creek area to the distribution system.⁹

Impact

- 4.6-1 The Mammoth County Water District reports that the proposed project shall have an estimated total water demand of 200,000 gallons per day, which is equivalent to 218 acre-feet per year. This is a *potentially significant impact*.

The most recent data available to MCWD indicates that there is approximately 3,400 acre-feet of water available on an annual basis to serve existing community needs. Total water demand for 1989 amounted to 2,746 acre-feet. The development portion of the project shall therefore create a total annual community water demand of 2,964 acre-feet, which is 436 acre-feet less the current available supply. Assuming Lodestar does not build at the same time, the project-generated water demand can be met with the existing available supply. Since MCWD has available groundwater supplies which can be utilized to meet future projected demand under General Plan buildout, *the project shall have a potentially significant impact*.

Mitigation Measures

4.6-1 *The project operations will have to comply with all MCWD water conservation restrictions. In addition, the project shall use:*

- *ultra-low flow plumbing fixtures*
- *native and/or drought-tolerant landscaping*
- *reclaimed water where feasible*

Impacts

4.6-2 **The cumulative impacts of other development projects proposed for Mammoth Lakes¹⁰ shall increase consumption to approximately 5,946 acre-feet. The cumulative impact of buildout under the Mammoth Lakes General Plan will require the prompt development of the Dry Creek wells and other sources as developed by MCWD. This is a *potentially significant impact.***

Mitigation Measures

4.6-2(a) *The project proponent shall contribute "fair share" mitigation fees, as determined by the Mammoth County Water District, for expanded facilities needed to serve cumulative development demands.*

4.6-2(b) *In the event that additional supplies are not developed in a timely fashion, development shall be deferred pending existence of adequate water resources and facilities as determined by MCWD.*

WASTEWATER**Setting**

The Mammoth County Water District (MCWD) owns, operates, and maintains complete sewage collection systems for the Town of Mammoth Lakes, including pump stations and over 35 miles of sewer mains and interceptors. MCWD also operates and maintains pump stations and 11 miles of sewers for the U.S. Forest Service.¹¹ Raw wastewater is delivered to the MCWD wastewater treatment facility, located near the intersection of Meridian Boulevard and State Highway 203, through two 18-inch interceptor sewer lines. The current capacity of this treatment facility is 2.2 million gallons per day with treatment requirements of a 30 mg/L BOD, 1.0 mg/L MBAS, >5.9 Ph, >0.9 mg/L dissolved oxygen, and a seven day median coliform bacteria count of 2.2 MPN/100ml. This facility is a secondary treatment plant utilizing activated sludge with sand filtration and chlorination. During 1989, the average daily wastewater

flow amounted to 1.444 million gallons per day. The maximum daily flow rate for 1989 was 2.598 million gallons. Design for expansion of the treatment plant to an average 30 day flow rate of 4.05 million gallons per day has been approved, with construction scheduled to begin in August 1990.¹²

The Town's core area sewage collection was constructed in 1966. Although most sewer lines were constructed with asbestos cement (AC) pipe, some vitrified clay (VC) pipe has been used in areas with flat slopes and newly constructed lines utilize ABS pipe. Most sewage collection lines in the Town are 8-inches in diameter. Existing sewer lines are not adequate to serve the Specific Plan area and thus, must be modified. Parallel to Minaret St., a new trunk line will be installed prior to construction of any new hotels in North Village to provide additional service capacity. Most existing sewer lines will remain in service. The lines along Canyon Blvd., which service residential areas west of North Village, will be re-routed at Spring St. and connect with the Millers Sliding Line. Another new line will be added on the east side of the project area, and will feed into the new Minaret trunk line (see Figure 4.6-1).

Impacts

4.6-3 The proposed project is anticipated to generate a total of approximately 459,100 gallons of wastewater per day, made up of 60,000 gallons per day (gpd) from residential uses (condos), 19,100 gpd from the retail space, 300,000 gpd from the hotel rooms (based upon full occupancy), and 80,000 gpd from restaurant uses.¹³ Since MCWD has adequate treatment capacity for project-generated wastewater flows, the proposed project shall have a less-than-significant impact on wastewater facilities. *This is a less-than-significant impact.*

Mitigation Measures

4.6-3 *The Project shall comply with all requirements of the Mammoth County Water District regarding flow reduction and sewer system design and operation.*

Impacts

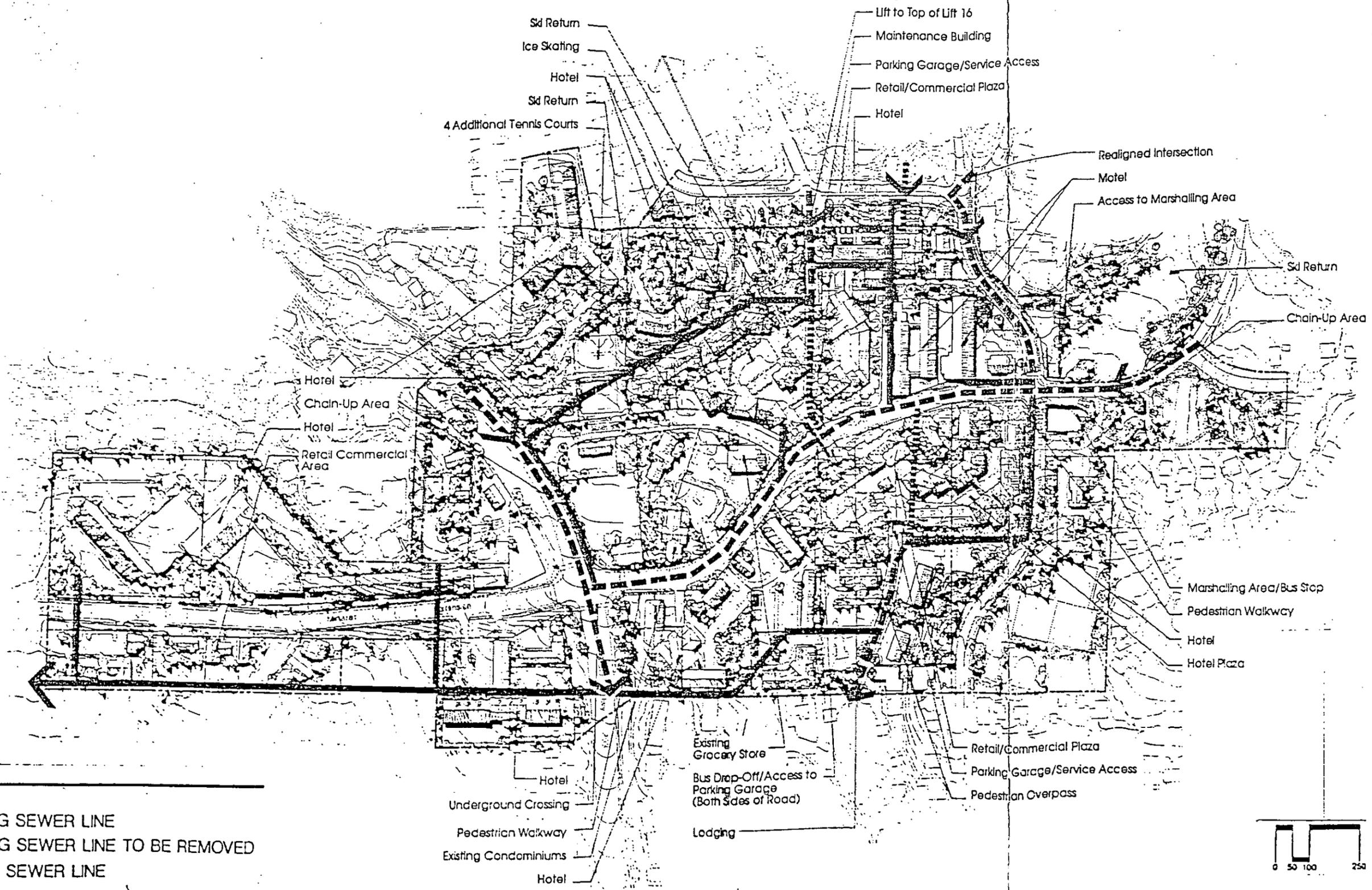
4.6-4 New or rerouted sewerlines will be necessary to serve the project. Construction and operation of any sewage lines connecting with the MCWD facilities are contingent upon obtaining a Sewer Permit from the MCWD District Manager in accordance with Division 5 of the MCWD Sanitary Sewer Service Code.¹⁴ All additions and rerouting will occur within existing or proposed street rights-of-way, at the time of street construction. Therefore, *this is a less-than-significant impact.*

Mitigation Measures

4.6-4 *None required.*

Existing and Proposed Sewer System

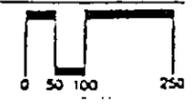
Figure 4.6-1



- Sd Return
- Ice Skating
- Hotel
- Sd Return
- 4 Additional Tennis Courts
- Lift to Top of Lift 16
- Maintenance Building
- Parking Garage/Service Access
- Retail/Commercial Plaza
- Hotel
- Realigned Intersection
- Motel
- Access to Marshalling Area
- Sd Return
- Chain-Up Area
- Hotel
- Chain-Up Area
- Hotel
- Retail Commercial Area
- Marshalling Area/Bus Stop
- Pedestrian Walkway
- Hotel
- Hotel Plaza
- Existing Grocery Store
- Bus Drop-Off/Access to Parking Garage (Both Sides of Road)
- Lodging
- Retail/Commercial Plaza
- Parking Garage/Service Access
- Pedestrian Overpass
- Hotel
- Underground Crossing
- Pedestrian Walkway
- Existing Condominiums
- Hotel

Legend

- EXISTING SEWER LINE
- EXISTING SEWER LINE TO BE REMOVED
- FUTURE SEWER LINE



Source: Jack Johnson Company



SOLID WASTES

Setting

Collection services for the Town of Mammoth Lakes are provided by the Mammoth Disposal Company. Operating every day of the year, Mammoth Disposal hauls approximately 300 cubic yards of materials per day to the County landfill, an estimated 80% of which is refuse (the remainder being construction materials, etc.).¹⁵ Waste hauled to the landfill is compacted which allows it to take up less space.

All solid waste collected in the Town of Mammoth Lakes is delivered to the Benton Crossing Landfill, located on a site leased from the Los Angeles Department of Water and Power approximately five miles east of the U.S. Highway 395/Benton Crossing Road intersection. This landfill is approximately 40 acres in size with a design capacity of 1.35 million cubic yards. The maximum daily delivery of all solid waste to this landfill is 100 cubic yards of compacted waste. The in-place volume of existing solid waste is 378,000 cubic yards. Based upon present population and disposal rates, this landfill will not reach full capacity until another 19 years. Ten acres of the landfill are devoted to the disposal of treated sludge (with an 86% moisture content) from the Mammoth County Water District, averaging 234 cubic yards of sludge per week. There are no recycling activities currently taking place at this landfill.¹⁶

Impacts

4.6-5 The project is anticipated to produce a total of 35,340 pounds of solid waste per day, made up of 1,440 pounds per day from all residences and 33,900 pounds per day from all commercial operations.¹⁷ The Mammoth Disposal Company has indicated that it has adequate collection facilities to serve the project.¹⁸ The Benton Crossing Landfill has another 19 years of capacity and, thus, has adequate capacity to serve the proposed development.¹⁹ *Thus, the project shall have a less-than-significant impact on solid waste collection and disposal facilities.*

Mitigation Measures

The following mitigation measures are recommended to minimize impacts on collection and disposal systems:

- 4.6-5(a) Alternate methods of solid waste disposal, such as the use of onsite trash compaction, shall be incorporated into the final Project design subject to the approval of the Mammoth Lakes Planning Department.
- 4.6-5(b) All visible trash collection facilities and features of the development shall be designed to complement the Project design scheme.

- 4.6-5(c) The Project applicant shall provide a recycling collection station or contract a solid waste disposal company which will offer a system of convenient recycling stations for Project residents. Placement and design shall be subject to the review and approval of the Planning Director.
- 4.6-6(d) The Project applicant shall provide each residence with a divided cabinet suitable for aluminum cans, glass bottles, and plastic bottles.

ELECTRICITY

Impacts

- 4.6-6 Southern California Edison (SCE) supplies the Town of Mammoth Lakes with its electricity. Based on current project plans, it is estimated that 20,415,200 kilowatt hours will be used by the development annually.²⁰ Not enough is known to project electricity consumption of the gondola, though it is not expected to be significant. Currently, SCE has the infrastructure in place to handle overall project demand, thus the project shall have a *less-than-significant* impact.

Mitigation Measures

- 4.6-6 *None required.*

TELEPHONE

Impacts

- 4.6-7 Continental Telephone (ConTel) supplies the Town of Mammoth Lakes with telephone service. It is estimated, based on project descriptions, that approximately 2,700 phone lines will be needed. ConTel has the infrastructure in place to meet this demand. Therefore, the project shall have a *less-than-significant* impact.

Mitigation Measures

- 4.6-7 *None required.*

CUMULATIVE IMPACTS

Cumulative development in the Town of Mammoth Lakes will result in increased pressure on the utilities. For instance, cumulative impacts on water will require the MCWD to develop new water sources if the proposed projects are to be developed. In anticipation of growth, the MCWD is planning to expand their wastewater treatment facilities. Increased development will reduce the number of capacity years remaining at St-4, the Benton Crossing Landfill. This will require the Town to locate alternative landfill space.

ENDNOTES

1. North Village EIR. Town of Mammoth Lakes, CA, 1989.
2. Iron and Manganese Groundwater Treatment Plant Report. Boyle Engineering, May 1989.
3. Correspondence from Gary Sisson, Operations and Maintenance Manager, Mammoth County Water District, June 4, 1990.
4. Iron and Manganese Groundwater Treatment Plant Report, op. cit.
5. Iron and Manganese Groundwater Treatment Plant Report, op. cit.
6. Gary Sisson, June 4, 1990, op. cit.
7. Gary Sisson, June 4, 1990, op. cit.
8. Correspondence from Gary Sisson, Operations and Maintenance Manager, Mammoth County Water District, January 31, 1990.
9. Communication with Gary Sisson, Operations and Maintenance Manager, Mammoth County Water District, October 17, 1990.
10. Correspondence from Gary Sisson, Operations and Maintenance Manager, Mammoth County Water District, July 5, 1990.
11. Gary Sisson, June 4, 1990, op.cit.
12. Gary Sisson, June 4, 1990, op. cit.
13. Projections are based upon generation rates of 150 gpd per dwelling unit, 150 gpd per hotel room, 100 gpd per every 1,000 square feet of gross retail floor area, and 50 gpd per restaurant seat.
14. Gary Sisson, June 4, 1990, op. cit.
15. Communication with Dennis Hartman, Mammoth Disposal Company, October 18, 1990.
16. Communication with James Ward, Director of Public Works, Mono County Department of Public Works, October 17, 1990.
17. Projections are based upon generation rates of 3.6 pounds per day per dwelling unit and 20.9 pounds per day per employee.
18. Dennis Hartman, Mammoth Disposal Company, op. cit.
19. James Ward, Director of Public Works, op. cit.

20. Projections based on generation rates of 16.081 Kwh per dwelling unit per year for residential uses, 11.8 Kwh per square foot of retail space per year, 6.8 kWh per square foot of hotel space per year, and 47.3 kWh per square foot of restaurant space per year. These generation rates are taken from Air Quality Handbook for Preparing Environmental Impact Reports, South Coast Air Quality Management District, 1987.

4.7 TRAFFIC

4.7 TRAFFIC

INTRODUCTION

This section of the EIR documents the findings of a traffic study conducted by TRANSTECH to analyze and evaluate the transportation and traffic circulation of the proposed North Village Specific Plan and assess the impacts of the proposed development in the Town of Mammoth Lakes, California. The traffic study has been prepared in compliance with the California Environmental Quality Act (CEQA) of 1990, the CEQA Guidelines of January, 1984 and the CEQA requirements for an EIR as the proposed project has been determined to present potential significant impacts on existing environs.

Project Description

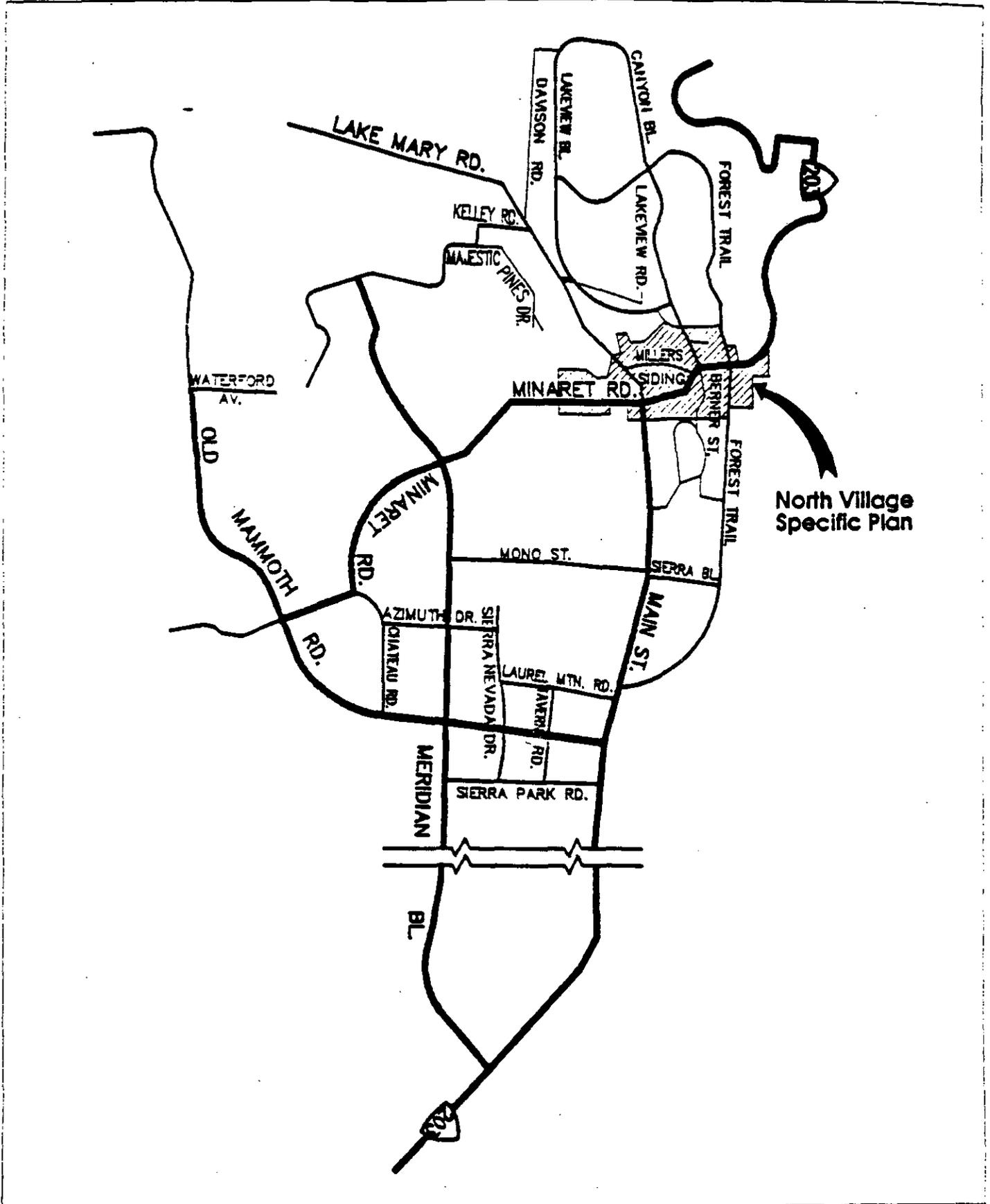
The North Village Specific Plan is a master plan for developing approximately 64 acres. The specific plan area is located along Minaret Road north and south of Lake Mary Road/Main Street. Ultimate build-out of North Village could include approximately 2,000 new hotel/motel lodging units and 400 condominium lodging units. Integral to the hotel complex are 24,000 square feet of commercial, retail and restaurant space. Added to approximately 250 existing hotel/motel units and 30 existing condominium units, build-out of the project would bring the total lodging for the area to 2,250 hotel/motel units and 430 condominium units. In addition, approximately 227,000 square feet of new commercial (retail shops and eating establishments) and units for employee housing are planned. The Specific Plan does not identify the number of employee housing units that will be provided. The number of units is a subject specifically being addressed by the Jobs/Housing section of the EIR.

Figure 4.7-1 shows the location of the North Village Specific Plan in relationship to the existing roadway system. The master plan for North Village is presented in Figure 4.7-2. The proposed vehicular circulation for the Specific Plan is illustrated in Figure 4.7-3. This roadway network includes improvements to the existing roadway system which are depicted in Figure 4.7-4. They include:

1. Abandon lower Canyon Boulevard east of Hillside Drive and elimination of the Canyon Boulevard and Minaret Road intersection.
2. Reroute skier traffic from Warming Hut II to Lake Mary Road to relieve congestion at the Forest Trail-Minaret Road intersection and enable traffic from MMSA Main Lodge and Warming Hut II to meet at controlled conditions at the Lake Mary Road/Main Street-Minaret Road intersection.

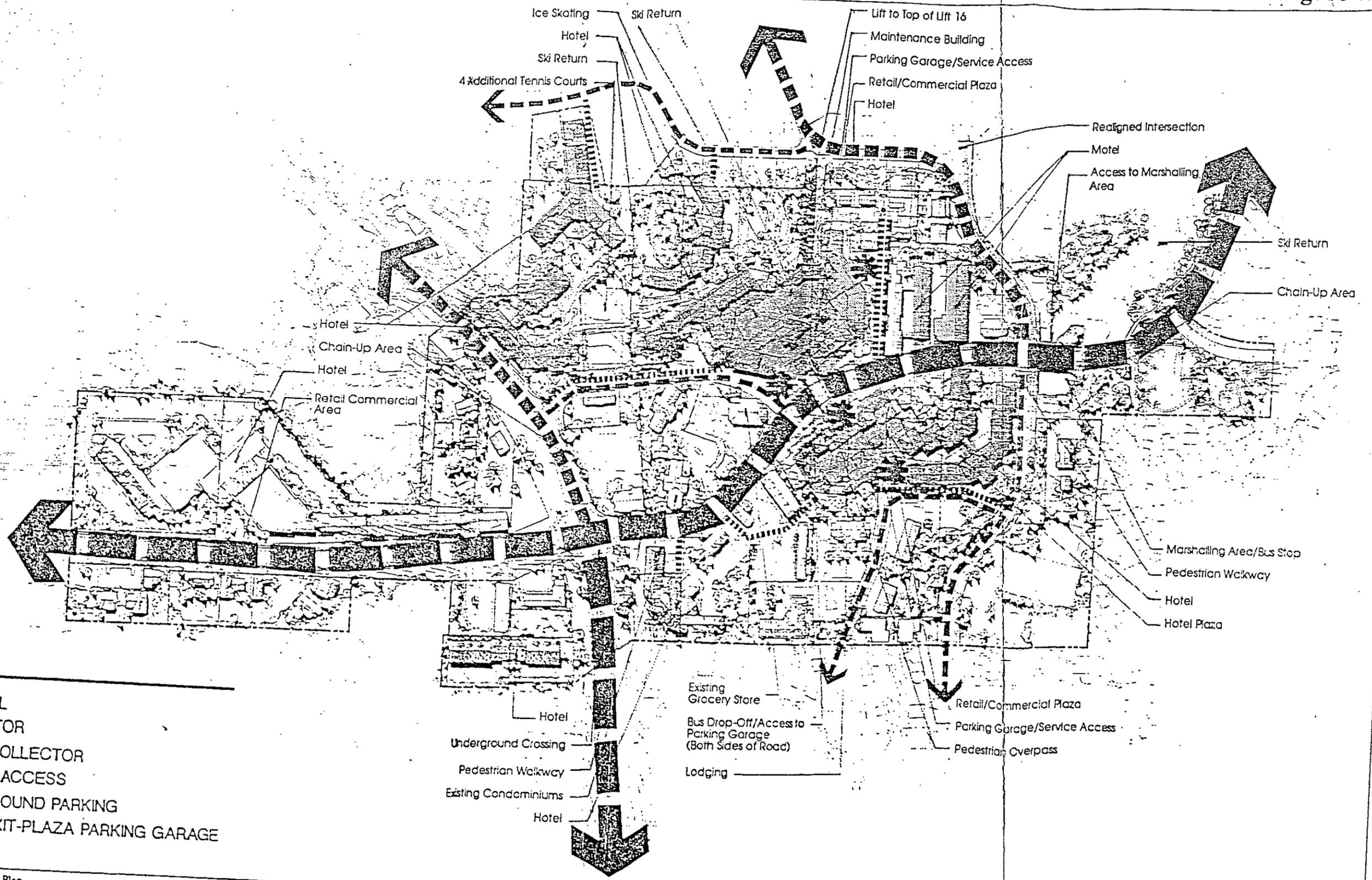
Vicinity Map

Figure 4.7-1

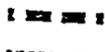
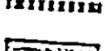
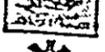


Vehicular Circulation

Figure 4.7-2



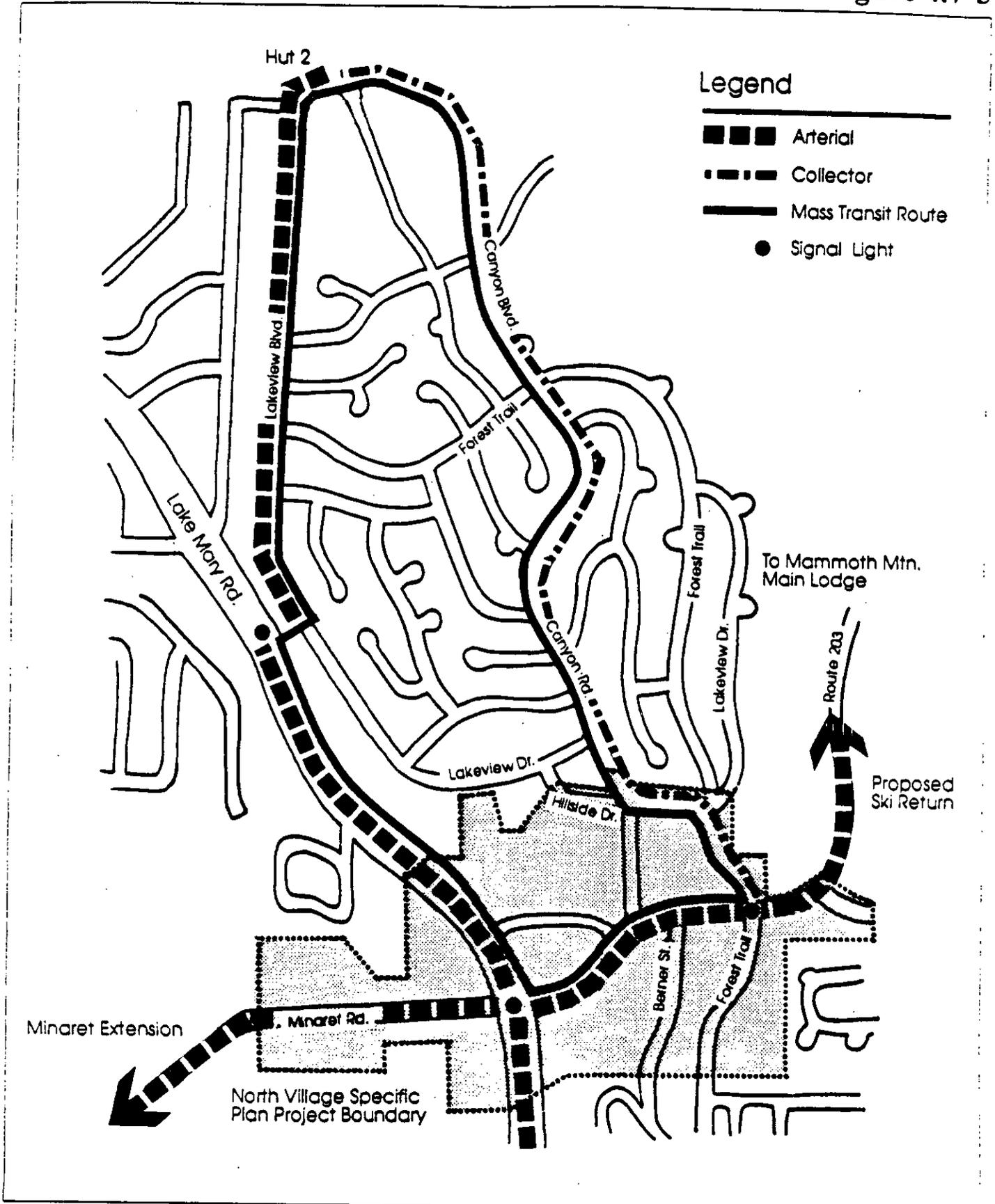
Legend

-  ARTERIAL
-  COLLECTOR
-  LOCAL COLLECTOR
-  SERVICE ACCESS
-  UNDERGROUND PARKING
-  ENTRY/EXIT-PLAZA PARKING GARAGE

Source: North Village Specific Plan

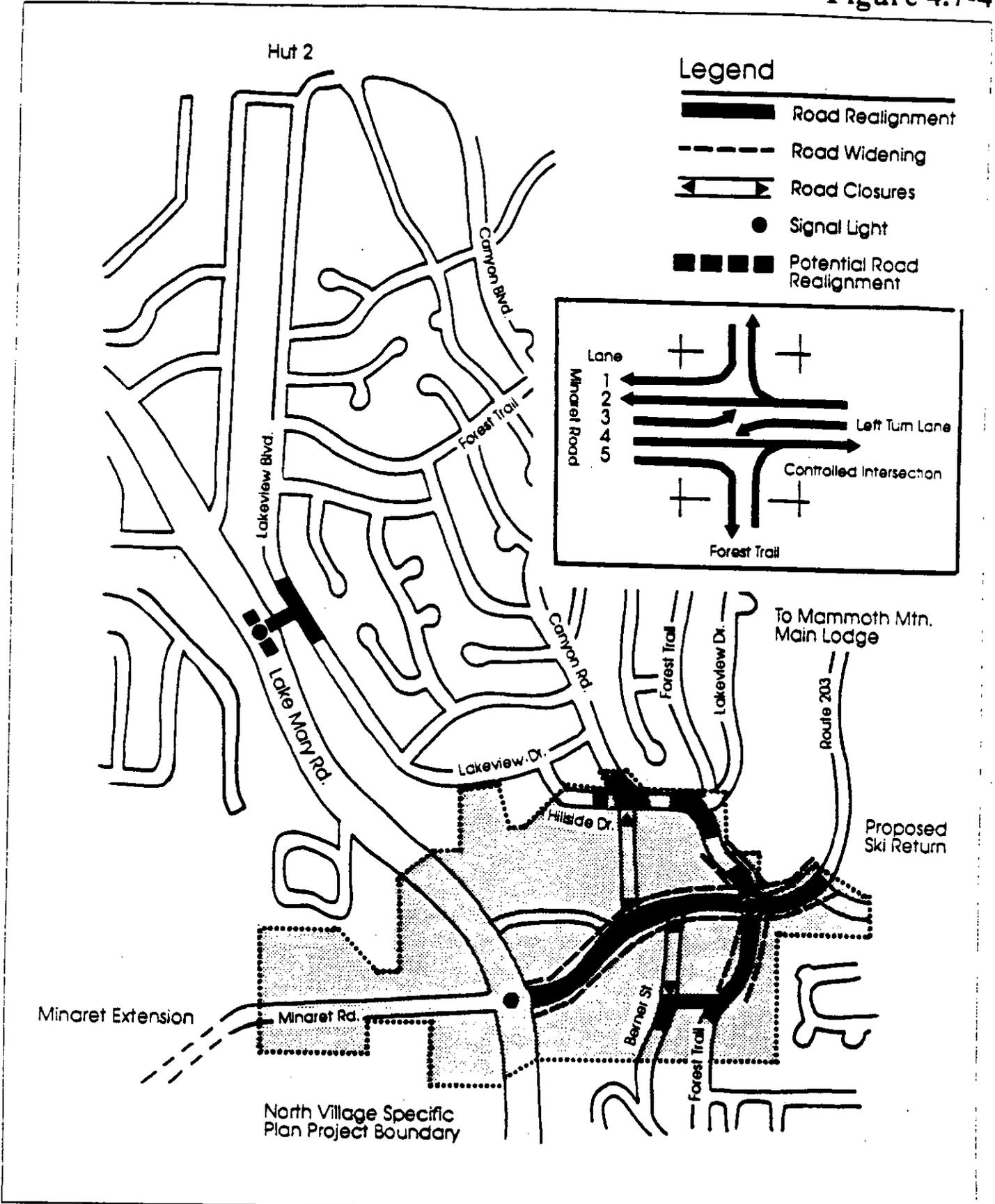
Proposed Vehicular Circulation

Figure 4.7-3



Roadway Network Improvements

Figure 4.7-4



3. Physical improvements, including modification of grades and/or widening of streets on Lakeview Road, Lakeview Boulevard, Lake Mary Road, Millers Siding Road, and Minaret Road to safely accommodate projected traffic flows.
4. Closure of the westerly portion of Berner Street and elimination of the Berner Street-Minaret Road intersection, rerouting of Berner Street to connect with Forest Trail to reduce traffic flow on Berner Street.

SETTING

A comprehensive data collection effort was used to identify the traffic related conditions on the roadways that will be impacted by the proposed North Village Specific Plan. The data collection included identifying current traffic volumes, the physical features of the streets and arterial highways and operational conditions of the roadway network.

Local Roadways

The following paragraphs describe the current classification of each of the important roadways in the study area and compares these ultimate classifications to current conditions. Relevant circulation features and Average Daily Traffic (ADT) volumes in the study area are summarized in Figure 4.7-5.

- Main Street/Lake Mary Road - West of Minaret Road, this facility is known as Lake Mary Road and is a two-lane collector street. East of Minaret Road, this facility is known as Main Street and is also designated as State Route 203. Main Street is a major east/west arterial in the Town. Main Street/State Route 203 also provides the primary access into and out of the Mammoth Lakes area, connecting with U.S. 395 approximately three miles to the east of the Town. Main Street provides four travel lanes east of Minaret Road. A two-way continuous left-turn lane is provided between Mono Street/Sierra Boulevard and Sierra Park Boulevard. The intersections with Minaret Road and Old Mammoth Road are signalized.
- Meridian Boulevard - Meridian Boulevard is a four-lane arterial between its western terminus at Majestic Pines Drive and Sierra Park Road east of Old Mammoth Road. East of Sierra Park Road, Meridian Boulevard is striped for two lanes and connects with State Route 203, providing an alternative route into and out of Mammoth Lakes. The intersection with Old Mammoth Road is signalized.
- Minaret Road - Minaret Road is designated as State Route 203 between Main Street and the Mammoth Mountain Ski Area and is classified as an Arterial in the Town General Plan. From

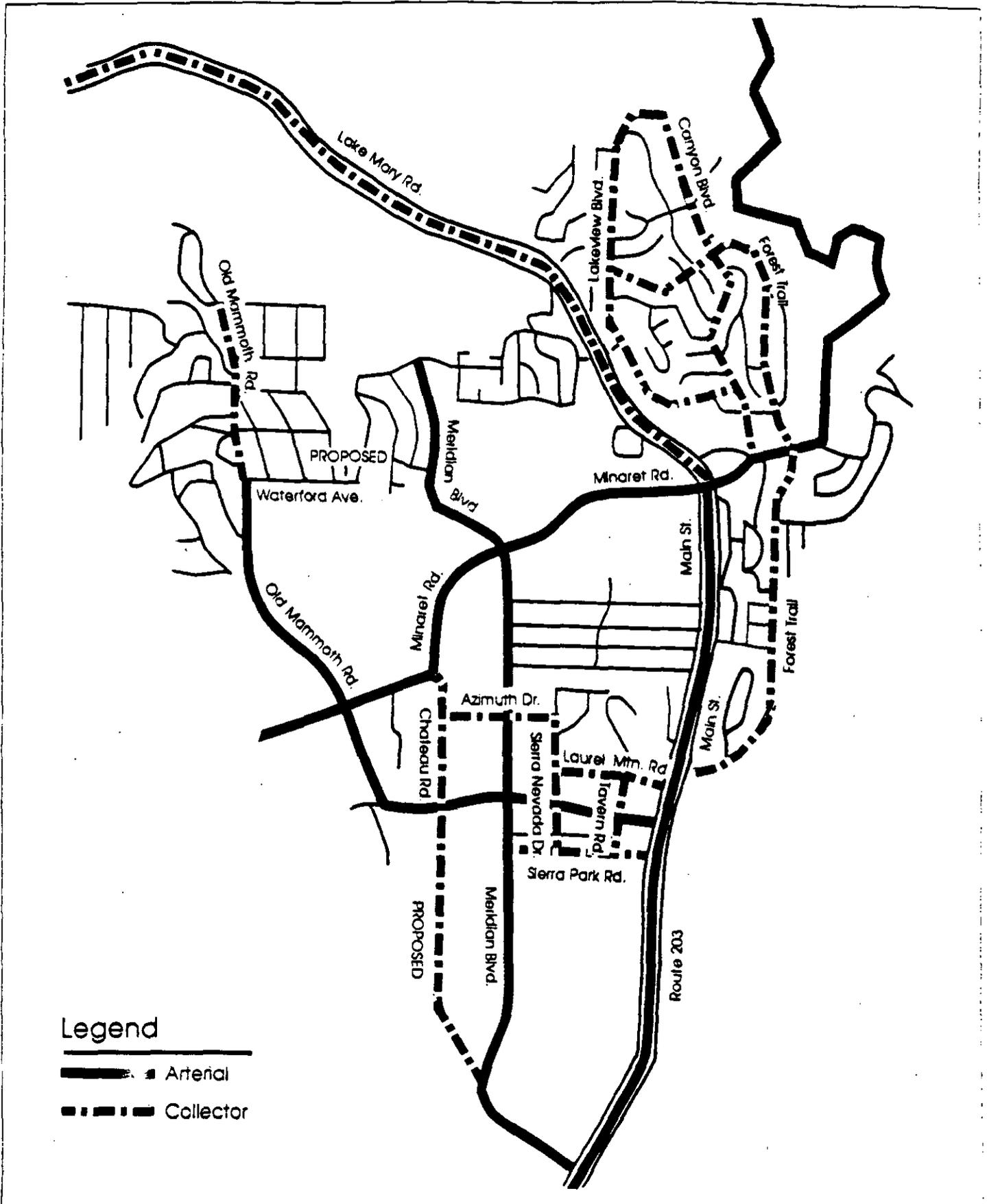
Canyon Road to the Mammoth Mountain Ski Area. Minaret Road is a two-lane rural highway. Minaret Road provides two through travel lanes from Canyon Boulevard to Old Mammoth Road. The intersection with Main Street/Lake Mary Road is signalized.

- Old Mammoth Road - Old Mammoth Road is classified as an Arterial. Between its northern terminus at Main Street and south of Chateau Road, Old Mammoth Road has two travel lanes and a two-way continuous left-turn lane. Two lanes are provided from south of Chateau Road to the western terminus. West of this point to Lake Mary Road, Old Mammoth Road is narrow, unpaved, and closed during winter months. The intersections of Old Mammoth Road with Meridian Boulevard and Main Street are signalized.
- Kelley Road - Kelley Road is a two-lane local road which connects Majestic Pines Drive with Lake Mary Road.
- Forest Trail - Forest Trail is a two-lane collector serving residential areas to the east and west of Minaret Road. To the east it terminates at Main Street and to the west at Lakeview Boulevard.
- Lakeview Boulevard - Lakeview Boulevard is classified as a collector. It provides two travel lanes and provides access between Warming Hut II and residential areas and Lake Mary Road (via Lakeview Road) and Minaret Road (via Canyon Boulevard).
- Lakeview Road - Lakeview Road is a short, two-lane local road which connects Lakeview Boulevard with Lake Mary Road. Traffic travelling from Lake Mary Road to Warming Hut II must use Lakeview Road to access Lakeview Boulevard.
- Canyon Boulevard - Canyon Boulevard is an east/west, two-lane collector. Near Warming Hut II at the western end of Canyon Boulevard it turns south and becomes Lakeview Boulevard. It provides access between Warming Hut II and residential areas and Minaret Road.
- Millers Siding - This short two-lane local street provides a connection between Minaret Road and Lake Mary Road.
- Sierra Boulevard - Sierra Boulevard is a north/south, two-lane collector that connects Forest Trail with Main Street.

The Town of Mammoth Lakes Circulation Element that identifies the roadway classifications of the roadways previously discussed is provided in Figure 4.7-6.

Circulation Element

Figure 4.7-6



Legend

- Arterial
- - - Collector

Study Intersections

Ten intersections in the study area can expect to be measurably impacted by the proposed project and for that reason were evaluated throughout the study. The intersections were:

- Minaret Road & Main Street/Lake Mary Road
- Minaret Road & Canyon Boulevard
- Minaret Road & Forest Trail
- Kelley Road & Lake Mary Road
- Lakeview Road & Lake Mary Road
- Sierra Boulevard & Main Street
- Old Mammoth Road & Main Street
- Minaret Road & Meridian Boulevard
- Old Mammoth Road & Meridian Boulevard
- Minaret Road & Old Mammoth Road

The traffic lane configurations on the approaches to these intersections and estimated traffic volumes for a typical PM peak winter ski weekend Saturday are summarized with the capacity calculations provided in the Technical Appendix.

Evaluation of Existing Conditions

The ability of a circulation network to accommodate vehicular traffic can be measured by dividing the actual or projected volume of a roadway or intersection by its theoretical capacity. This can be done with daily and/or peak period volumes. Peak hour volume/capacity analysis (V/C), particularly at intersections, give the most accurate picture of the relative level of congestion experienced by a motorist. Midblock ADT capacity evaluations are used in determining long range (10 to 20 years) roadway capacity needs for large or moderately sized study areas. Both midblock ADT and intersection analyses were used throughout the study to evaluate the impacts of the proposed North Village Specific Plan.

To go along with the quantitative analysis, the qualitative description known as "Level of Service" (LOS) was used to express traffic flow conditions identified by volume/capacity ratios. A LOS "C" during peak hour conditions is most often considered the lowest acceptable LOS in a rural setting and is typically used as a design standard for roadway improvements where capacity is a major consideration. It's the Town of Mammoth Lakes' policy to maintain Level of Service C or better.

A detailed breakdown explanation of the LOS concept for signalized and unsignalized intersections is provided in the Technical Appendix.

Estimated PM peak winter weekend Saturday turning volumes were used along with estimated Average Daily Traffic (ADT) volumes for a winter Saturday to document existing conditions in the study area and as a basis for the analysis of future conditions. This traffic data was taken from previous traffic studies conducted for the North Village Specific Plan¹ and other proposed projects² in the area.

The Town of Mammoth Lakes has identified Saturday mid-winter a representative "worst case" traffic conditions. These conditions occur from 10 to 20 days per year, or 3 to 6 percent of the time at the height of the winter ski season. The remainder of the year traffic conditions can expect to be substantially better. However, the analysis performed throughout this study will be representative of the Saturday mid-winter traffic conditions.

The traffic data was used to calculate Volume to Capacity (V/C) and to determine Levels of Service (LOS) for the intersections studied.

The "Critical Movement Analysis - Planning"³ (CMA) method of intersection capacity analysis was used to determine the intersection volume to capacity (V/C) ratio and corresponding Level of Service at each of the signalized intersections in the study area. The CMA methodology normally uses a volume of 1,500 vehicles per lane per hour of green time as the capacity for the sum of the critical movements at two-phase traffic signal, with critical capacities of 1,425 for signals with three to six phases and 1,375 vehicles per hour for eight phase signals. However, adverse weather and street surface conditions experienced in Mammoth Lakes during winter months substantially reduce street and intersection capacities. To present a "worst case" analysis a reduced capacity value of 1,275 vehicles per lane per hour of green was used in this study for two phase signals (15 percent lower than the standard capacity value), with corresponding 15 percent reductions in capacity for multi-phased signals.

The "Two-Way Stop Control"⁴ method presented in the 1985 Highway Capacity Manual was used to conduct intersection capacity analyses for the unsignalized intersections. This methodology provides an estimate of the "available reserve capacity" and corresponding level of service for each of the constrained movements at the intersection. Under existing conditions, all but three of the analyzed intersections (Minaret Road/Main Street, Old Mammoth Road/Meridian Boulevard and Old Mammoth Road/Main Street) are unsignalized.

¹ Letter Report (to David Lavery; Triad Engineering Corporation) regarding the North Village Specific Plan Traffic Impacts, BSI Consultants Inc., March 23, 1990.

² Draft Lodestar Master Plan EIR, EIP Associates, September 1990.

³ "Interim Materials on Highway Capacity - Circular 213;" Transportation Research Board; January 1980.

⁴ 1985 Highway Capacity Manual; Transportation Research Board; Washington, D.C.

The mid-block roadways Level of Services were determined using Average Daily Traffic (ADT) evaluation criteria using procedures similar to the analysis used to prepare the Circulation Element for the Mammoth Lakes General Plan. These procedures are based on estimated two-way daily roadway capacity values of 12,500 vehicles per day (vpd) for a two-lane street; 17,500 vpd for two through lanes plus a two-way continuous left-turn lane along segments with numerous adjoining access points, or with left turn pockets at major intersections along segments with little or no adjoining access points; 25,000 vpd for a four-lane arterial and 30,000 vpd for four through lanes plus a two-way continuous left-turn lane (or left turn pockets along segments with little or no adjoining access points). These values are lower than typical daily capacity values used for rural and suburban streets. This approach takes into account the reduced capacities often experienced in Mammoth Lakes during winter months due to adverse weather, street surface conditions and rural/mountain conditions that affect roadway design.

Existing Levels of Service

Table 4.7.1 shows the estimated existing daily Levels of Service on major streets in Mammoth Lakes for a typical winter Saturday. As shown, all but two street segments are currently operating at acceptable Levels of Service (LOS C or better). Old Mammoth Road is operating at LOS E between Meridian Boulevard and Main Street, and Minaret Road is operating at LOS F between Canyon Boulevard and Forest Trail.

Table 4.7.2 summarizes the estimated existing afternoon peak hour V/C ratio or available reserve capacity and corresponding level of service at each of the ten analyzed intersections for a typical winter Saturday. As indicated in the table, under estimated existing conditions, five of the ten analyzed intersections are currently operating at unacceptable Levels of Service (i.e. LOS D, E or F) during the PM peak hour. The signalized intersection of Old Mammoth Road/Meridian Boulevard and the unsignalized intersection of Minaret Road/Forest Trail operate at LOS D. The unsignalized intersections of Sierra Boulevard/ Main Street, Lakeview Road/Lake Mary Road, and Minaret Road/Canyon Boulevard operate at LOS E.

It should be recognized that the poor operating conditions indicated for the four unsignalized intersections reflect conditions only for the stop-controlled vehicles waiting to turn from the side street onto the major street. They do not represent conditions for the intersection as a whole. Traffic on the major street is for the most part unrestricted and free flowing.

It is interesting to note that the estimated existing traffic volumes at two of the five unsignalized intersections currently operating at poor Levels of Service (Minaret Road/Canyon Boulevard and Lakeview Road/Lake Mary Road) are sufficiently heavy to satisfy standard traffic signal warrants. Traffic signals at these two locations would improve conditions to acceptable levels. However, circulation improvements proposed as part of the North Village Specific Plan, if implemented, would eliminate the Minaret Road/Canyon Boulevard intersection.

Table 4.7-1

**EXISTING DAILY WINTER WEEKEND
ROADWAYS LEVELS OF SERVICE**

<u>ROADWAY</u>	<u>SEGMENT</u>	<u>EXISTING TRAVEL LANES</u>	<u>DAILY CAPACITY</u>	<u>Existing ADT</u>	<u>Conditions V/C</u>	<u>LOS</u>
Lake Mary Road	Lakeview Rd. to Minaret Rd.	2-und	12,500	9,400	0.75	C
Main Street	Minaret Rd. to Sierra Blvd.	4-und	25,000	19,500	0.78	C
Main Street	Forest Trail to Old Mammoth Rd.	4-lt	30,000	19,700	0.66	B
Meridian Boulevard	Majestic Pines Dr. to Minaret Rd.	4-und	25,000	5,200	0.21	A
Meridian Boulevard	Minaret Rd. to Old Mammoth Rd.	4-und	25,000	7,500	0.30	A
Minaret Road	Old Mammoth Rd. to Chateau Rd.	2-und	12,500	5,400	0.43	A
Minaret Road	Chateau Rd. to Meridian Blvd.	2-und	12,500	1,600	0.12	A
Minaret Road	Main Blvd. to Forest Trail	2-und	12,500	13,500	1.08	F
Old Mammoth Road	Chateau Rd. to Meridian Blvd.	2-lt	17,500	10,900	0.62	B
Old Mammoth Road	Meridian Blvd. to Main St.	2-lt	17,500	17,200	0.98	E
Forest Trail Road	E/O Minaret Rd.	2-und	12,500	650	0.05	A
Forest Trail Road	W/O Minaret Rd.	2-und	12,500	1,250	0.10	A
Canyon Blvd.	W/O Minaret Rd.	2-und	12,500	6,250	0.50	A

Note:

- lt - Left-Turn channelization for all major segments.
- und - Undivided, little or no left turn channelization.

Table 4.7-2

EXISTING PM PEAK HOUR LEVEL OF SERVICE SUMMARY

<u>Unsignalized Intersections</u>	<u>Reserve Capacity^a</u>	<u>LOS^b</u>
Minaret Rd. & Forest Trail	+111	D
Minaret Rd. & Canyon Blvd.	+ 60	E
Kelley Rd. & Lake Mary Rd.	+525	A
Lakeview Rd. & Lake Mary Rd.	+ 41	E
Sierra Blvd. & Main Street	+ 12	E
Minaret Rd. & Meridian Blvd.	+292	C
Minaret Rd. & Old Mammoth Rd.	+226	C
<u>Signalized Intersections</u>	<u>V/C Ratio^c</u>	<u>LOS^b</u>
Minaret Rd. & Main St.	0.60	B
Old Mammoth Rd & Main St.	0.72	C
Old Mammoth Rd. & Meridian Blvd.	0.85	D

Notes:

^a Reserve Capacity - Available reserve capacity for the most constrained intersection movement.

^b LOS - Level of Service Description (See Appendix).

^c V/C - Volume to Capacity (percent of intersection capacity utilized).

The existing Level of Service was also determined on the major roadway segments analyzed. The roadway segment on Old Mammoth Road from Meridian Boulevard to Main Street currently operates at LOS "E". The segment on Minaret Road from Canyon Boulevard to Forest Trail operates at LOS "F". All other segments studied operate at LOS "C" or better.

IMPACTS

A three-step process is used to estimate project-related traffic volumes that will be added to the street network by one or more developments. First, the trips which will be generated by future land uses. Second, the traffic volumes are geographically distributed toward major attractors of trips, such as the home, work place and recreation centers. Finally, the trips are assigned to specific roadways and the projected-related traffic volumes are determined on route-by-route basis.

Traffic Impact Measure of Significance

The Town of Mammoth Lakes has established a policy to maintain a circulation system that operates equivalent to the Transportation Research Board's⁵ definition of Level of Service (LOS) "C".

In order to highlight potentially significant impacts identified by this analysis, any segment or intersection that will operate at a Level of Service "D", "E" or "F" that is measurably impacted by the proposed Specific Plan has been identified. Mitigation measures have also been developed for each of these locations.

Criteria other than achieving LOS "C" may be more appropriate as a measure of "Significant Impact" for traffic conditions for the following two reasons. First, throughout the capacity analysis a conservative approach was used. The standard capacities used for the intersection peak hour and roadway daily traffic analyses are inherently conservative. The capacities were further reduced to stimulate the adverse effects of inclement weather typical of winter conditions in Mammoth. The resulting capacity used for the analysis is then expected to be somewhat lower than the actual capacity which will exist on the system. Second, the study analyzes both the peak hour and Average Daily Traffic associated with peak winter weekend Saturday conditions. As mentioned previously, these conditions are expected to occur only 10 to 20 days per year, or 3 to 6 percent of the time. Generally, circulation systems are designed to accommodate traffic conditions as they occur on a typical, average day of the year. Achieving a desirable Level of Service under average conditions may be more appropriate than designing for the peak days, provided that the system does not totally fail during these peak days. Acceptance of the lower Level of Service for limited time periods each year is balanced by the significant reduction in the cost and

⁵ Transportation Research Circular No. 212 Interim Materials on Highway Capacity,
Transportation Research Board, January 1980.

secondary impacts (right-of-way etc.) associated with mitigating the worst-case traffic conditions. The expected benefit/cost ratio of mitigating "worst case" conditions would be very low, since the system would be under-utilized during the major portion of the time.

Cumulative Base Traffic Projections

The cumulative traffic projections that represent the No Project Alternative include traffic expected to be generated by the following sources: proposed expansion of the Mammoth Mountain Ski Area (MMSA) to 24,000 skiers-at-one-time (SAOT); construction of the proposed Sherwin Ski Area at a capacity of 8,000 SAOT; and a number of residential/lodging/commercial projects proposed for development throughout the Town. Information regarding these projects was obtained from the Mammoth Lakes General Plan and from previous traffic and environmental studies conducted in the Town. They represent the most up to date information on future development available from the Town of Mammoth Lakes Planning Department. Their locations are identified in Figure 4.7-7.

Future traffic generation was estimated for the cumulative developments through a methodology developed specifically for use in Mammoth Lakes.⁶ This methodology was designed to take into account the unique trip-making characteristics associated with the ski resorts and the resort lodging developments, and the interrelationships between the two. The basis for the methodology is provided in the Technical Appendix.

The resulting estimates of net vehicular trip generation for each of the cumulative development projects is summarized on Table 4.7.3. The seven cumulative development projects are projected to generate a net total of approximately 42,280 daily vehicle trips on a peak winter Saturday, of which approximately 4,645 would be during the afternoon peak hour. These projections include future trips generated to and from the MMSA expansion and the Sherwin Ski Area since the cumulative projects include ski-related trips.

A quarter-mile walk-in zone was established to assist in analyzing the impacts of base facilities and overhead lifts. The majority of the skiers lodging within the quarter-mile zone would be expected to walk to the nearby base facility or lift. Those outside of the walk-in zones are expected to drive or use the transit service to reach the skiing destinations. Two basic generation rates for lodging were therefore used: one rate within the walk-in zone and another rate for lodging outside of the walk-in zone.

Project Traffic Generation

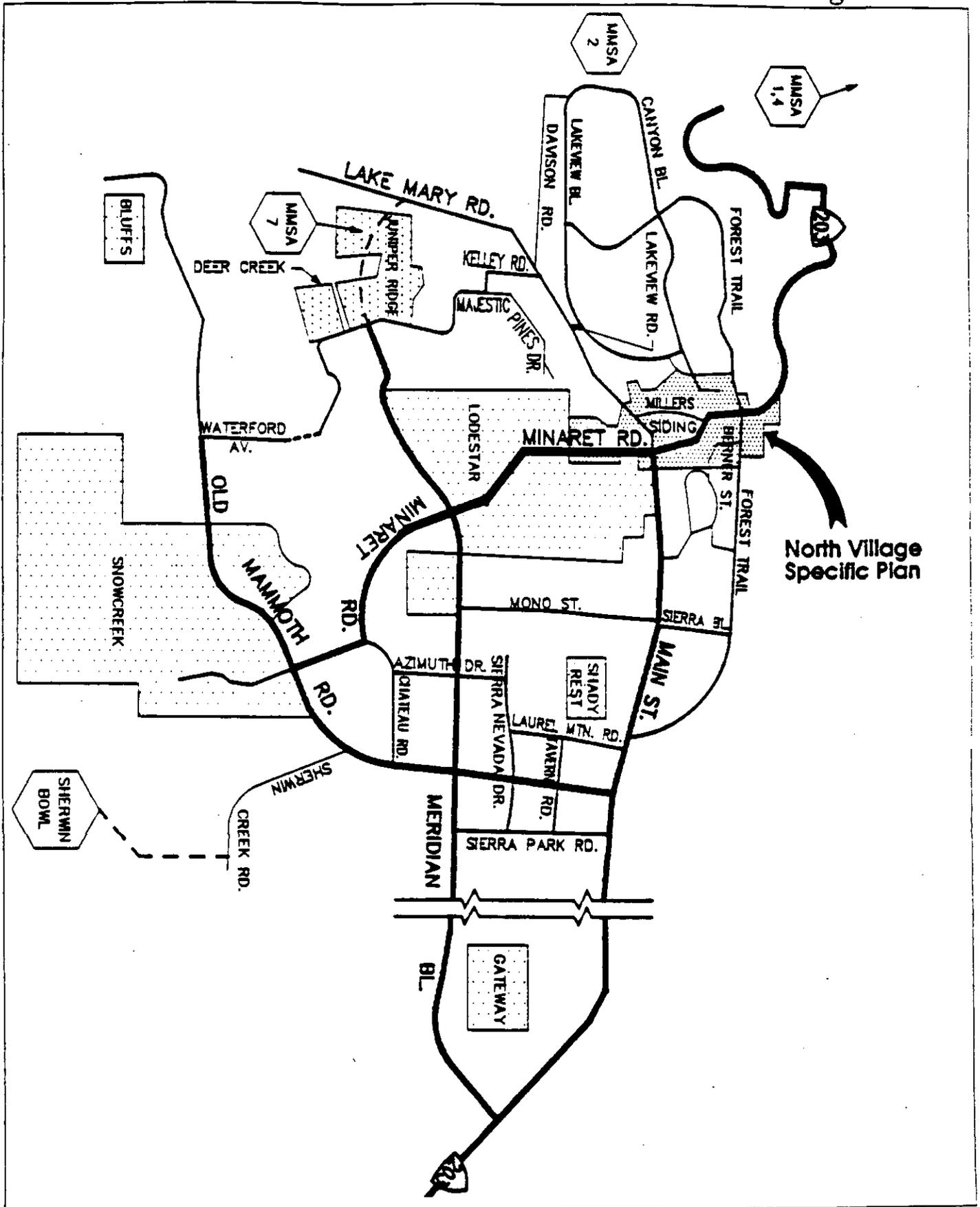
Traffic generation estimates for the proposed North Village Specific Plan were developed using the same methodology, assumptions and trip generation rates developed to take into account the unique trip making characteristics associated with the hotel and commercial development.

⁶

Draft Lodestar Master Plan EIR, EIP Associates, September 1990.

Cumulative Projects

Figure 4.7-7



SOURCE: TerraTech

90162



No Scale



Table 4.7-3

NET WINTER WEEKEND VEHICULAR TRIP GENERATION FOR CUMULATIVE PROJECTS

Name/Location	Land Use	Size	Daily Trips	PM Peak Hour		Total
				In	Out	
Lodestar	Resort Hotel (walk-in)	550 rms	3,970	100	95	195
	Motel	50 du	400	20	10	30
	Condominiums (walk-in)	300 du	1,320	140	120	260
	Condominiums (non-walk-in)	525 du	2,940	370	250	620
	Single Family	100 du	1,010	65	35	100
	Employee Housing	100 du	620	50	20	70
	Commercial Village	80,000 sf	<u>3,210</u>	<u>135</u>	<u>140</u>	<u>275</u>
Total			13,470	880	670	1550
Snowcreek	Resort Hotel (walk-in)	1,200 rms	8,660	220	210	430
	Condominiums (walk-in)	575 du	2,430	270	230	500
	Condominiums (non-walk-in)	856 du	4,790	605	405	1,010
	Commercial	150,000 sf	<u>4,840</u>	<u>190</u>	<u>195</u>	<u>385</u>
	Total			20,720	1,235	1,040
Juniper Ridge	Resort Hotel (walk-in)	250 rms	1,810	45	45	90
	Condominiums (walk-in)	120 du	510	55	50	105
	Commercial	35,000 sf	1,880	90	90	180
	Single Family	44 du	<u>440</u>	<u>30</u>	<u>15</u>	<u>45</u>
	Total			4,640	220	200
Deer Creek	Resort Hotel (walk-in)	195 rms	1,410	35	35	90
Shady Rest	Condominiums	120 du	670	85	55	140
Bluffs	Single Family	60 du	610	40	20	60
Gateway	Single Family	75 du	760	50	30	80
Net Total			<u>42,280</u>	<u>2,595</u>	<u>2,050</u>	<u>4,645</u>

Notes:

Daily trips rounded to the nearest ten vehicles.
Peak hour trips rounded to the nearest five vehicles.

The resulting estimates of net vehicular trip generation for the North Village Specific Plan are summarized on Table 4.7.4. As indicated on the table, the project is projected to generate a net total of approximately 24,230 daily vehicle trips on a peak winter Saturday, of which approximately 1,760 would be during the afternoon peak hour.

Cumulative and Project Related Distribution and Assignment

Trip distribution and assignment as it applies to this study are significantly influenced by the recreational nature of the trip making. Ski-related traffic generated by the resort hotel, motel and condominium elements of both the North Village Specific Plan and cumulative projects was distributed to the various ski base facilities (MMSA and Sherwin). Non-ski-related traffic generated by the resort hotel, motel and condominium elements were distributed to commercial areas throughout the Town as well as to the resort commercial uses proposed within future development. Traffic generated by the employee housing element of the project are reflected in the trip rates for all other project and cumulative land uses with a negligible number of new daily and peak vehicle trips going to existing non-ski facility uses. The net external traffic generated by future commercial uses was distributed primarily to residential areas throughout the Town.

Figure 4.7-8 provides the results of assigning the cumulative ADT traffic to the roadway network. Figure 4.7-9 provides the results of assigning the cumulative plus project related ADT traffic to the roadway network. PM peak traffic projections for the same two scenarios were also developed. The PM peak volumes are summarized in the capacity calculations found in the Traffic Appendix D.

Cumulative (No Project) Conditions

The Cumulative traffic volumes were analyzed using the same Level of Service methodologies used to assess existing conditions. The programmed improvement plans by the Town of Mammoth Lakes were assumed to be in place for the scenario. The roadway Level of Service analysis is summarized in Table 4.7.5. The resulting intersection Levels of Service are summarized in Table 4.7.6.

The results of the intersection analysis indicates that there would be a significant decline in the Level of Service at most of the intersections under the Cumulative conditions.

The roadway Level of Service analysis presented in Table 4.7.5 indicates that the following segments would operate at LOS "F" under cumulative conditions:

- Minaret Road - Main Street to Forest Trail
- Main Street - Minaret Road to Sierra Boulevard
- Minaret Road - Old Mammoth Road to Chateau Road
- Old Mammoth Road - Chateau Road to Meridian Boulevard
- Old Mammoth Road - Meridian Boulevard to Main Street

Table 4.7-4

NORTH VILLAGE SPECIFIC PLAN WINTER WEEKEND
VEHICULAR TRIP GENERATION

Land Use	Size	Daily Trips	PM Peak Hour		
			In	Out	Total
Hotel/Motel (non-walk-in) ^(d)	200 rms	1,600	70	40	110
Hotel/Motel (walk-in) ^(d)	1,800 rms	12,960	330	315	645
Condominiums (non-walk-in)	40 du	220	25	20	45
Condominiums (walk-in)	360 du	1,590	170	145	315
Plaza Commercial	60,000 sf	2,670	115	120	235
Other Commercial	167,000 sf	5,190	200	210	410
Employee Housing	(a)	<u>600^(b)</u>	(c)	(c)	<u>(c)</u>
Total		24,830	910	850	1,760

Notes:

Daily trips rounded to the nearest ten vehicles.

Peak hour trips rounded to the nearest five vehicles.

(a) Accommodations for 800 employees. (See Jobs Housing section for discussion).

(b) Net increase in trips to existing uses. Total vehicle trips are reflected in rates for all other project and cumulative uses.

(c) Vehicle trips are reflected in the rates for all other project and cumulative land uses with a negligible peak hour trips to existing uses.

(d) Trip rates reflect 24,000 square feet of commercial, retail and restaurants integral to the hotel complex.

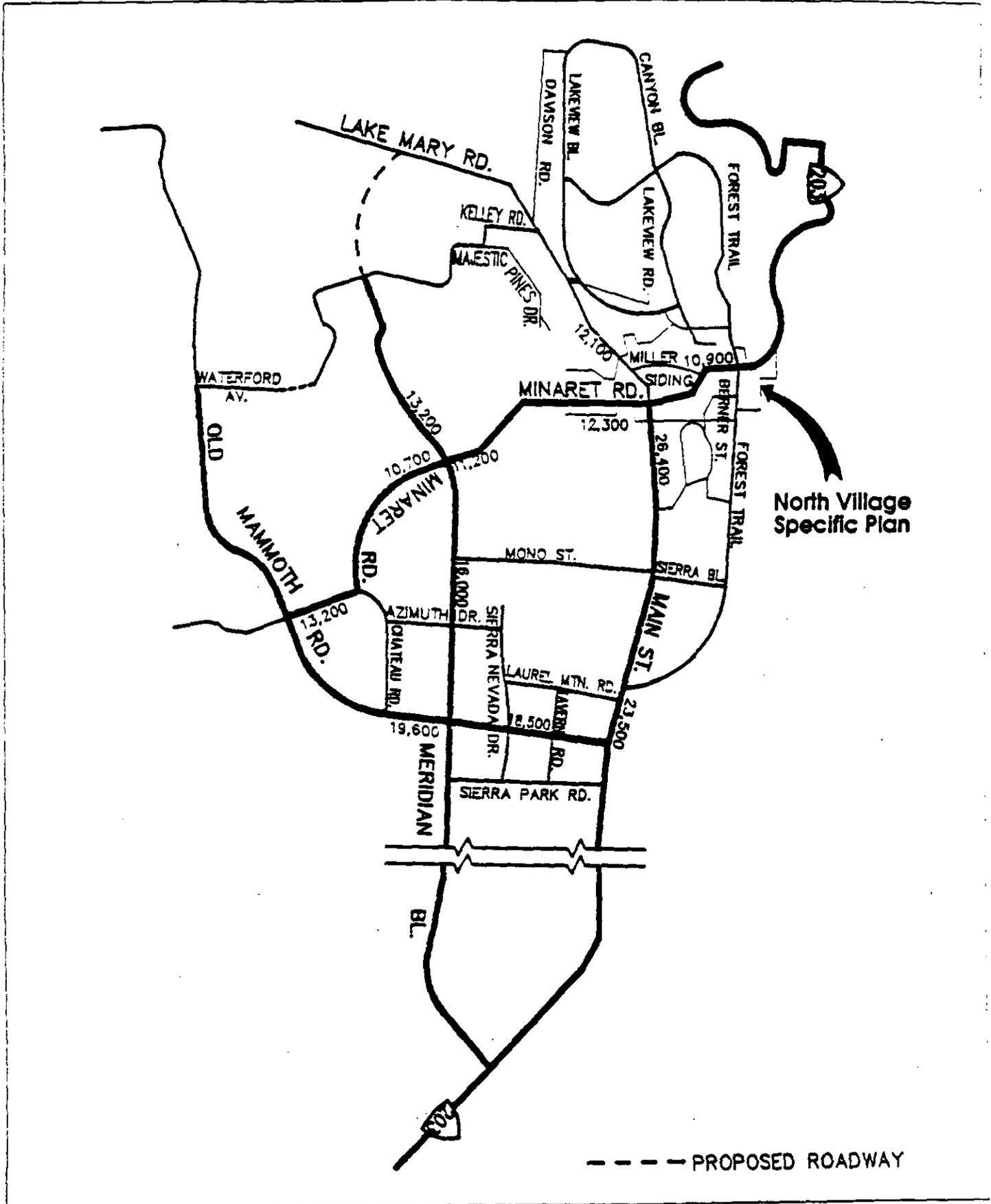


Table 4.7-5

**CUMULATIVE BASE DAILY WINTER WEEKEND
ROADWAY LEVELS OF SERVICE**

ROADWAY	SEGMENT	TRAVEL LANES	DAILY CAPACITY	Cumulative Base Conditions		
				ADT	V/C	LOS
Lake Mary Road	Lakeview Rd. to Minaret Rd.	2-und	12,500	12,100	0.97	E
Main Street	Minaret Rd. to Sierra Blvd.	4-und	25,000	26,400	1.06	F
Main Street	Forest Trail to Old Mammoth Rd.	4-lt	30,000	23,500	0.78	C
Meridian Boulevard	Majestic Pines Dr. to Minaret Rd.	4-und	25,000	13,200	0.53	A
Meridian Boulevard	Minaret to Old Mammoth Rd.	4-und	25,000	16,000	0.64	B
Minaret Road	Old Mammoth Rd. to Chateau Rd.	2-und	12,500	13,200	1.06	F
Minaret Road	Chateau Rd. to Meridian Blvd.	2-und	12,500	10,700	0.86	D
Minaret Road	Meridian Blvd. to Main St.	2-und	12,500	12,300	0.98	E
Minaret Road	Main St. to Forest Trail	2-und	12,500	15,900	1.27	F
Old Mammoth Road	Chateau Rd. to Meridian Blvd.	2-lt	17,500	19,600	1.12	F
Old Mammoth Road	Meridian Blvd. to Main St.	2-lt	17,500	18,500	1.06	F
Forest Trail Road	E/O Minaret Rd.	2-und	12,500	800	0.06	A
Forest Trail Road	W/O Minaret Rd.	2-und	12,500	1,150	0.09	A
Canyon Blvd.	W/O Minaret Rd.	2-und	12,500	6,000	0.48	A

Note:

- lt - Left-Turn channelization for all major segments.
- und - Undivided, little or no left turn channelization.
- * - Town of Mammoth Lakes Programmed Improvement.

Table 4.7-6

CUMULATIVE PM PEAK HOUR LEVEL OF SERVICE SUMMARY
TOWN OF MAMMOTH LAKES PROGRAMMED IMPROVEMENT

<u>Unsignalized Intersections</u>	<u>Reserve Capacity^a</u>	<u>LOS^b</u>
Minaret Rd. & Forest Trail	+ 55	E
Minaret Rd. & Canyon Blvd.	+ 71	F
Kelley Rd. & Lake Mary Rd.	+459	A
Lakeview Rd. & Lake Mary Rd.	- 37	F
Sierra Blvd. & Main Street	+ 10	E
Minaret Rd. & Old Mammoth Rd.	-816	F
<u>Signalized Intersections</u>	<u>V/C Ratio^c</u>	<u>LOS^b</u>
Minaret Rd. & Main St.	1.12	F
Old Mammoth Rd & Main St.	0.91	E
Old Mammoth Rd. & Meridian Blvd.	1.41	F
Minaret Rd. & Meridian Blvd.	0.90	E

Notes:

^a Reserve Capacity - Available reserve capacity for the most constrained intersection movement.

^b LOS - Level of Service Description (See Appendix).

^c V/C - Volume to Capacity (percent of intersection capacity utilized).

The segments on Minaret Road from Chateau Road to Meridian Boulevard would operate at LOS "D". Lake Mary Road from Lakeview Road to Minaret Road and Minaret Road from Meridian Boulevard to Main Street would operate at LOS "E". All other roadway segments studied would operate at LOS "C" or better.

The results presented in Table 4.7.6 indicate that the following intersections would operate at an unacceptable Level of Service:

- The unsignalized intersections of Minaret Road/Forest Trail and Sierra Boulevard/Main Street would operate at LOS "E";
- The unsignalized intersections of Minaret Road/Canyon Boulevard, Lakeview Road/Lake Mary Road, and Minaret Road/Old Mammoth Road would operate at LOS "F";
- The signalized intersections of Old Mammoth Road/Main Street and Minaret Road/Meridian Boulevard would operate at LOS "E";
- The signalized intersections of Minaret Road/Main Street and Old Mammoth Road/Meridian Boulevard would operate at LOS "F".

Cumulative Plus Project Conditions

The cumulative plus project scenario represents traffic conditions with full build-out of the North Village Specific Plan. The improvements identified in the North Village Specific Plan were assumed to be implemented in addition to the Town of Mammoth Lakes "Programmed Improvements." The resulting roadway and intersection Levels of Service summaries are presented in Tables 4.7.7 and 4.7.8, respectively.

Impact

4.7-1 The Level of Service analysis for roadways indicated that the following segments would operate at LOS "F":

- Lake Mary Road - Lakeview Road to Minaret Road
- Main Street - Minaret Road to Sierra Boulevard
- Minaret Road - Old Mammoth Road to Chateau Road
- Minaret Road - Chateau Road to Meridian Boulevard
- Minaret Road - Meridian Boulevard to Main Street
- Old Mammoth Road - Chateau Road to Meridian Boulevard
- Old Mammoth Road - Meridian Boulevard to Main Street

Table 4.7-7

**CUMULATIVE PLUS PROJECT DAILY WINTER WEEKEND
ROADWAY LEVELS OF SERVICE**

ROADWAY	SEGMENT	TRAVEL LANES	DAILY CAPACITY	Cumulative Plus Project Conditions		
				ADT	V/C	LOS
Lake Mary Road	Lakeview Rd. to Minaret Rd.	2-und	12,500	18,000	1.44	F
Main Street	Minaret Rd. to Sierra Blvd.	4-und	25,000	31,900	1.28	F
Main Street	Forest Trail Rd. to Old Mammoth Rd.	4-lt	30,000	27,500	0.92	D
Meridian Boulevard	Majestic Pines Dr. to Minaret Rd.	4-und	25,000	14,000	0.56	A
Meridian Boulevard	Minaret Rd. to Old Mammoth Rd.	4-und	25,000	16,700	0.67	B
Minaret Road	Old Mammoth Rd. to Chateau Rd.	2-und	12,500	18,800	1.50	F
Minaret Road	Chateau Rd. to Meridian Blvd.	2-und	12,500	16,300	1.30	F
Minaret Road	Meridian Blvd. to Main St.	2-und*	12,500	22,600	1.81	F
Minaret Road	Main St. to Forest Trail	4-lt	30,000	25,200	0.84	D
Old Mammoth Road	Chateau Rd. to Meridian Blvd.	2-lt	17,500	21,600	1.23	F
Old Mammoth Road	Meridian Blvd. to Main St.	2-lt	17,500	22,200	1.27	F
Forest Trail Road	E/O Minaret Rd.	2-und	12,500	4,200	0.34	A
Forest Trail Road	W/O Minaret Rd.	2-und	12,500	8,600	0.69	B

Note:

- lt - Left-Turn channelization for all major segments.
- und - Undivided, little or no left turn channelization.
- * - Town of Mammoth Lakes Programmed Improvement.
- ** - North Village Specific Plan Improvement.

Table 4.7-8

**CUMULATIVE PLUS PROJECT
PM PEAK HOUR LEVEL OF SERVICE SUMMARY
NORTH VILLAGE SPECIFIC PLAN IMPROVEMENTS**

<u>Unsignalized Intersections</u>	<u>Reserve Capacity^a</u>	<u>LOS^b</u>
Kelley Rd. & Lake Mary Rd.	+426	A
Sierra Blvd. & Main Street	- 39	F
Minaret Rd. & Old Mammoth Rd.	-991	F
<u>Signalized Intersections</u>	<u>V/C Ratio^c</u>	<u>LOS^b</u>
Minaret Rd. & Forest Trail	1.33	F
Lakeview Rd. & Lake Mary Rd.	.93	E
Minaret Rd. & Main St.	1.20	F
Minaret Rd. & Meridian Blvd.	1.07	F
Old Mammoth Rd. & Main St.	1.02	F
Old Mammoth Rd. & Meridian Blvd.	1.47	F

Notes:

^a Reserve Capacity - Available reserve capacity for the most constrained intersection movement.

^b LOS - Level of Service Description (See Appendix).

^c V/C - Volume to Capacity (percent of intersection capacity utilized).

Main Street from Forest Trail to Old Mammoth Road and Minaret Road from Main Street to Forest Trail would operate at LOS "D".

Impact

4.7-2 A review of Table 4.7.8 reveals the following Level of Service deficiencies:

- The unsignalized intersections of Sierra Boulevard/Main Street and Minaret Road/Old Mammoth Road would operate at LOS "F";
- The signalized intersection of Lakeview Road/Lake Mary Road would operate at LOS "E";
- The following signalized intersections would operate at LOS "F":
 - Minaret Road/Forest Trail
 - Minaret Road/Main Street
 - Minaret Road/Meridian Boulevard
 - Old Mammoth Road/Main Street
 - Old Mammoth Road/Meridian Boulevard

MITIGATION MEASURES

A series of street system improvements have been developed and are presented in this section in an effort to achieve acceptable operating conditions on the roadway system and intersection with projected future traffic volumes. These mitigation measures can be grouped into two general categories; physical improvements to increase capacity and transportation management measures to decrease traffic demand. The physical mitigation improvements are described below and are illustrated in Appendix D. The mitigations developed for the most part conform to the roadway designation goals and policies contained in the Circulation Element of the Mammoth Lakes General Plan. The improvements presented below would be in addition to the roadway improvements either currently programmed by the Town of Mammoth Lakes or those proposed as part of the North Village Specific Plan.

Mitigation Measure

4.7-1 *Roadway Improvements*

- Minaret Road (Main Street/Lake Mary Road to south of Old Mammoth Road) - Widen Minaret Road from Main Street/Lake Mary Road to south of Old Mammoth Road to provide four through travel lanes. This improvement would be consistent with the Town of Mammoth Lakes General Plan, which designates Minaret Road as an arterial.

- Old Mammoth Road (Main Street to south of Chateau Road) - Widen or re-stripe Old Mammoth Road from Main Street to south of Chateau Road to provide four travel lanes while maintaining the existing continuous left-turn lane.
- Lake Mary Road (Main Street to Lakeview Road) - Widen Lake Mary Road between Main Street and Lakeview Road to provide four travel lanes. The westbound through lane in this road segment would become an exclusive right-turn lane at the intersection with Lakeview Road.
- Main Street (Sierra Boulevard to Minaret Road) - Provide a two-way continuous left-turn lane in the median by widening Main Street between Sierra Boulevard and Minaret Road. This would be consistent with the existing two-way continuous left-turn lane east of Sierra Boulevard.

Mitigation Measure

4.7-2 Intersection Improvements

The following intersection improvements recommended to mitigate cumulative plus project conditions are in conjunction with the roadway improvements described above.

Minaret Road/Forest Trail - Widen Minaret Road just north of Forest Trail to provide two southbound lanes, resulting in one left-turn lane, one through lane and a through/right-turn lane on the southbound Minaret approach to Forest Trail. Provide north-south protected/permissive left-turn phasing. Restripe the eastbound approach to provide a right turn lane and provide a right-turn overlap phase. Restripe the westbound approach (widened as part of the North Village Specific Plan improvements) for a left-turn lane and a through/right-turn lane.

Lakeview Road/Lake Mary Road - Restripe the eastbound Lake Mary Road approach to provide one left-turn lane and one through lane (which would be the second eastbound through lane recommended as part of the Lake Mary Road widening east of Lakeview Road); widen the westbound Lake Mary Road approach to provide one through lane and one right-turn lane (which would be the second westbound through lane recommended as part of the Lake Mary Road widening east of Lakeview Road) and restripe the southbound Lakeview Road approach to provide one left-turn lane and one shared left/right-turn lane. These improvements would be in addition to the installation of a traffic signal, widening and grade reductions proposed in the North Village Specific Plan Circulation Plan.

Minaret Road/Main Street/Lake Mary Road - Widen the northbound Minaret Road approach to provide a right-turn lane. Widen the southbound approach to provide the following configuration: two left-turn lanes, one through lane, and one through/right-turn lane. Restripe the westbound approach to provide a second left-turn lane. Provide eight-phase signal operation by modifying the northbound and southbound from split phasing to protected left-turn phasing.

Sierra Boulevard/Main Streets - Restripe Main Street to provide a left-turn lane on the eastbound approach (in conjunction with the recommended widening of Main Street to provide a two-way continuous left-turn lane). This would remove turning vehicles from the through traffic lanes and thus improve the overall operation of the intersection. Also, restripe the southbound approach to provide a left-turn lane and a right-turn lane. This would reduce the delay to right turning traffic caused by vehicles waiting to turn left from a single approach lane. The intersection comes very close to meeting signal warrants with the projected traffic and should be monitored periodically to determine if the actual future volumes or accident incidence warrant the installation of a signal.

Old Mammoth Road/Main Street - Restripe the northbound approach to provide one left-turn lane and one shared left/right-turn lane. The two-lane southbound departure should be modified to provide for a continuous eastbound to southbound movement. Traffic turning left from the westbound approach would be able to turn into the other southbound departure lane.

Minaret Road/Meridian Boulevard - Widen both the northbound and southbound Minaret Road approaches to provide one left-turn lane, one through lane, and one through/right-turn lane on each approach. Widen the eastbound approach to provide a right-turn lane with a right turn overlap. Provide left-turn lanes on the eastbound and westbound Meridian approaches.

Old Mammoth Road/Meridian Boulevard - Widen the northbound and southbound Old Mammoth approaches to provide one left-turn lane, two through lanes, and one right turn lane.

Minaret Road/Old Mammoth Road - This intersection will satisfy traffic signal warrants under cumulative conditions. Install an eight-phase traffic signal, with protected left-turns on all approaches. Widen the northbound and southbound Minaret approaches to provide one left-turn lane. Two through lanes and one right-turn lane. Widen the westbound approach to provide two left-turn lanes, one through lane and one right-turn lane; widen the eastbound approach and departure to provide one left-turn through lane, one through lane, and one right-turn lane. The additional eastbound through lane should be extended approximately 300 feet past the intersection and the two through lanes could then transition back into one lane.

Transportation Demand Management

Transportation Demand Management programs are aimed at reducing the automobile trips on a circulation system, particularly during the peak hours of the day. In a resort setting such as Mammoth Lakes, the goal is best accomplished by increasing the use of alternative transportation modes such as transit and tour bus and pedestrian transportation.

The North Village project will provide an on-site shuttle service along Minaret road to connect the southern project boundary and the bus loop on Forest Trail. In addition, the Mammoth Area Transit will connect North Village and the Warming Hut II ski area. The overhead lifts connecting North Village to MMSA 2 and Lodestar to MMSA 7 will also decrease the automobile trips from the lodging to the ski areas.

The Town of Mammoth Lakes General Plan identifies the development of an integrated transit and non-motored (e.g. pedestrian, bicycles, cross country skiing) system as a major transportation goal. Such a system should not only link lodging and skiing areas, but should also link the lodging and residential areas of the Town with the resort commercial areas. Linking the major commercial and lodging developments together (such as North Village, Lodestar, Snowcreek) and to the existing commercial areas in the Town with an effective transit system would measurably decrease the traffic levels on the roadways.

The Town of Mammoth Lakes will be undertaking a transit system design study in the near future. It is anticipated that this study will assess the effects of an improved transit system on the potential reduction in vehicular trips resulting from increased transit ridership. Based on conservative estimates, a comprehensive transit system can be expected to decrease traffic demand by 5%-10% on a daily basis and 10%-15% during peak hours. These significant reductions in vehicular trips could reduce the need to provide certain roadway capacity improvements presented in this report. The level of developer financial participation in support of an improved transit system, "in lieu" of participation in certain roadway improvements which may no longer be required, should also be included in the upcoming transit system study.

The measures outlined below are aimed at realizing the maximum benefit from Transportation Demand Management.

- All access points from adjacent land uses to Minaret Road, Lake Mary Road and Main Street within the Specific Plan shall be evaluated by a qualified Traffic Engineer and approved by the Town of Mammoth Lakes Public Works Department.
- A system of pedestrian walkways shall be developed in substantial conformance to the Pedestrian Circulation Plan contained in the approved Specific Plan.
- Evidence of binding agreements for transit services substantially in conformance with the Specific Plan shall be provided prior to approval of more than one half of the lodging units allowed for the plan.

Effect of Mitigation Measures

The mitigation improvement measures presented would substantially improve the operation of the circulation system. The Level of Service for cumulative plus project traffic with the recommended mitigation improvements is summarized in Table 4.7.9 for roadways and Table 4.7.10 for intersections. However, the analysis indicated that a selected number of intersections would continue to operate at LOS "D", "E, or "F":

- The signalized intersections of Minaret Road/Main Street and Old Mammoth Road/Meridian Boulevard would continue to operate at LOS "F";
- The signalized intersections of Minaret Road with Forest Trail, Meridian Boulevard and Old Mammoth Road would operate at LOS "D";
- The unsignalized intersection of Sierra Road/Main Street would experience Level of Service "F" for the minor street traffic. The through traffic on Main Street would not be affected, and would continue to operate at free flow conditions.

The roadway Level of Service analysis indicated for the following conditions:

- Main Street between Minaret Road and Sierra Boulevard would operate at LOS "F";
- Main Street from Forest Trail to Old Mammoth would operate at LOS "E";
- Minaret Road from Meridian Boulevard to Forest Trail would operate at LOS "D".

Substantial additional physical improvements (such as widening Main Street to provide six through lanes or widening the Old Mammoth/Meridian Boulevard intersection into adjacent commercial parcels) would be needed to completely mitigate cumulative plus project conditions. These further measures necessary to fully mitigate these conditions would have significant secondary impacts due to right-of-way constraints. They would also not be consistent with the Town's Circulation Element. The implementation of comprehensive transportation demand management alternatives can be expected to improve the intersection Level of Service to more acceptable standards.

It should be emphasized again that these Level of Service projections are based on a "worst-case" scenario. This scenario combines reduced capacities due to adverse weather conditions and peak winter weekend traffic volumes which are expected to occur from 3% - 6% of the time. This scenario also includes fully planned expansion of the ski facilities and build-out of the future developments as currently proposed.

Project Contribution

The mitigation measures described in the previous section are recommended to mitigate traffic conditions resulting from cumulative plus project traffic. A review of Tables 4.7.5 and 4.7.6 indicates that the roadway intersections would require a number of the mitigation measures with the cumulative traffic alone. Only a portion of the cumulative mitigation measures can be directly attributable to development of North Village. The percent of future traffic which is contributed by the North Village project was determined for each roadway and intersection in order to equitably assess project mitigations.

Table 4.7-9

**CUMULATIVE PLUS PROJECT DAILY WINTER WEEKEND
ROADWAY LEVELS OF SERVICE WITH MITIGATION MEASURES**

ROADWAY	SEGMENT	TRAVEL LANES	DAILY CAPACITY	Cumulative Plus Project Conditions		
				ADT	V/C	LOS
Lake Mary Road	Lakeview Rd. to Minaret Rd.	4-und	25,000	18,000	0.72	C
Main Street	Minaret Rd. to Sierra Blvd.	4-und	30,000	31,900	1.06	F
Main Street	Forest Trail Rd. to Old Mammoth Rd.	4-lt	30,000	27,500	0.92	E
Meridian Boulevard	Majestic Pines Dr. to Minaret Rd.	4-und	25,000	14,000	0.56	A
Meridian Boulevard	Minaret Rd. to Old Mammoth Rd.	4-und	25,000	16,700	0.67	B
Minaret Road	Old Mammoth Rd. to Chateau Rd.	4-und	25,000	18,800	0.75	C
Minaret Road	Chateau Rd. to Meridian Blvd.	4-und	25,000	16,300	0.65	B
Minaret Road	Meridian Blvd. to Main St.	4-und	25,000	22,600	0.90	D
Minaret Road	Main St. to Forest Trail Rd.	4-lt**	30,000	25,200	0.84	D
Old Mammoth Road	Chateau Rd. to Meridian Blvd.	4-lt	30,000	21,600	0.72	C
Old Mammoth Road	Meridian Blvd. to Main St.	4-lt	30,000	22,200	0.74	C
Forest Trail Road	E/O Minaret Rd.	2-und	12,500	4,200	0.34	A
Forest Trail Road	W/O Minaret Rd.	2-und	12,500	8,600	0.69	B

Note:

- lt - Left-Turn channelization for all major segments.
- und - Undivided, little or no left turn channelization.
- * - Town of Mammoth Lakes Programmed Improvement.
- ** - North Village Specific Plan Improvement.

Table 4.7-10

**CUMULATIVE PLUS PROJECT
PM PEAK HOUR LEVEL OF SERVICE SUMMARY
MITIGATION IMPROVEMENTS**

<u>Unsignalized Intersections</u>	<u>Reserve Capacity^a</u>	<u>LOS^b</u>
Kelley Rd. & Lake Mary Rd.	+426 ^d	A
Sierra Blvd. & Main Street	- 30	F
<u>Signalized Intersections</u>	<u>V/C Ratio^c</u>	<u>LOS^b</u>
Minaret Rd. & Forest Trail Rd.	0.83	D
Lakeview Rd. & Lake Mary Rd.	0.50	A
Minaret Rd. & Main St.	1.05	F
Minaret Rd. & Meridian Blvd.	0.81	D
Minaret Rd. & Old Mammoth Rd.	0.85	D
Old Mammoth Rd & Main St.	0.57	A
Old Mammoth Rd. & Meridian Blvd.	1.02	F

Notes:

^a Reserve Capacity - Available reserve capacity for the most constrained intersection movement.

^b LOS - Level of Service Description (See Appendix).

^c V/C - Volume to Capacity (percent of intersection capacity utilized).

^d No Mitigation Required.

The percent contribution on the roadway segments is presented in Table 4.7.11. Table 4.7.12 presents the percent contribution of the project at the study intersections. The percent contribution was determined both for total future traffic and for cumulative traffic growth.

Evaluation of the Proposed Specific Plan Circulation System and Site Access

The North Village Specific Plan includes individual plans that address the areas of vehicular and pedestrian circulation and public transit. In addition, the primary points of vehicular access of major land uses are identified. The traffic study analyzes and assesses the Specific Plan Circulation System and site access based on the Cumulative plus Project winter weekend traffic projections.

Overview of the Circulation Plan

One of the intents of the North Village Specific Plan is to promote pedestrian access and circulation to minimize additional impacts to vehicular traffic, while also providing for improvements to existing circulation conditions. The circulation plan consists of three components:

1. Improve and modify the existing street system (both within and outside the Specific Plan Area boundaries) to reduce the level of skier traffic passing through predominantly residential areas, while maintaining adequate levels of circulation in these areas for residents and emergency vehicles.
2. Increase in mass transit/public transportation service to reduce the numbers of visitor vehicles on the roads.
3. Provide a pedestrian circulation system, including trails, walkways, and a pedestrian-oriented ski lift to reduce the need for visitor vehicle use.

Vehicular Circulation

Roadway System: The proposed vehicular circulation for the Specific Plan is illustrated in Figure 4.7-3. This roadway network includes improvements to the existing roadway system which are depicted in Figure 4.7-4. They include:

1. Abandon lower Canyon Boulevard east of Hillside Drive and eliminate the Canyon Boulevard and Minaret Road intersection.

Table 4.7-11

PERCENT CONTRIBUTION OF PROJECT TRAFFIC TO CUMULATIVE DAILY TRAFFIC

ROADWAY	SEGMENT	Percent of Total ^a Cumulative Traffic			Percent of Cumulative ^b Traffic Growth	
		North Village	Other Projects	Existing	North Village	Other Projects
Lake Mary Road	Lakeview Rd. to Minaret Rd.	33%	15%	52%	69%	31%
Main Street	Minaret Rd. to Sierra Blvd.	17%	22%	61%	44%	56%
Main Street	Forest Trail to Old Mammoth Rd.	15%	13%	72%	51%	49%
Meridian Boulevard	Majestic Pines Dr. to Minaret Rd.	13%	50%	37%	20%	80%
Meridian Boulevard	Minaret Road to Old Mammoth Rd.	4%	52%	44%	8%	92%
Minaret Road	Old Mammoth Rd. to Chateau Rd.	30%	41%	29%	42%	58%
Minaret Road	Chateau Rd. to Meridian Blvd.	34%	56%	10%	38%	62%
Minaret Road	Meridian Blvd. to Main St.	N/A	N/A	N/A	N/A	N/A
Minaret Road	Main St. to Forest Trail	37%	9%	54%	79%	21%
Old Mammoth Road	Chateau Rd. to Meridian Blvd.	9%	41%	50%	19%	81%
Old Mammoth Road	Meridian Blvd. to Main St.	15%	8%	77%	64%	36%

Notes:

- a. Consists of existing, cumulative and project traffic.
 - b. Incremental increase in traffic, not including existing traffic.
- N/A - Not applicable (no existing segment)

Table 4.7-12

**PERCENT CONTRIBUTION OF PROJECT TRAFFIC TO
CUMULATIVE PM PEAK HOUR TRAFFIC**

<u>Intersection</u>	<u>Total Future Traffic^a</u>			<u>Cumulative Traffic Growth^b</u>	
	<u>N. Village</u>	<u>Other Projects</u>	<u>Existing</u>	<u>N. Village</u>	<u>Other Projects</u>
Minaret Rd. & Forest Trail	18%	33%	49%	35%	65%
Kelley Rd. & Lake Mary Rd.	10%	16%	74%	38%	62%
Lakeview Rd. & Lake Mary Rd.	6%	16%	76%	35%	65%
Minaret Rd. & Main St.	23%	31%	46%	42%	58%
Sierra Bl. & Main St.	13%	21%	66%	38%	62%
Old Mammoth Rd. & Main St.	10%	25%	65%	29%	71%
Minaret Rd. & Meridian Bl.	19%	58%	23%	24%	76%
Old Mammoth Rd. & Meridian Bl.	4%	36%	60%	9%	91%
Minaret Rd. & Old Mammoth Rd.	11%	64%	23%	14%	86%

Notes:

- a. Consists of existing cumulative and project traffic.
- b. Incremental increase in traffic, not including existing traffic.

2. Reroute skier traffic from Warming Hut II to Lake Mary Road to relieve congestion at the Forest Trail-Minarete Road intersection and enable traffic from MMSA Main Lodge and Warming Hut II to meet at controlled conditions at the Lake Mary Road/Main Street-Minarete Road intersection.
3. Physically improve Lakeview Road, Lakeview Boulevard, Lake Mary Road, Millers Siding Road, and Minarete Road to safely accommodate projected traffic flows and winter conditions. The improvements include reducing roadway grades and street widenings.
4. Closure of the westerly portion of Berner Street and elimination of the Berner Street-Minarete Road intersection; rerouting of Berner Street to connect with Forest Trail to reduce traffic flow on Berner Street.

While the previously described improvements include eliminating one of the existing roadway connections to Minarete Road from the Warming Hut II area, the overall circulation for the area in the vicinity can expect to be improved by the proposed roadway network. There will continue to be two primary points of access to the Warming Hut II area and both will be able to accommodate higher levels of traffic in a safer, more efficient manner than current roadway and operational conditions allow. Increased roadway capacity, reduced grades and traffic signals at the key intersections (Lakeview Road at Lake Mary Road and Forest Trail at Minarete Road) will provide the level of traffic control and efficient operation needed to accommodate the traffic rerouted from the intersection of Canyon Boulevard/Minarete Road and future traffic generated by the Specific Plan. As previously discussed in the mitigations section, Forest Trail and Minarete Road will operate at a LOS "C" under "worst case" conditions with the recommended improvements. These conditions include the Canyon Boulevard realignment and cumulative plus project traffic levels. Lakeview Road and Lake Mary Road will operate at LOS "A" with the mitigations recommended.

The alternative of leaving the intersection of Canyon Boulevard and Minarete Road is from a traffic safety and operations standpoint, undesirable for a number of reasons. Without signalization this intersection would eventually become a liability from a safety standpoint due to existing and future traffic volumes. Current peak Saturday winter traffic levels show that the intersection has sufficient traffic to be a candidate for a traffic signal. Entering Minarete Road from Canyon Boulevard will become increasingly difficult because of the growth in traffic levels on Minarete Road.

However, three signalized intersections (Main Street/Lake Mary Road/Minarete Road, Minarete Road/Canyon Boulevard and Minarete Road/Forest Trail) in such close proximity would be undesirable from a traffic operations standpoint, particularly for moving traffic along Minarete Road. Traffic queues from each intersection would impact the adjacent location reducing the effective capacity of Minarete Road. This would all but eliminate the benefits of the signals in assigning right-of-way. Traffic queues would also restrict the vehicular access points to the project along Minarete Road.

Roadway Design Considerations: One of the key factors to consider in the Canyon Road realignment are the design elements (design speed and curve radii) for the sections of roadway that will be modified. Caltrans design criteria⁷ indicate that the appropriate design speed for a local collector roadway such as the realigned Canyon Road would be 30 mph. This in turn would dictate minimum curve radii of 300 feet. The Caltrans criteria (or similar criteria recognized by the Town of Mammoth Public Works Department) should be incorporated into the Canyon Road realignment design.

In relationship to closure and realigning Berner Street there is also a significant design element that will have to be addressed. Berner Street is proposed to intersect Forest Trail just west of an existing horizontal curve. This intersection location could result in limited sight distance looking east along Forest Trail from Berner Street. The design will need to meet the applicable sight distance criteria for movements at this intersection. The design should conform to the Caltrans Design Manual, AASHTO or other criteria that approximates these requirements as required by the Town of Mammoth Lakes Public Works Department.

Access Considerations: The overall circulation plan includes a series of Local Collector Streets that will provide circulation to and from the primary arterial and collector roadways serving the Specific Plan area. These local collectors in turn will provide access to the parking facilities in North Village via strategically placed entry/exit plazas. This system is effective and will be more than adequate for a number of reasons:

- 1) The number of conflicting points along the arterial roadways will be minimized.
- 2) Typically low speed maneuvers to and from parking areas will be provided from the lower volume local collector streets instead of from arterials with higher volumes and speeds. Based on the very conceptual layout and distribution of land uses provided in the Specific Plan each of the local collectors will have adequate capacity.

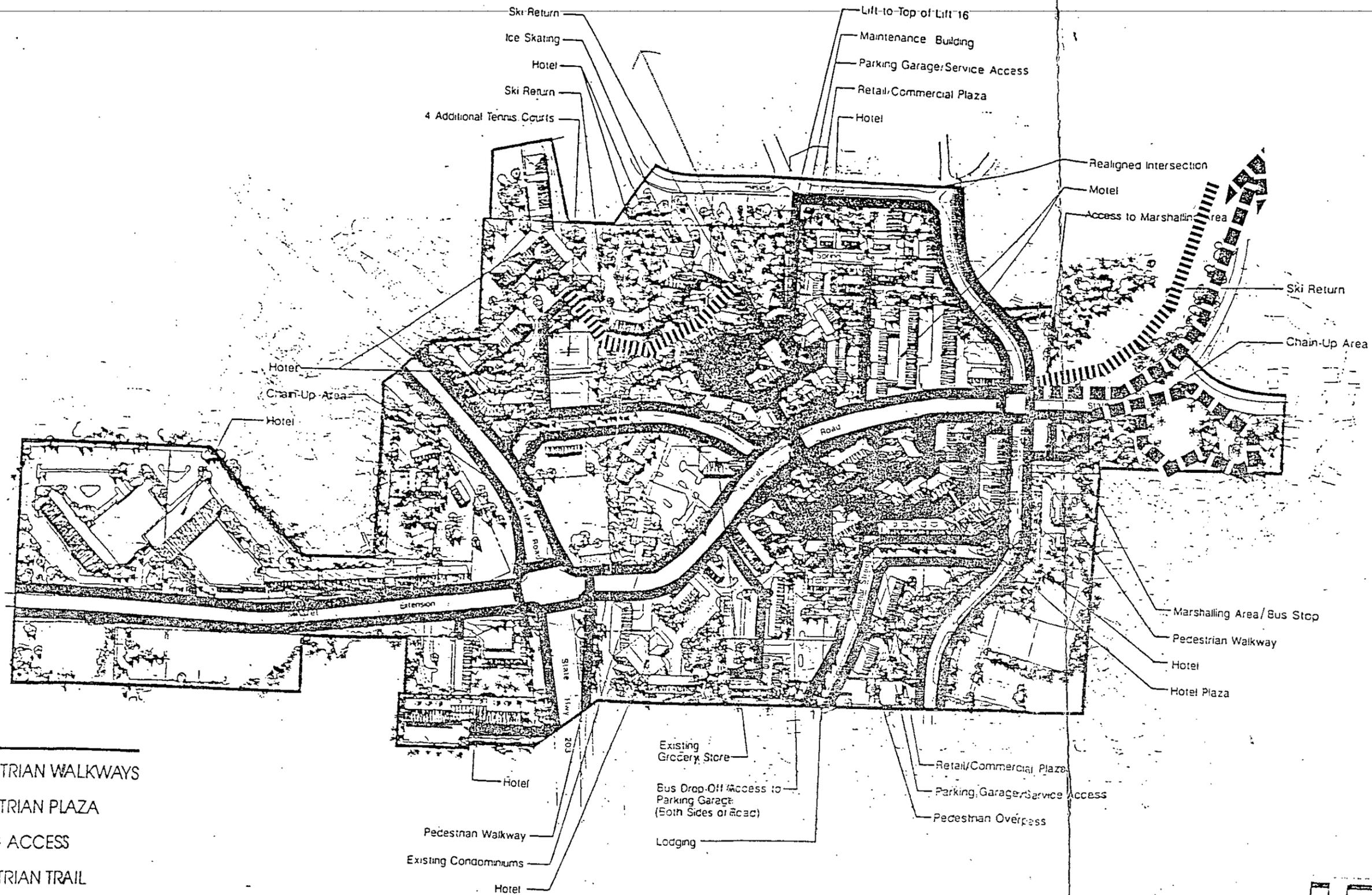
However, the specifics of the access and internal circulation of the individual projects that will be developed in the Specific Plan should be subject to review and approval by a qualified Traffic Engineer during the final approval process. During this subsequent review minimizing the number of driveways, aligning access points on the opposite side of the street and controlled access (limiting movements at specific points of access) should be evaluated for any proposed ingress/egress to Minaret Road and Lake Mary Road/Main Street.

Pedestrian Circulation and Public Transit

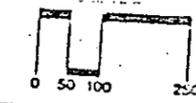
An integral part of the North Village circulation plan is oriented toward pedestrian and transit modes. (See Figures 4.7-10 and 4.7-11). Major features of the pedestrian circulation system includes three miles

⁷

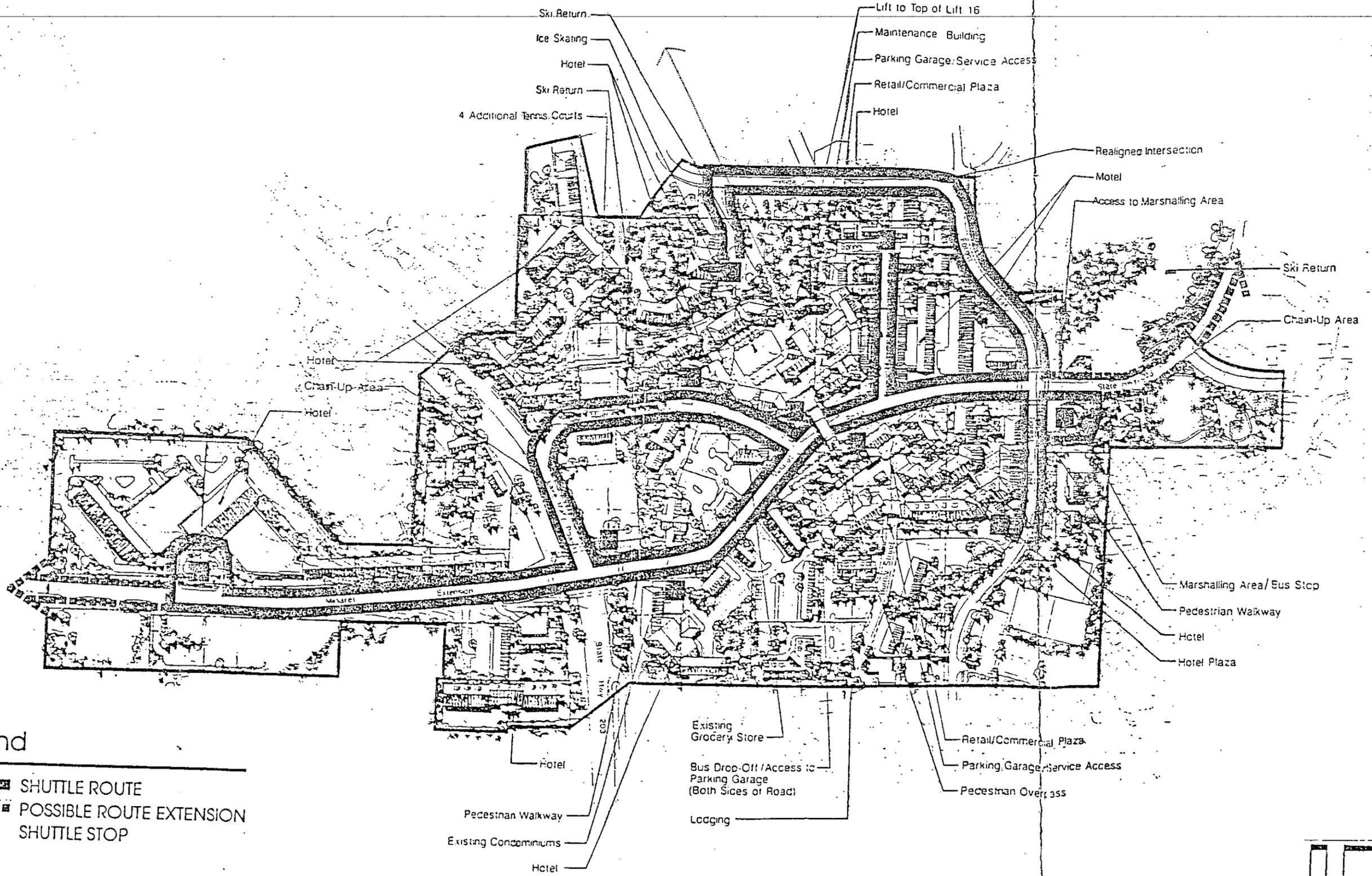
Caltrans Highway Design Manual, 4th Edition, State of California Department of Transportation.



SOURCE: Trans Tech



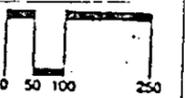
3-1



Legend

-  SHUTTLE ROUTE
-  POSSIBLE ROUTE EXTENSION
-  SHUTTLE STOP

SOURCE: Trans Tech



3-2

of walkways. Also included within the confines of the main plaza is the base of a planned ski lift facility which will transport skiers from the North Village Area to MMSA's base facilities. The lift is proposed to be a high-speed enclosed gondola with a design capacity of 2,500 skiers per hour. No day-use skier parking will be provided at the ski lift. The lift will be oriented toward those skiers staying in accommodations in North Village or other facilities within walking distance and those accessing the facility via public transit shuttle.

A ski-back trail will be provided to enable skiers from MMSA to return to the lodging facilities or meeting places in North Village without use of private or public vehicles. The majority of the ski-back trail will be located outside of the Specific Plan Area, between MMSA and North Village. The trail will end at the northwest corner of State Route 203 (Minaret Road) and Forest Trail Road. Access from the ski-back to the marshalling area/bus stop on the northeastern corner of the intersection will be provided via a pedestrian undercrossing.

Controlled pedestrian access across Forest Trail linking the skier marshalling area with North Village, and pedestrian access across Minaret Road to connect the westerly and easterly portions of the plaza, would be accommodated by the traffic signal proposed for the intersection of Minaret Road and Forest Trail.

Public transit enhancements are proposed to be provided through the MMSA operated shuttle. These enhancements will include additional stops, increased trip frequency extended operating hours, and better service to other areas in the Town.

While difficult to quantify, the integrated pedestrian and transit element of the circulation plan could reduce non-ski related trips by as much as 15%. The transit system design study to be undertaken by the Town will assist in identifying the effects of an improved transit system on reducing vehicular trips. Significant reductions in vehicular trips could reduce the need to provide certain roadway capacity improvements presented in this report. The level of developer financial participation in support of an improved transit system, "in lieu" of participation in certain roadway improvements, would be included in the upcoming transit system study.

Specific Plan Circulation and Site Access Mitigation Measures

The mitigation measures that follow are not directed toward eliminating any specific deficiencies identified in Specific Plan's Circulation and Access element. They are intended to complement the mitigation measures outlined for the roadway system. The overall goal is to provide a safe, efficient roadway system and to reduce travel demand so that the "worst case" traffic projection presented by this analysis are not realized.

- The final design of the Canyon Road and Berner Street realignments shall be in conformance with recognized standards for roadway design as required by the Town of Mammoth Department of Public Works.
- All access points from adjacent land uses to Minaret Road, Lake Mary Road and Main Street within the Specific Plan shall be evaluated by a qualified Traffic Engineer and approved by the Town of Mammoth Lakes Public Works Department.
- A system of pedestrian walkways shall be developed in substantial conformance to the Pedestrian Circulation Plan contained in the approved Specific Plan.
- Evidence of binding agreements for transit services substantially in conformance with the Specific Plan shall be provided prior to approval of more than one half of the lodging units allowed for the plan.
- All developments in North Village should participate in the development of a transit hub and transit system.

4.8 AIR QUALITY

4.8 AIR QUALITY

INTRODUCTION

This section of the Draft EIR evaluates the potential impacts on air quality resulting from the construction or operation of the proposed project. Where appropriate, mitigation measures are suggested that could minimize or eliminate potential significant air quality impacts.

SETTING

Climate

The proposed project site is located in Mono County. The climate of Mono County may be characterized as dry with wide fluctuations in daily temperatures, clear skies, excellent visibility and hot summers. Typically 70 percent of the rainfall occurs between November and February. The average minimum temperature is in the upper 20's with the average maximums in the mid to high 50's. Spring is the windiest season with fast-moving northerly weather fronts. Summer winds are northerly at night as a result of cool air draining off the mountain sides. Southerly winds during the day result from strong solar heating of the mountain slopes causing upslope circulation. The mean annual wind speed in Mammoth Lakes is less than 11 mph¹. Wind speeds just outside of Mammoth Lakes at elevations of 8,900 ft. and 7,800 ft. showed mean annual wind speeds of 21.7 and 11.5 respectively.

Regulatory Background

Criteria Pollutants. The 1970 Clean Air Act gave the U.S. Environmental Protection Agency (EPA) the authority to set federal ambient air quality standards. The Act indicated the need for primary standards to protect public health and secondary standards to protect public welfare from air pollution effects such as visibility reduction, soiling, nuisance, and other forms of damage. It also required that the federal standards be designed to protect those people most susceptible to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by illness, and persons engaged in strenuous work or exercise (all termed "sensitive receptors"). In 1971, the EPA established federal standards for five major criteria² air pollutants: photochemical oxidants (ozone), carbon monoxide (CO), suspended particulate matter (originally the standard applied to particulates of any diameter, termed total suspended particulates or TSP, but the standard was changed in 1987 to apply only to particulates less than 10 microns in diameter, termed PM₁₀), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂). State ambient air quality standards were first established for California in 1969, pursuant to the Mulford-Carrell Act. The federal and State standards, given in Table 4.8-1, provide acceptable concentrations for specific contaminant levels in order to protect sensitive receptors from adverse effects as indicated in Table 4.8-2.

TABLE 4.8-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal ⁽³⁾ Primary Standard	Federal ⁽²⁾ Secondary Standard	California ⁽¹⁾ Standard
Ozone	1-Hour	0.12 ppm	0.12 ppm	0.09 ppm
Carbon Monoxide	1-Hour	35.0 ppm	35.0 ppm	20.0 ppm
	8-Hour	9.0 ppm	9.0 ppm	9.0 ppm
Nitrogen Dioxide	1-Hour	---	---	0.25 ppm
	Annual	0.053 ppm	0.053 ppm	---
Sulfur Dioxide	1-Hour	---	---	0.25 ppm
	3-Hour	---	0.5 ppm	---
	24-Hour	0.14 ppm	---	0.05 ppm
	Annual	0.03 ppm	---	---
PM ₁₀ ⁽⁴⁾	24-Hour	150 µg/m ³⁽⁵⁾	150 µg/m ³⁽⁵⁾	50 µg/m ³⁽⁵⁾
	Annual	50 µg/m ³⁽⁵⁾	---	30 µg/m ³⁽⁵⁾
Sulfates	24-hour	---	---	25 µg/m ³
Lead	30 Day Avg.	---	---	1.5 µg/m ³
	Calendar Quarter	1.5 µg/m ³	1.5 µg/m ³	---
Hydrogen Sulfide	1-Hour	---	---	42 µg/m ³
Vinyl Chloride	24-Hour	---	---	26 mg/m ³
Visibility Reducing Particles	1 Observation	---	---	<10 miles when negative humidity <70% ⁽⁷⁾

ppm = parts per million, µg/m³ = micrograms per cubic meter.

- (1) California standards other than carbon monoxide, sulfur dioxide (1-hour), nitrogen dioxide, ozone and particulate matter - PM₁₀ are levels that are not to be equaled or exceeded. The carbon monoxide, sulfur dioxide (1-hour), nitrogen dioxide, ozone and particulate matter - PM₁₀ standards are not to be exceeded.
- (2) National standards (other than annual standards) are not to be exceeded more than once per year.
- (3) The standard applies whenever the ozone concentration is greater than 9 pphm or the 24-hour total suspended particulate concentration is greater than 100 µm³.
- (4) Particles with aerodynamic diameters less than or equal to 10 µm.
- (5) Calculated as geometric means.
- (6) National standards for PM₁₀ replaced total suspended particulate matter (TSP) standards, effective July 31, 1987. TSP data, however, are still being used as indicators of ambient PM₁₀ in areas with an insufficient PM₁₀ database. The national PM₁₀ standards are calculated as arithmetic means.
- (7) Prevailing visibility is defined as the greatest visibility which is attained or surpassed around at least half of the horizon circle, but not necessarily in continuous sectors.

Note: The Federal PM₁₀ Annual Standard is based on the Arithmetic Mean and the State PM₁₀ Annual Standard is based on the Geometric Mean.

Source: California Air Resources Board

TABLE 4.8-2
HEALTH EFFECTS SUMMARY OF THE CRITERIA AIR POLLUTANTS

<u>Air Pollutant</u>	<u>Adverse Effects</u>
Ozone	<ul style="list-style-type: none">· eye irritation· respiratory function impairment
Carbon Monoxide	<ul style="list-style-type: none">· impairment of oxygen transport in the bloodstream, increase of carboxyhemoglobin· aggravation of cardiovascular disease· impairment of central nervous system function· fatigue, headache, confusion, dizziness· can be fatal in the case of very high concentrations in enclosed places
Nitrogen Dioxide	<ul style="list-style-type: none">· risk of acute and chronic respiratory illness
Sulfur Dioxide	<ul style="list-style-type: none">· aggravation of chronic obstruction lung disease· increased risk of acute and chronic respiratory illness
Total Suspended	<ul style="list-style-type: none">· increased risk of chronic respiratory illness Particulate with long exposure· altered lung function in children with SO₂, may produce acute illness
PM ₁₀	<ul style="list-style-type: none">· particulate matter 10 microns or less in size (PM₁₀) which may be inhaled, and possibly lodge in and/or irritate the lungs
Lead	<ul style="list-style-type: none">· impairment of blood function and nerve construction· behavioral and learning problems in children

Source: Bay Area Air Quality Management District.

The 1977 Clean Air Act Amendments required that each state identify areas within its borders that do not meet federal primary standards for criteria pollutants (i.e., non-attainment areas) and devise a State Implementation Plan (SIP), subject to EPA approval, to attain federal primary standards no later than 1987. The California standards do not have specific attainment dates.

The California Air Resources Board (CARB) coordinates and oversees both State and federal air pollution control programs in California. As part of this responsibility, the CARB monitors existing air quality, establishes State air quality standards (which in many cases are more stringent than federal standards, as shown in Table 4.8-1), limits allowable emissions from vehicular sources, and is responsible for overseeing the SIP. The CARB has divided the State into many single and multi-county air basins. Authority for air quality management within each air basin has been given to local Air Quality Management Districts which develop local non-attainment plans within their jurisdiction. The CARB has designated the Great Basin Valley Air Basin (GBVAB) under the jurisdiction of the Great Basin Unified Air Pollution Control District (GBUAPCD).

Air Quality Planning and Control in the GBUAPCD

Air quality in Mammoth Lakes is monitored by the Great Basin Unified Air Pollution Control District (GBUAPCD) located in Bishop, California. The airshed above Mammoth Lakes is part of the Great Basin Valley Air Basin (GBVAB). GBVAB consists of Inyo, Mono, and Alpine Counties, which is the same as the jurisdiction of the GBUAPCD. The GBVAB is defined by the Sierra Nevada mountain range to the west; the White, Inyo, and Coso ranges to the east; Mono Lake to the north; and Little Lake to the south.

Spot monitoring in the GBVAB, conducted by the California Air Resources Board (CARB) in 1972, identified particulates as the most likely air quality problem. Monitoring for particulates by the GBUAPCD began in 1979 with 18 sites monitoring particulates. Currently there are 12 sites in the GBVAB monitoring particulates all of which have been modified to monitor PM_{10} . A Draft Air Quality Management Plan (Plan) for the Town of Mammoth Lakes was released on January 19, 1990, to identify PM_{10} sources and mitigation measures which may be instituted to attain National Ambient Air Quality Standards. The Plan, prepared by the GBUAPCD, is required under the federal Clean Air Act and will become part of the State Implementation Plan to attain federal standards.

The Plan identifies exceedances of the PM_{10} standard as occurring in the winter and associates the exceedances with increased emissions from wood stoves, fireplaces, and traffic-related road dust and cinders. These increased emissions result from the large influx of visitors who come to Mammoth Lakes during the ski season. Periods of meteorological stagnation combined with peak periods of the ski season result in violations of the PM_{10} standards.

The Town of Mammoth Lakes has already taken action to reduce the PM_{10} emissions from road dust and cinders by operating a vacuum street sweeper. Three ordinances developed by the Town of Mammoth Lakes and one ordinance prepared by the Wood Energy Institute are currently being considered to address the control of residential wood combustion and related PM_{10} emissions. All control measures suggested in the Plan are listed in Table 4.8-3.

In December 7, 1990, particulate emissions regulations were adopted by the Town. The ordinance addresses the regulation of solid fuel appliances, density limits, replacement schedules, capacity limits, prohibited fuels, mandatory curtailment, education programs, road dust reduction measures, fees, and penalties (see Appendix F).

Air Pollutant Problems and Trends - Mammoth Lakes and Project Vicinity

The GBUAPCD operates a regional air quality monitoring network in order to gauge the GBVAB's progress toward attainment of federal and State ambient air quality standards. At monitoring stations throughout this network, readings are taken regularly of criteria air pollutants. On the basis of monitoring data from the 14 stations spread throughout the GBVAB, the CARB has designated the entire GBVAB as a non-attainment area with respect to the State and federal PM_{10} standards and State ozone standards.

A three-year summary of the data collected at the Mammoth Lakes - Gateway Home Center station is shown in Table 4.8-4. The data in Table 4.8-4 reveals an increase in the number of days of ozone exceedances over the last three years. The number of days of actual exceedances of the PM_{10} 24-hour standard also have risen steadily as well as the annual geometric mean. Because PM_{10} measurements are only taken once every six days, the number of exceedances would be higher. Exceedances of the federal 24-hour PM_{10} standard have been estimated to occur on an average of 9.5 times during each of the last four winter seasons.³

Exceedances of the ozone standard have occurred predominately at night⁴. Because ozone requires sunlight to form, high levels of ozone in Mammoth Lakes has been hypothesized to result from transport of pollutants rather than local sources. The Northern San Joaquin Valley and the Mountain Counties Air Basin are currently under investigation by the CARB to determine their potential for contributing to exceedances of the ozone standard in Mammoth Lakes.

TABLE 4.8-3

**CONTROL MEASURES LISTED IN THE TOWN OF MAMMOTH LAKES
DRAFT AIR QUALITY MANAGEMENT PLAN**

<u>Measure Number</u>	<u>Control Measure</u>
1.	Use vacuum street sweeper for cinders and road dust.
2.	Reduce vehicle traffic.
3.	Institute a public awareness program for wood burning.
4.	Wood stove replacement.
4.a.	Require replacement or removal of non-certified wood stoves upon resale of dwelling.
4.b.	Limit installation of wood stoves after July 1, 1990 to EPA Phase II Certified or pellet stoves.
5.	Fireplace phase-out.
5.a.	Ban fireplaces in new dwellings.
5.b.	Require transient occupancy units to render fireplaces inoperable or to replace with a gas burner or pellet stove.
5.c.	Require fireplaces to be rendered inoperable or replaced with a gas burner or pellet stove upon resale of dwelling.
6.	Wood burning performance.
6.a.	Require certification for wood stove installers.
6.b.	Require a 20 percent wood moisture limit for wood retailers.
6.c.	Prohibit trash and coal burning in wood stoves.
6.d.	Set 20 percent opacity limit for wood burning.
7.	Curtail wood burning during air pollution episodes.
7.a.	Institute a voluntary wood burning ban during periods of poor air quality.
7.b.	Institute a mandatory wood burning ban when continued stove use is expected to cause a federal PM ₁₀ standard violation.

Source: Draft Air Quality Management Plan for the Town of Mammoth Lakes, January 19, 1990.

TABLE 4.8-4
AIR POLLUTANT DATA SUMMARY 1985-1987

STATION: Mammoth Lakes - Gateway Home Center

<u>Pollutant</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
OZONE: (ppm)			
Highest 1-hour	0.10*	0.10*	0.10
Days > 0.09	3	4	5
CARBON MONOXIDE: (ppm)			
Highest 1-hour	9.0*	9.0	11.0
Days > 20.0	0	0	0
Highest 8-hour	4.6*	6.4	6.0
Days \geq 9.1	0	0	0
PM ₁₀ : (ug/m ³)			
Highest 24-hour	166	110	159
Samples > 50	4	14	15
Annual Geometric Mean	23.4	31.0	36.7*
Year > 30	No	Yes	Yes

Notes: Highest recorded values for specific averaging times are followed by number of exceedances of the California state standards for each of the criteria pollutants.

* Data presented are valid, but incomplete in that an insufficient number of valid data points were collected to meet EPA and/or ARB criteria for statistical significance.

Units - ppm: parts per million; ug/m³: microgram per cubic meter
NM: not monitored

Source: California Air Resources Board, Air Quality Data Summary, 1986-1988.

IMPACTS AND MITIGATION MEASURES

Criteria of Significance

Unless otherwise noted, all identified impacts are considered to be adverse significant impacts. Corresponding mitigation measures, unless otherwise noted, would be sufficient to reduce impacts to a less than significant level. Air quality impacts can be classified as having effects either on a regional or local scale. The CEQA Guidelines indicate that a project will have a significant effect if it would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. Impacts that would violate federal standards, i.e., primary standards designed to safeguard sensitive receptors or secondary standards to safeguard public health, or State standards developed by CARB are considered significant adverse impacts. Additionally, a project would be considered to have a significant effect if it would violate any GBUAPCD standards.

Construction Impacts

Impact

4.8-1 Construction in the area of the proposed site will temporarily increase PM_{10} concentrations and could lead to violations of the federal and State 24-hour average PM_{10} standards. This is a *potentially significant impact*.

Clearing, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces generate dust. Therefore, construction in the area of the proposed site would temporarily increase PM_{10} concentrations and could lead to violations of the federal and State 24-hour average PM_{10} standards. It is not possible to estimate accurately the PM_{10} concentrations that would occur at or adjacent to the construction sites because such concentrations are very sensitive to local meteorology and topography, to variations in soil silt and moisture content, and to the level of equipment use. However, EPA measurements made during apartment and shopping center construction provide a rough indication of the maximum rate of particulate emissions. These measurements indicate that approximately 1,089 kg (1.2 tons) of dust are emitted per acre per month of construction activity.⁵ One-half of the dust would be comprised of large particles (i.e., diameter greater than 10 microns) which settle out rapidly on nearby horizontal surfaces and are easily filtered by human breathing passages. This dust is of concern as a soiling nuisance rather than a health hazard. The remaining fraction (PM_{10}) could be sufficient to violate the federal and State PM_{10} standards in the site vicinity.

Mitigation Measures

Implementation of Mitigation Measures 4.8-1 will reduce Project impacts to a less-than-significant level.

- 4.8-1(a) *To reduce the potential for nuisance due to dust and odors, all construction contracts shall require watering twice daily with complete site coverage; the frequency of watering shall increase as necessary to minimize dust if wind speeds exceed 15 mph.*
- 4.8-1(b) *Drift fencing tackifiers and covering of stockpiles shall be used in areas not under active construction.*

Dust emissions related to construction can be reduced approximately 50 percent by watering exposed earth surfaces during excavation, grading and construction activities.⁶ Conditions of approval should also require daily cleanup of mud and dust carried onto street surfaces by construction vehicles. Throughout construction activities, haul trucks should use tarpaulins or other effective covers. Upon completion of construction, contractors should take measures to reduce wind erosion. Replanting and repaving should be completed as soon as possible. Construction activities should be scheduled so that they do not contribute to peak periods of woodburning and vehicular traffic, previously discussed as major contributors to PM₁₀ exceedances.

Impact

- 4.8-2 **Operation of construction vehicles and equipment during the construction phase of the proposed Project could result in violations of federal and State 1-hour and 8-hour CO standards. This is a *short-term, potentially significant impact* during the construction phase of the proposed Project only.**

Large numbers of vehicles and equipment operating or idling in a small area may cause spot violations of the federal and State CO standards. Odors of construction equipment exhaust would probably be noticeable in the environs of the project site for the duration of construction.

Mitigation Measure

Implementation of Mitigation Measure 4.8-2 will reduce Project impacts to a less-than-significant level.

- 4.8-2 *To reduce the potential of spot violations of the CO standards and odors from construction equipment exhaust, unnecessary idling of construction equipment shall be avoided.*

Traffic Impacts

Carbon Monoxide "Hot Spots"

Impact

4.8-3 Emissions from vehicular traffic generated by the proposed Project could result in violations of federal and State ambient quality standards. This is a *potentially significant impact*.

By generating additional traffic in the Town of Mammoth Lakes, the proposed project would affect local traffic patterns and, thereby, change the local spatial and temporal distributions of ambient CO. Local air quality effects were estimated by using the CALINE4 air pollutant dispersion model to determine if the proposed project would cause any exceedances of the 1-hour or 8-hour federal or State standards. The State 1-hour and 8-hour standards, given in Table 4.8-1, are 20.0 ppm and 9.0 ppm respectively.

Table 4.8-5 shows existing, future cumulative and future cumulative plus project worst-case curbside CO concentrations expected at five intersections where project traffic is expected to have the greatest impact. As shown in the table, the potential for existing and future violations of the State's 9 ppm 8-hour CO standard exists. Of the five intersections analyzed, two intersections (Minaret and Main, and Old Mammoth and Main) showed potential exceedances of the CO standard. Combined traffic impacts from cumulative development plus the proposed project at buildout could exceed the 8-hour CO standards for receptors at the roadside. A sensitivity analysis showed that CO levels at this intersection dropped rapidly as receptors were moved away from the intersection. At a receptor distance of 50 feet from the roadside, CO concentrations at the intersection of Minaret and Main were determined to be below the standards (8.7 ppm). Cumulative development without the proposed project did not show the potential for exceedances of the CO standards at any of the intersections reviewed. No exceedances of the 1-hour CO standard are projected as a result of the proposed project or cumulative development.

Mitigation Measure

Implementation of Mitigation Measure 4.8-3 will reduce Project impact to a less-than-significant level.

4.8-3 *Development will not be allowed within 50 feet of the Old Mammoth and Main intersection.*

A 50-foot open space buffer around the Old Mammoth and Main intersection will reduce the potential for exposure of individuals to elevated CO concentrations.

TABLE 4.8-5
PREDICTED ROADSIDE CARBON MONOXIDE CONCENTRATIONS
(IN PPM)¹

<u>Location</u>	Averaging	Existing	Cumulative	Cumulative
	Time	1990	2010	+ Project 2010
1. Minaret/ Forest	1-hr.	11.5	15.2	14.6
	8-hr.	6.4	8.9	8.5
2. Minaret/ Main	1-hr.	14.2	14.5	16.1
	8-hr.	8.2	8.5	9.6
3. Sierra/ Main	1-hr.	10.4	10.3	10.6
	8-hr.	5.6	5.5	5.7
4. Old Mammoth/ Main	1-hr.	14.4	14.8	15.3
	8-hr.	8.4	8.7	9.0
5. Old Mammoth/ Meridian	1-hr.	14.4	14.6	15.0
	8-hr.	8.4	8.5	8.8
Backgrounds	1-hr.	10.0	10.0	10.0
	8-hr.	5.3	5.3	5.3
Standards	1-hr.	20.0	20.0	20.0
	8-hr.	9.0	9.0	9.0

¹The tabulated concentrations are the sums of a background component, which includes the cumulative effects of all CO sources in the project vicinity, and a local component, which reflects the effects of vehicular traffic on roadways. Background components were obtained from the Air Quality and Urban Development Guidelines for Assessing Impacts of Projects and Plans, BAAQMD, Revised April 1988. Local CO components were derived from the CALINE4 computer program, assuming worst-case conditions at the intersections. Traffic data was provided by Transtech Transportation Engineers.

PM₁₀ Emissions

Impact

- 4.8-4 **Resuspended road cinders and vehicle tail pipe and tire wear will contribute approximately 1,400 kg/day to the total PM₁₀ emissions inventory at buildout of the proposed Project. This is a significant impact.**

Resuspended road cinders contributed to 99 percent of the projected PM₁₀ emissions from vehicular sources. In the year 2005 the proposed project would contribute approximately 44 percent of the daily emissions of PM₁₀ from vehicular sources. Likewise, if the reductions from Table 4.8-3 are not implemented, the proposed project would increase annual PM₁₀ emissions by 98 percent above the cumulative annual emissions from vehicular sources. Because the proposed project is in a non-attainment area for PM₁₀, any increase in emissions of this pollutant would be a significant impact on air quality. Therefore, the proposed project would have a significant impact on air quality with respect to PM₁₀ emissions from vehicular sources.

Traffic-related PM₁₀ emissions were calculated using the same methodology as described in the Draft AQMP for Mammoth Lakes, Sections 3.2 and 3.3. Projected peak 24-hour PM₁₀ emissions for the year 2005 were taken from Table 5.2 of the Draft AQMP for Mammoth Lakes. Traffic generated by the proposed project was estimated at 104,650 Vehicle Kilometers Travelled (VKT) daily. Traffic generated by the cumulative impacts was estimated at 186,728 VKT daily. The VKT was obtained from Transtech Transportation Engineers.

Mitigation Measure

Implementation of Mitigation Measure 4.8-4 will reduce Project PM₁₀ emissions impacts to a less-than-significant level.

- 4.8-4 **Adopt and enforce Control Measures 1 through 7 of the Town of Mammoth Lakes Draft Air Quality Management Plan (see Table 4.8-3).**

The Plan aims to limit vehicular traffic in the Town of Mammoth Lakes to 106,600 VMT, which is 40,320 VMT more than the present peak traffic estimates. The proposed project without any transportation plans would increase the VMT by approximately 64,000. To attain the goals of this mitigation measure the Plan will call on future development projects, such as the proposed project, to implement transportation plans. Potential reductions from the above measures are illustrated in Table 4.8-6 for the years 1993, 1995, 2000 and 2005. Alone these mitigation measures would not be sufficient to bring the Town of Mammoth Lakes into compliance with PM₁₀ standards, however, acting in conjunction with mitigation measures proposed for reducing PM₁₀ emissions from wood burning, PM₁₀ standards may be obtained.

Woodburning Impact

- 4.8-5 **At buildout of the proposed project, in 2005, the contribution of PM₁₀ from woodburning would be approximately 19.4 Mg⁷ annually and for a worst-case day approximately 369 kg. This is a significant impact.**

These calculations assume that all 2,400 proposed units will have EPA certified woodburning stoves. The proposed project would increase annual PM₁₀ emissions by 15 percent above the current annual emissions from residential wood combustion. In the year 2005 the proposed project would contribute approximately twelve percent of the daily emissions of PM₁₀ from fireplaces and wood stoves/inserts. Because the proposed project is in a non-attainment area for PM₁₀, any increase in emissions of this pollutant would be a significant impact on air quality. Therefore, the proposed project would have a significant impact on air quality with respect to PM₁₀ emissions from woodburning related to the project.

Mitigation Measures

To be consistent with the Plan and reduce Project impacts to less-than-significant levels, the proposed Project will need to apply the following restrictions to wood burning:

- 4.8-5(a) *Residential units shall be limited to one woodburning appliance per dwelling. The appliance must be an EPA Phase II-certified woodburning stove or pellet stove. Woodburning shall comply with standards in the Town's woodburning ordinance (Chapter 8.30, Particulate Emissions Regulations).*
- 4.8-5(b) *Each hotel may have only one fireplace in the lobby or other common area. No other solid fuel appliances shall be allowed.*
- 4.8-5(c) *All structures shall have high-efficiency central heat.*

CUMULATIVE IMPACTS

The proposed Project will contribute to an increase in the degradation of the general air quality of the Town. Since both population and vehicular traffic will increase as a result of the buildout of the proposed Project, the release of pollutants will correspondingly increase. The changes in the level of pollutants from the proposed Project and other proposed cumulative development are summarized in Tables 4.7-5 and 4.7-6. The increases in PM₁₀ emissions from cumulative development are significant, with and without the proposed Project. However, the Traffic Element of the Town of Mammoth Lakes General Plan calls for transportation systems management measures to reduce peak-hour trip generation. Implementation of these measures will reduce the cumulative impact on ambient air quality.

TABLE 4.8-6

ESTIMATED DAILY PEAK PM₁₀
FROM CUMULATIVE DEVELOPMENT

	<u>1993</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>
Uncontrolled Concentrations (ug/m ³)	244	267	324	381
Total Reductions Needed (ug/m ³)	94	117	174	231
	<u>Ambient Reductions (ug/m³)</u>			
<u>Control Measure</u>	<u>1993</u>	<u>1995</u>	<u>2000</u>	<u>2005</u>
1. Vacuum Streets	35	38	44	51
2.a. Increase Mass Transit (reduce exhaust)	0	0	0	0
2.b. Increase Mass Transit (reduce cinders)	11	19	38	57
4.a. Remove Stove Upon Resale	6	10	19	29
4.b. Install Phase II Certified Stoves (1990)	0	0	1	1
5.a. Ban New Fireplaces	8	13	26	39
5.b. Ban Existing Fireplaces in Rental Units	20	20	20	20
5.c. Ban Existing Fireplaces Upon Home Resale	6	10	21	31
6.a. Certify Stove Installers	1	1	2	3
6.b. Limit Wood Moisture	4	4	3	2
7.a. Voluntary Wood Burning Ban	8	7	6	4
7.b. Mandatory Wood Burning Ban	32	29	24	18
Total Reductions Without 7.b.	99	122	180	237
Total Reductions With 7.b. (= all measures)	131	151	203	255
Total Concentrations Without 7.b.	145	145	144	144
Total Concentrations With 7.b. (= all measures)	113	116	121	126

Source: Draft Air Quality Management Plan for the Town of Mammoth Lakes, GBUAPCD, January 19, 1990.

ENDNOTES

1. Wind Atlas, California Energy Commission, April 1985.
2. Acceptable concentration levels for some pollutants are chosen after careful review of available data on health effects. Pollutants subject to federal ambient standards are referred to as criteria pollutants because the EPA publishes criteria documents to justify the choice of standards.
3. Draft Air Quality Management Plan for the Town of Mammoth Lakes, GBUAPCD, January 19, 1990.
4. Proposed Identification of Districts Affected by Transported Air Pollutants which Contribute to Violations of the State Ambient Air Quality Standard for Ozone, CARB, October 1989.
5. The particulate emission factor was obtained from Air Quality and Urban Development, BAAQMD, November 1985, Table VI-C-2, p. VI-18.
6. U.S. Environmental Protection Agency, Compilation of Air Pollutant Emission Factors, AP-42, Third Edition, August 1977, p. 11.2.4-1.
7. Mg is defined as one million grams.

4.9 NOISE

4.9 NOISE

INTRODUCTION

This section of the Draft EIR evaluates the potential impacts on noise resulting from the construction or operation of the proposed project. Where appropriate, mitigation measures are suggested that could minimize or eliminate potential significant noise impacts.

SETTING

The human response to environmental noise is subjective and varies considerably from individual to individual. The effects of noise can range from interference with sleep, concentration, and communication, to the causation of physiological and psychological stress, and, at the higher intensity levels, to hearing loss. Several examples of the noise levels associated with common situations are listed in Table 4.9.1, given in A-Weighted decibels (abbreviated dBA).

Environmental noise fluctuates in intensity over time, and several descriptors of time-averaged noise levels are in use. The three most commonly used are L_{eq} , L_{dn} , and CNEL. L_{eq} , the energy equivalent noise level, is a measure of the average energy content (intensity) of noise over any given period of time. L_{dn} , the day/night average noise level, is the 24-hour average of the noise intensity, with a 10 dB "penalty" added for nighttime noise (10:00 PM to 7:00 AM) to account for the greater sensitivity to noise during this period. CNEL, the community noise equivalent level, is similar to L_{dn} , but adds a 5 dB penalty to evening noise (7:00 PM to 10:00 PM). In situations where motor vehicles are the dominant source of noise, a useful rule of thumb for relating these three quantities is to remember that the L_{eq} for the peak commute hour is usually about equal to the L_{dn} and CNEL.

Regulatory Background

In order to limit population exposure to physically and/or psychologically damaging noise levels, the State of California, the various County governments, and most municipalities in the State have established standards and ordinances to control noise (see Table 4.9-1).

TABLE 4.9-1

TYPICAL SOUND LEVELS MEASURED IN THE
ENVIRONMENT AND IN THE INDUSTRY

<u>At a Given Distance From Noise Source</u>	<u>A-Weighted Sound Level in Decibels</u>	<u>Noise Environments</u>	<u>Subjective Impression</u>
	140		
Civil Defense Siren (100')	130		
Jet Takeoff (200')	120		Pain Threshold
	110	Rock Music Concert	
Pile Driver (50') Ambulance Siren (100')	100		Very Loud
	90	Boiler Room	
Freight Cars (50') Pneumatic Drill (50')	80	Printing Press Plant In Kitchen with Garbage Disposal Running	
	70		Moderately Loud
Vacuum Cleaner (10') Department Store	60	Data Processing Center	
Light Traffic (100') Large Transformer (200')	50	Private Business Office	
	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

Source: "Handbook of Noise Measurement" by Arnold P. G. Peterson and Ervin E. Gross, Jr., 1963

The California Department of Health Services' (DHS) Office of Noise Control has studied the correlation of noise levels and their effects on different land uses. A summary of Land Use Compatibility Standards for Community Noise is presented in Table 4.9.2. Table 4.9.2 shows the noise levels (in this case, L_{dn}) below which the land use would be compatible with the exterior noise environment with no special noise insulation requirements (e.g., for residential uses, this would be an L_{dn} of 60 dB). Table 4.9.2 also shows the noise levels above which the identified land use would be considered incompatible due to the difficulty of providing the needed noise insulation (e.g., for residential uses, this would be an L_{dn} of 75 dB). Table 4.9.2 indicates that there is often a large range of exterior noise levels in which different land uses could be made compatible if necessary noise reduction features are included in the design of a proposed project (e.g., for residential uses, L_{dn} levels ranging from 60 dB to 75 dB could be accommodated by installing adequate insulation).

The Town of Mammoth Lakes has adopted noise guidelines as part of the Noise Element of its General Plan. The noise guidelines state that a "normally acceptable" L_{dn} should not exceed 60 dB for detached housing and multi-family buildings should not exceed an L_{dn} of 65 dB. The Town has adopted the Mono County Noise Regulations which also has specific noise limit standards, as set forth in Municipal Code Chapter 10.16. In addition to establishing exterior noise limits, Chapter 10.16 restricts construction noise and the hours during which it may occur.

Title 24 of the California Administrative Code establishes standards governing interior noise levels that apply to all new multi-family residential units in California. These standards require that acoustical studies be performed prior to construction at building locations where the existing L_{dn} exceeds 60 dB. Such acoustical studies are required to establish mitigation measures that will limit maximum L_{dn} noise levels to 45 dB in any inhabitable room. Although there are no generally applicable interior noise standards pertinent to all uses, many communities in California have adopted an L_{dn} of 45 dB as an upper limit on interior noise in all residential units.

Town of Mammoth Lakes Noise Environment

The major sources of noise in the Town of Mammoth Lakes are motor vehicles. Based on the Noise Element of the General Plan, Main Street, east of Minaret Road is the only source of traffic noise that generates noise above 65 dBA. Levels of up to 75 dBA have been recorded at the intersection of Main Street and Old Mammoth Road. Vehicles using other streets, including Lake Mary Road, Meridian Boulevard, Forest Trail and Sierra Park Road, contribute significantly to the total ambient noise level. The remainder of the ambient noise is produced by aircraft overflights from the Mammoth/June Lakes Airport, recreational vehicles including snowmobiles and off-road motorcycles, and construction operations.

Land Use Compatibility for Community Noise Environments

Table 4.9.2

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE Ldn or CNEL, db					
	55	60	65	70	75	80
Residential - Low Density Single Family, Duplex, Mobile Homes	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Residential - Multi. Family	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Transient Lodging - Motels, Hotels	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Schools, Libraries, Churches, Hospitals, Nursing Homes	Normally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Auditoriums, Concert Halls, Amphitheaters	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Sports Arena, Outdoor Spectator Sports	Conditionally Acceptable	Conditionally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Playgrounds, Neighborhood Parks	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	Normally Acceptable	Normally Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable	Clearly Unacceptable
Office Buildings, Business Commercial and Professional	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable
Industrial, Manufacturing, Utilities, Agriculture	Normally Acceptable	Normally Acceptable	Normally Acceptable	Conditionally Acceptable	Clearly Unacceptable	Clearly Unacceptable



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE

New construction or development should be generally discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

Several of the Town's major arterial streets lead to, or border the proposed project area and would contribute to the total ambient noise. Noise measurements based on existing traffic volumes were predicted along streets within and outside the proposed project to define the existing ambient noise. A summary of these predicted noise levels at nine locations is given in Table 4.9.3. Existing and projected noise peak L_{eq} levels were calculated by using traffic counts taken in the preparation of the traffic study presented in this DEIR. Predicted noise levels were determined at a distance of 50 feet from the centerline of the roadways for existing peak traffic volumes. The L_{eq} ranged from a low of 59 dBA for existing conditions south of the intersection of Minaret Road and Main Street to a high of 74 dBA west of the intersection of Sierra Boulevard and Main Street.

IMPACTS AND MITIGATION MEASURES

CEQA indicates that a project will normally result in a significant adverse noise impact if it causes a substantial increase in the ambient noise level in areas sensitive to noise adjacent to the project site. The potential for significant impacts also exists where land use compatibility standards for community noise, as defined by the State of California and/or those adopted by the Town of Mammoth Lakes, are exceeded.

Construction Noise

Impact

4.9.1 **Construction-related noise from the proposed project would increase ambient noise levels in areas surrounding the project site. This is a *significant* impact.**

Construction activities would temporarily generate high noise levels on and around the proposed project site. Table 4.9.4 shows outdoor noise levels likely to be experienced during the various construction phases. Since noise from localized sources is typically reduced by about 6 dB with each doubling of distance from the source of noise to the person hearing the noise (receptor), outdoor receptors within 1,600 feet of construction sites, with an uninterrupted view of the construction site, would experience noise greater than 60 dB when noise on the construction site exceeds 90 dB. This would occur if pile driving is necessary. Noise levels during other stages of construction would also be high. Table 4.9.5 depicts noise levels associated with various types of construction equipment.

Construction noise has the greatest potential for disrupting and disturbing residents and workers in the surrounding neighborhoods. The time of greatest noise sensitivity generally occurs during morning and evening hours for residents neighboring the proposed site, and during the daytime for people working in the vicinity of the construction site.

TABLE 4.9.3
PROJECTED PEAK NOISE LEVELS FOR
PROPOSED PROJECT AND CUMULATIVE DEVELOPMENT
(AND DISTANCE TO 60 dBA NOISE CONTOURS)¹
dBA (ft.)

<u>Locations</u>	<u>Existing</u>	<u>Cumulative</u>	<u>Cumulative + Project</u>
1. Minaret Road north of Minaret & Forest Trail	71 (645)	73 (910)	73 (1020)
2. Minaret Road south of Minaret & Forest Trail	71 (690)	74 (1145)	74 (1345)
3. Forest Trail east of Minaret & Forest Trail	62 (72)	65 (160)	67 (275)
4. Forest Trail west of Minaret & Forest Trail	61 (63)	67 (240)	69 (360)
5. Minaret Road south of Minaret & Main Street	59 (41)	71 (690)	73 (1070)
6. Main Street east of Minaret & Main Street	71 (630)	73 (975)	74 (1200)
7. Lake Mary Road west of Minaret & Main Street	72 (870)	74 (1200)	75 (1410)
8. Sierra Boulevard west of Sierra & Main Street	74 (1170)	75 (1545)	76 (1775)
9. Old Mammoth Road north of Old Mammoth & Meridian	73 (955)	75 (1410)	75 (1475)

¹Predicted noise levels were calculated for 50 feet from center of road.

TABLE 4.9.4
TYPICAL CONSTRUCTION NOISE LEVELS AT 50 FEET (dB)¹

Commercial Construction Average Noise Construction Phase	Housing Construction Noise Level	Average Noise Level
Groundclearing	84	84
Excavation	89	88
Pile Driving	101	101
Foundations	78	81
Erection	85	82
Finishing	89	88

¹ Taken from Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, prepared by Bolt, Beranek, and Newman for the U.S. Environmental Protection Agency, December 31, 1971, p. 20.

TABLE 4.9.5
TYPICAL CONSTRUCTION EQUIPMENT NOISE (dB)¹

<u>Equipment Type</u>	<u>Noise Level at 50 Feet</u>	
	<u>Without Noise Control</u>	<u>With Feasible Noise Control²</u>
Earthmoving:		
Front Loaders	79	75
Backhoes	85	75
Dozers	80	75
Tractors	80	75
Scrapers	88	80
Graders	85	75
Trucks	91	75
Pavers	89	80
Materials Handling:		
Concrete Mixers	85	75
Concrete Pumps	82	75
Cranes	83	75
Derricks	88	75
Stationary:		
Pumps	76	75
Generators	78	75
Compressors	81	75
Impact:		
Pile Drivers	101	95
Jack Hammers	88	75
Rock Drills	98	80
Pneumatic Tools	86	80
Other:		
Saws	78	75
Vibrators	76	75

1 Taken from Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, prepared by Bolt, Beranek, and Newman for the U.S. Environmental Protection Agency, December 31, 1971.

2 Estimated levels obtainable by selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost.

The following measures would reduce Project impacts to a less-than-significant level.

Mitigation Measures

- 4.9-1(a) *Construction activities shall be limited to the hours between 7 a.m. and 8 p.m. Monday through Saturday and 9 a.m. to 5 p.m. on Sunday in order to minimize noise impacts.*
- 4.9-1(b) *Construction equipment shall be required to be muffled or controlled. Contracts shall specify that engine-driven equipment be fitted with appropriate noise mufflers. Copies of contracts shall be filed with the Public Works Director prior to issuance of permits.*

Operational Noise Effects (Traffic and Gondola)

Impact

- 4.9.2 Noise levels exceeding 60 dBA currently exist on all major arterials and most streets reviewed and are projected to increase significantly as a result of cumulative development with and without the proposed project. Noise levels for the year 2005 with the project would not be noticeably higher than noise levels projected without the project. The electrical gondola will not have a noise impact. Both indoor and outdoor noise levels could exceed thresholds established by the Town. This is a *significant impact*.

The largest increases between existing noise levels and predicted cumulative noise levels with and without the proposed project occurred south of the intersection of Main Street and Minaret Road on Minaret Road. Increases along this corridor would be perceived to be twice as loud as a result of increased traffic from cumulative development. The incremental increase in noise from the proposed project to traffic noise generated by cumulative development would not be detectable. To the average person an increase in noise levels of 3 dB would be perceived as just noticeable while a 10 dB increase in noise levels would be perceived as twice as loud.

The increase in noise levels reported in Table 4.9.3 would be considered a significant adverse noise impact only if it causes a substantial increase in the ambient noise level in areas sensitive to noise adjacent to the project site. Based on the distances to the 60 dB contour, referenced in Table 4.9.3, receptors located inside this contour would be subjected to an adverse significant noise impact from cumulative traffic noise.

An adverse significant noise impact would also exist if the proposed project assigned land uses which were not in agreement with the land use compatibility standards for community noise, presented in Table 4.9.2. Setbacks from streets generating noise in excess of 60 dB have not currently been defined for the proposed project and

therefore a determination of the potential for a significant noise impact on a specific type of land use cannot at this time be determined.

The gondola will not have a noise impact on the residents of the Town of Mammoth Lakes. The gondola will be electrical and will have a diesel back-up for emergencies. Both engines will be outside the town. Noise generated by either engine will be below ambient noise levels at sensitive receptors.

Mitigation Measures

- 4.9.2(a) *The proposed project shall be located or architecturally designed so the exterior noise levels will not exceed 60 dB and interior noise levels will not exceed 45 dB. Design features could include setbacks, berms, landscaping and architectural features, adjacent to both arterial and interior streets.*
- 4.9.2(b) *Multi-family buildings shall be located or architecturally designed so the interior noise level will not exceed 45 L_{dn}. As a minimum, multi-family housing shall comply with Title 24 of the California Administrative Code.*
- 4.9.2(c) *The project proponents shall work with Town staff to implement transit alternatives to reduce automobile traffic as outlined in the Town's General Plan. Cumulative site development shall be reviewed at each phase and a trip reduction program developed for current phase implementation. Typically, a reduction in traffic of one-half would reduce the noise level by 3 dB.*

CUMULATIVE IMPACTS

The Project will contribute to an increase in noise levels resulting from increased traffic and population growth. Noise exposure estimates resulting from project buildout and population growth have been analyzed in the Traffic and Population sections. The resulting estimates are summarized in Table 4.9-3. Mitigation measures 4.9-1 and 4.9-2 will reduce the impact of long-term noise. Implementation of the Town of Mammoth General Plan Noise element will further reduce ambient noise levels.

4.10 ARCHAEOLOGICAL RESOURCES

4.10 ARCHAEOLOGICAL RESOURCES

SETTING

The North Village project area is located within the Town of Mammoth lakes, along Minaret Road and Main Street (State Highway 203). The legal location is within the northwest quarter of section 34, T3S, R27E, MDB&M. The archaeological survey studied a total of 90 acres, including the area considered in the North Village Specific Plan. The North Village Specific Plan identified existing and new developments to include construction of resort dwelling units, commercial and retail developments, and ski lift.

Background

The project area is located in territories that were once occupied by several ethnic groups; the Mono Lake Paiute to the north, the Owens Valley Paiute to the south, Benton and Round Valley Paiute to the east, Monache to the west, and Southern Sierra Miwok to the northwest. The Paiute and Monache are Numic speakers, of the Uto-Aztecan language family, while the Southern Sierra Miwok is a branch of the Utian language family. The tribes from the Northern section of the Sierras, primarily the Mono Lake Paiute, travelled the Sierras and would often unify with other smaller groups when searching for food. The Owens Valley Paiute group usually stayed in one location year-round in permanent villages. Both Long Valley and Owens Valley tribes traded many items in exchange for shell money, acorns, baskets, arrows, a fungus used in paints, manzanita berries, elderberries, and squaw berries (Hall 1983:57-58).

Some items traded by the Owens Valley Paiute were salt, pinyon pine nuts, seeds, obsidian, sinew-backed bows, rabbit skin blankets, deerskins, moccasins, mountain sheepskins, 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 white glass beads), acorns and acorn meal, finely constructed Yokuts baskets, cane for arrow, manzanita berries, squaw berries, and elderberries from the Monache (Hall 1983:56-57). The Mono Lake Paiute traded salt, pinyon pine nuts, piuga, brine, fly larvae, rabbit skin blankets, baskets, pumice stones, and red and white pigments to the Sierra Miwok.

Historical Background

The first non-Indians to travel through the Owens Valley were Euroamericans in the 1830s and the Owens Valley later became an occasionally-used immigrant trail (Busby et al., 1979:37-39). Prospecting and mining east of the Sierra Nevada began in the 1850s: the Lost Cement Mine, near Mammoth Lakes, was purportedly discovered in 1857. In 1861 the first permanent herds of cattle were brought into Owens Valley to supply the growing population of the mining camps of the Inyo-Mono region. Due to grazing by the cattle and the cutting of pinyon for lumber and firewood by the miners and ranchers, the Paiute's

food supply was greatly reduced by the winter of 1862. The Paiutes and the new settlers engaged in many battles over land and food during the next year. However, by 1863, the fighting was over and most of the Paiute in the region were removed to a reservation at Fort Tejon, south of the Owens Valley.

With the ending of hostilities, settlement of the region continued unabated. In the 1880s cattle ranching and lumber production replaced mining as the principal enterprise, although small-scale mining continued.

In the 1900s, Mammoth was promoted as a resort community. Recreation and tourism then became the dominant industry in the region.

ARCHAEOLOGICAL BACKGROUND

Previous Work

A site survey of archaeological resources was conducted by Jeffery F. Burton in February 1990. Two sites and four isolates were recorded during this survey. The archaeological work identifies four major phases of time in the Medithermal Period: pre-Newberry Period (Pre-1200 B.C.), the Newberry Period (1200 B.C.- A.D. 600), Haiwee Period (A.D. 600-1300), and the Marana Period (A.D. 1300-historic). Information compiled from the various excavations and surveys provides a glimpse of life ways during these periods. The pre-Newberry occupation of Long Valley may have been sporadic. During the Newberry period, obsidian quarrying and biface production, apparently for trade, appears to have become intensive. During the Haiwee and Marana periods, biface production diminished, and there is evidence of increasing direct subsistence activity. Long Valley has lacked evidence of the shifts in direct subsistence that appear to have occurred in Owens Valley, to the south. For example, occupation sites are usually associated with riparian settings and were used throughout the Medithermal period (Bettinger 1982a:112-114). However, there is some evidence that pinyon exploitation did not begin on any intensive scale in Long Valley until the Haiwee period (after A.D. 600), and there may have been a partial abandonment or reduction in the use of upland and desert scrub areas after ca. A.D. 1000 (Bettinger 1977).

A total of 90 acres was examined. The survey located and recorded four isolates and two sites. Of the four isolates, only six obsidian flakes and an obsidian core fragment were found. At the two North Village sites, 1,100 obsidian flakes and flake fragments were found. Soil development for the majority of the North Village site suggests the potential for subsurface deposits.

IMPACTS AND MITIGATION MEASURES

For the purpose of this EIR, the effect of any activity that has the potential to disrupt or adversely affect a prehistoric, historic, archaeological or paleontological resource (except as part of a scientific study) is considered a significant adverse effect.

Unless otherwise noted, all identified impacts are considered to be significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, would be sufficient to reduce impacts to a less than significant level.

Cultural resources within the project area could be affected by direct and indirect adverse impacts. Direct adverse impacts would accompany ground-disturbing activities. The impacts would arise primarily from grading and other construction activities. Indirect adverse impacts would accompany the increase in population associated with development. These indirect impacts, such as from "souvenir collecting," uncontrolled excavation, vandalism, or off-road driving, also can be substantial over time (Wildesen 1982). It has been shown that the accessibility of sites to population centers and roads are a major factor for the vandalism suffered at a site (Lyneis et al. 1980).

The four isolates do not meet the California Environmental Quality Act (CEQA) definition of a significant cultural resource; these require no further archaeological work under the CEQA guidelines.

Impact

4.10-1 **Development of the proposed project could disturb prehistoric cultural resources. This is a *potentially significant impact*.**

North Village Site #1 may meet the CEQA criteria for important sites, for the site's ability to address scientifically consequential research questions. The site would be impacted by construction.

North Village site #2 appears significant. Due to its location and high visibility, the site is in danger of slow degradation and is susceptible to casual collection and indirect impacts.

Mitigation Measure

4.10-1(a) *North Village Site #1 shall be subject to subsurface testing and a thorough archaeological survey prior to issuance of a permit for grading or construction. If found to be significant, the site shall be avoided or excavated prior to any earth-disturbing activities.*

4.10-1(b) *North Village Site #2 shall be avoided or excavated prior to any earth disturbing activity. All construction activity at this site and previously unexcavated sites shall be monitored by a qualified archaeologist. If subsurface prehistoric archaeological evidence is found, excavation or other construction activity in the area shall cease and an archaeological consultant shall be retained to evaluate findings in accordance with standard practice and applicable regulations. Data/artifact recovery, if deemed appropriate, shall be conducted during the period when construction activities are on hold.*

4.10-1(c) *North Village #1 may meet the CEQA criteria for important sites, for its ability to address scientifically consequential research questions. The site will be impacted by construction. Although avoidance might be considered the preferred treatment for a buried site, the adoption of any mitigation measures would be premature before the site's significance is determined. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. This will include excavation of up to five 25 by 25 cm shovel test units, surface collection of all surface artifacts, lithic and obsidian hydration analyses and, possibly, soil chemistry and obsidian source analysis. If no substantial subsurface deposit is encountered, this work will also suffice for data recovery. No permits for grading or other earth-disturbing activities will be issued until all appropriate mitigations are completed.*

4.10-1(d) *North Village #2 appears significant. The site is in danger of slow degradation even in the absence of any construction. Its location and high visibility make it susceptible to casual collection and indirect impacts. In accordance with CEQA, any construction within the site area shall be preceded by data recovery. Minimally this would include a sample surface collection, excavation of at least six 1 by 1 m excavation units, analyses, curation of collected materials, and a report. No permits for grading or other earth disturbing activities will be issued until all appropriate mitigations are completed.*

Impact

4.10-2 **Construction activities could disturb previously unknown human burial sites of Native American groups. This is a potentially significant impact.**

In the event that human burial sites are discovered during development of the proposed project, the following mitigation measures would be implemented.

Mitigation Measure

4.10-2 *See Mitigation Measure 4.10-1; in addition, if human remains are discovered, work shall cease and an appropriate representative of Native American Indian groups and the County Coroner shall both be informed and consulted, as required by State law.*

CUMULATIVE IMPACTS

The proposed Project and the series of related projects in the Mammoth Lakes area will not collectively affect long-term impacts on cultural resources.

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4.11 AESTHETICS/VISUAL IMPACTS

4.11 AESTHETICS/VISUAL IMPACTS

INTRODUCTION

A number of factors are evaluated in a visual quality analysis. These factors include a definition of the landscape unit as described by its visual elements: landform, water, vegetation, and structures; a determination of visual resource quality based on the uniqueness or desirability of a visual resource; and an evaluation of the site's visibility, as it exists and as it may be affected with project implementation. Collectively these factors are used in determining the visual impacts that could potentially occur with the construction of a proposed project.

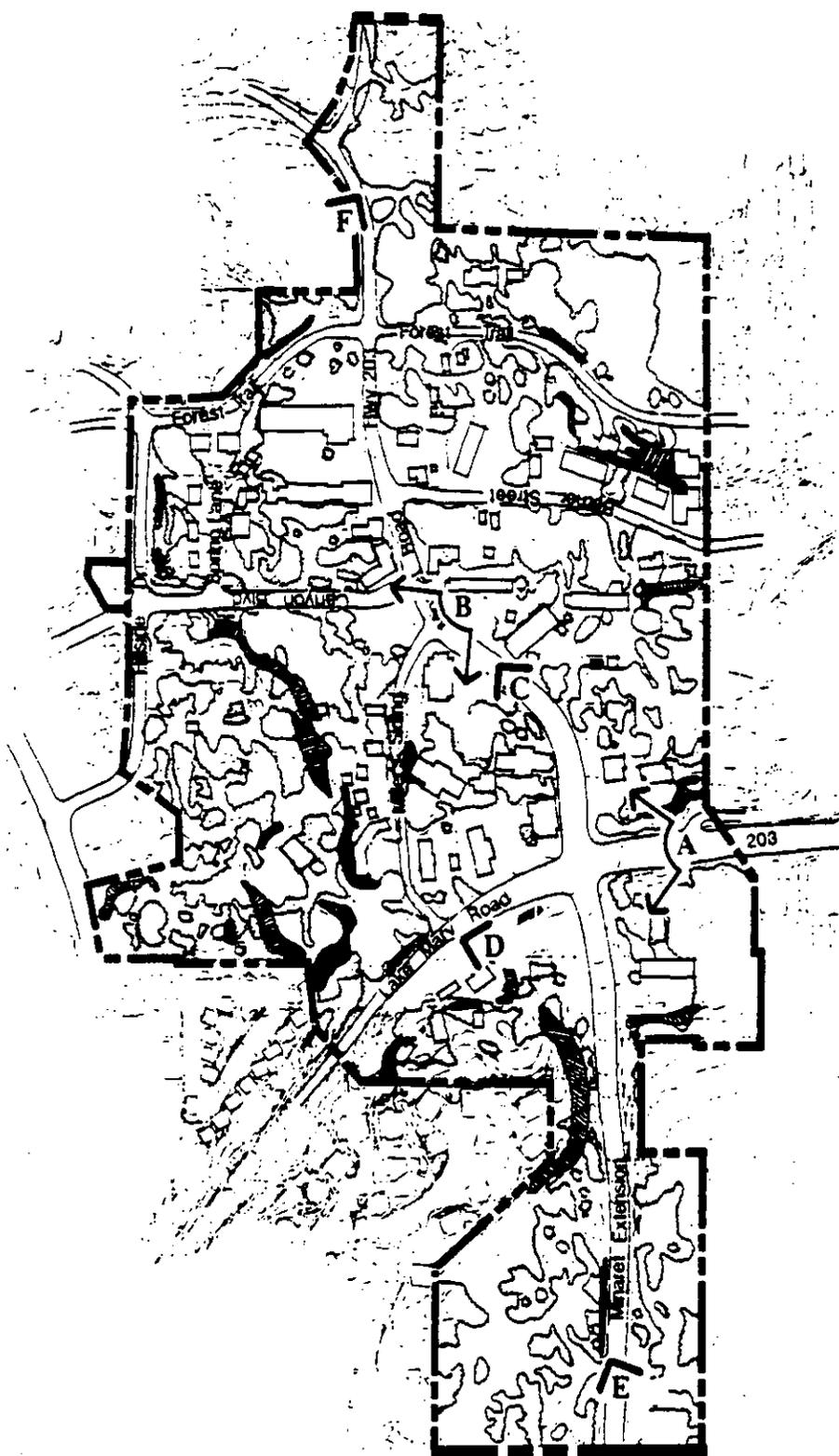
Visual features of the project site and adjacent areas were determined by conducting a photographic field survey, and by examining aerial photographs and applicant drawings. The site survey was conducted on October 17, 1990. A photo key map (Figure 4.11-1) indicates the locations and direction-of-view from which site photographs (Figures 4.11-2 through 11-4) were taken.

SETTING

The North Village Specific Plan area is located in the northwestern portion of the Town of Mammoth Lakes in the vicinity of the Main Street/Lake Mary Road and Minaret Road intersection. The 64.1 acre site supports a mix of land uses including visitor-oriented retail, motels, a community center, municipal maintenance yard, and a number of private homes and rental condominiums. These land uses currently occupy approximately 50 percent of the Specific Plan area. The remaining portions of the site are for the most part undeveloped and covered with forest. The site varies in elevation from approximately 8040 feet in the southeast to 8070 feet in the northwestern portion of the site. Slopes are moderate throughout most of the site, with small areas having slopes in excess of 30 percent. The site contains no prominent ridgelines, land and water junctions, or other unique visual features.

Existing Views

The project site is generally bordered to the north by Forest Trail, to the south by undeveloped portions of the Lodestar property, to the west by Hillside Drive, and to the east by single-family residential development. Primary views to the site are along sections of Minaret Road, Main Street/Lake Mary Road, and from residential properties located to the west and north of the site. From off-site vantage points, many views to the site and its interior are screened by tall pine trees. The approximate height of the forest canopy in the project area is 120 feet.



Source: Jack Johnson Company



No Scale





Photo A: View to the project site as seen by motorists at

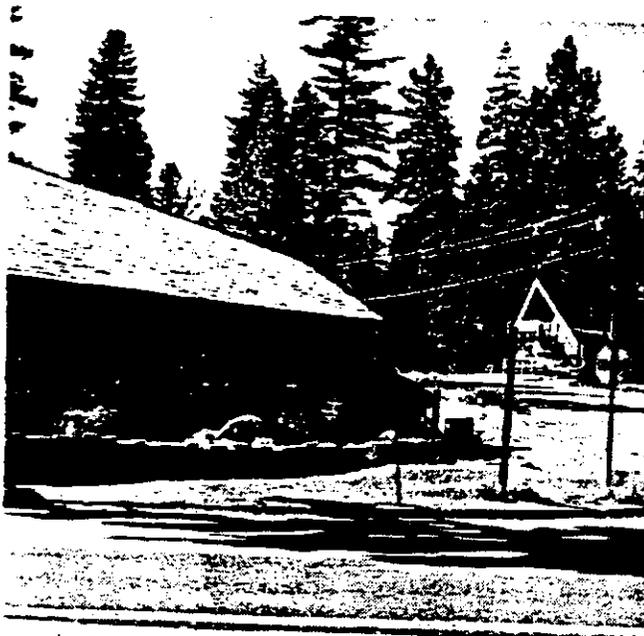


Photo B: Areas of the site located west of Minaret Road sh



Photo C: View to the north along Minaret Road (Hwy. 203) shows the existing character of the street frontage and mid- to long-range views. This is the area of Minaret Road planned for a pedestrian overpass.



Photo D: Photo shows the area of the site fronting the north side of Lake Mary Road. This forested ridgeline extends north into the site above Miller's Siding.



Photo E: Forested edge of the site as seen by motorists approaching Main Street/Lake Mary Road, from the southern portion of Minaret Road.



Photo F: Extreme northern portion of the site adjacent to Highway 203. This area of the site is designated as open space in the proposed Specific Plan.

Development along Minaret Road includes low-rise commercial buildings and a number of two to four story motels which exhibit a mix of architectural styles. Residential areas of the site, and those located to the west and east, are characterized by two to four story condominiums and one to two story single family residences. Architectural styling throughout these residential areas emphasizes the Town's alpine character through the use of gabled roofs, timbers and wood exteriors.

The most visually prominent areas of the site include the intersection of Main Street and Minaret Road, and the areas located immediately east and west of Minaret Road. Parking lots, commercial buildings, and hotels establish the visual character of these areas (Figure 4.11-2). While short-range views to these areas are not significant, development along the visually prominent sections of Minaret Road and Main Street/Lake Mary Road is enhanced by the background provided by the forested areas of the site. From both Minaret Road and Main Street/Lake Mary Road, there are significant long-range views of distant mountains to the north, south and west (Figure 4.11-3). These view corridors are particularly significant due to the high level of vehicular travel along these major roadways. Areas of the site fronting Lake Mary Road west of Minaret Road are also visually prominent.

Two distinct areas of the site remain undeveloped and heavily forested: the southern portion located across Main Street/Lake Mary Road, and the extreme northern portion of the site which is designated in the proposed Specific Plan as Open Space (Figure 4.11-4).

Plans and Policies

The Town of Mammoth Lakes General Plan (adopted October 14, 1987), Conservation and Open Space Element, sets forth a number of goals and policies that are intended to encourage development that will be sensitive to and compatible with the natural environment and scenic resources of the community. The Conservation and Open Space Element emphasizes that retention of the Town's alpine character is essential to its livability and continued economic viability. The policies stated in the element are implemented through the Design Review Ordinance, No. 86-12, of the Municipal Code, and the Town of Mammoth Lakes Design Review Manual. The Design Review Manual provides citizens and project proponents with the design criteria and standards that are used in evaluating development plans.

The following impact analysis and the mitigation measures included in this section are intended to reinforce and ensure consistency with the goals, standards, and policies contained within the Conservation and Open Space Element, the Design Review Ordinance, and the Town of Mammoth Lakes Design Review Manual.

IMPACTS AND MITIGATION MEASURES

The proposed North Village Specific Plan would include the construction of approximately 2,000 new hotel/motel lodging units, and 400 new condominium units. Areas of the Specific Plan not developed for lodging purposes would be developed with visitor-oriented commercial uses.

The proposed North Village Specific Plan designates the maximum height for full-service hotel development in the West Plaza area at 100 feet from natural grade or plaza level 7 with a maximum average building height of 65 feet. Outside of the West Plaza area full service hotels would have a maximum allowable height of 65 feet and all other buildings would have a maximum height of 55 feet.

In order to establish a cohesive visual image for the North Village area, the Specific Plan provides architectural guidelines which are intended to define acceptable design parameters for proposed developments. The most important aspect of the guidelines is the proposed establishment of a Design Review Committee to evaluate architectural and landscaping plans for individual development projects within the Specific Plan area. The Committee would offer guidance in the overall design of a project, and would ultimately determine a project's conformance with the architectural and landscaping standards set forth in the guidelines. Committee members would include a representative of MMSA, a representative of the plaza area developers/landowners, a developer/owner of land in North Village outside the plaza, a member of the Town of Mammoth Lakes Planning Department, and a local professional architect.

Standards of Significance

For the purposes of this EIR, visual impacts are considered potentially significant where they have a substantial, demonstrable negative aesthetic impact. This determination is based on several criteria, including observer position, views, backdrop and the characteristics of the proposed development. The visual character of the surrounding natural areas and the design context established by existing development in the Town of Mammoth Lakes are also taken into account in the determination of significant visual impacts. There is no quantitative method for assessing visual and aesthetic impacts; as a result, determination of the significance of a particular effect may be expected to differ among viewers.

The following factors were taken into account: short-range, mid-range, or long-range views; development character; grading effects on landscape and topography; significant difference in scale, massing and form of the proposed project within the surrounding context.

Unless otherwise noted, all identified impacts are considered to be significant adverse impacts. Corresponding mitigation measures, unless otherwise noted, would be sufficient to reduce impacts to a less than significant level. Although not required by CEQA, some less than significant impacts are discussed because they are general issues of local concern. While no mitigation measures are required by CEQA, in some cases mitigation measures are proposed that would further reduce the level of impact.

In assessing the overall impacts of the project, a significant area of forested land within the Specific Plan area would be converted to a built use. The most significant and potentially affected views would be from along the various roadways adjacent to the project site, and from the residential properties affected by the proposed gondola that would connect the site to the base facilities of the Mammoth Mountain Ski Area.

Impact

4.11-1 **Project development would change the physical and visual character of the project site. This is a *significant impact*.**

Approximately 27 acres of the project site and additional areas off-site would be converted from forest to built uses and to accommodate a ski-back run and gondola. Three acres located at the extreme north of the site would be retained as open space and for use as a skier marshalling area and bus stop. The increased density of development with project construction, and the subsequent loss of open space and forest, would be considered a *significant visual impact*.

Mitigation Measures

- 4.11-1(a) *To the maximum extent feasible, the proposed project shall retain forested areas, and shall remain subordinate to the natural character of the site and the surrounding landscape.*
- 4.11-1(b) *Prior to final approval of project development plans, the applicant shall submit a tree preservation and replacement plan prepared by a professional forester, arborist or landscape architect. Trees shall be replaced on a one-to-one basis with as many trees retained on-site as possible. Where the trees have to be relocated off-site, the locations shall be determined through consultation with the Planning Director. The preservation and replacement plan, including the type, size, number, and location of replacement trees shall be subject to the approval of the Town of Mammoth Lakes Planning Department.*
- 4.11-1(c) *Contour grading shall be used to blend manufactured slopes into the natural terrain. Grading shall be minimized to preserve existing landform and vegetation to the greatest extent possible.*
- 4.11-1(d) *In order to reduce visual impacts, a forested buffer averaging no less than 100 feet shall be retained along Lake Mary Road, the southern extension of Minaret Road, and along the western and eastern edges of the project site. Special buffering and height restrictions shall be given to the hotel that is proposed for development across Forest Trail from the Town's community center.*
- 4.11-1(e) *The landscape design for the site shall maximize the use of existing vegetation, and where new plants are introduced, they shall include, and/or blend with, plants native to the Mammoth*

Lakes environment. Landscape Plans for the site shall be completed by a certified landscape architect.

- 4.11-1(f) *To the maximum extent feasible, native trees and landscaping shall be concentrated around all structures located on the project site.*
- 4.11-1(g) *Grading shall utilize decorative retaining walls rather than slopes to minimize the area of disturbance.*

Full implementation of these mitigation measures would reduce visual impact 4.11-1 to a less-than-significant level.

Impact

- 4.11-2 Existing views from off-site residential areas, and on-site hotels will be permanently altered with development of the proposed gondola. This is a *significant impact*.

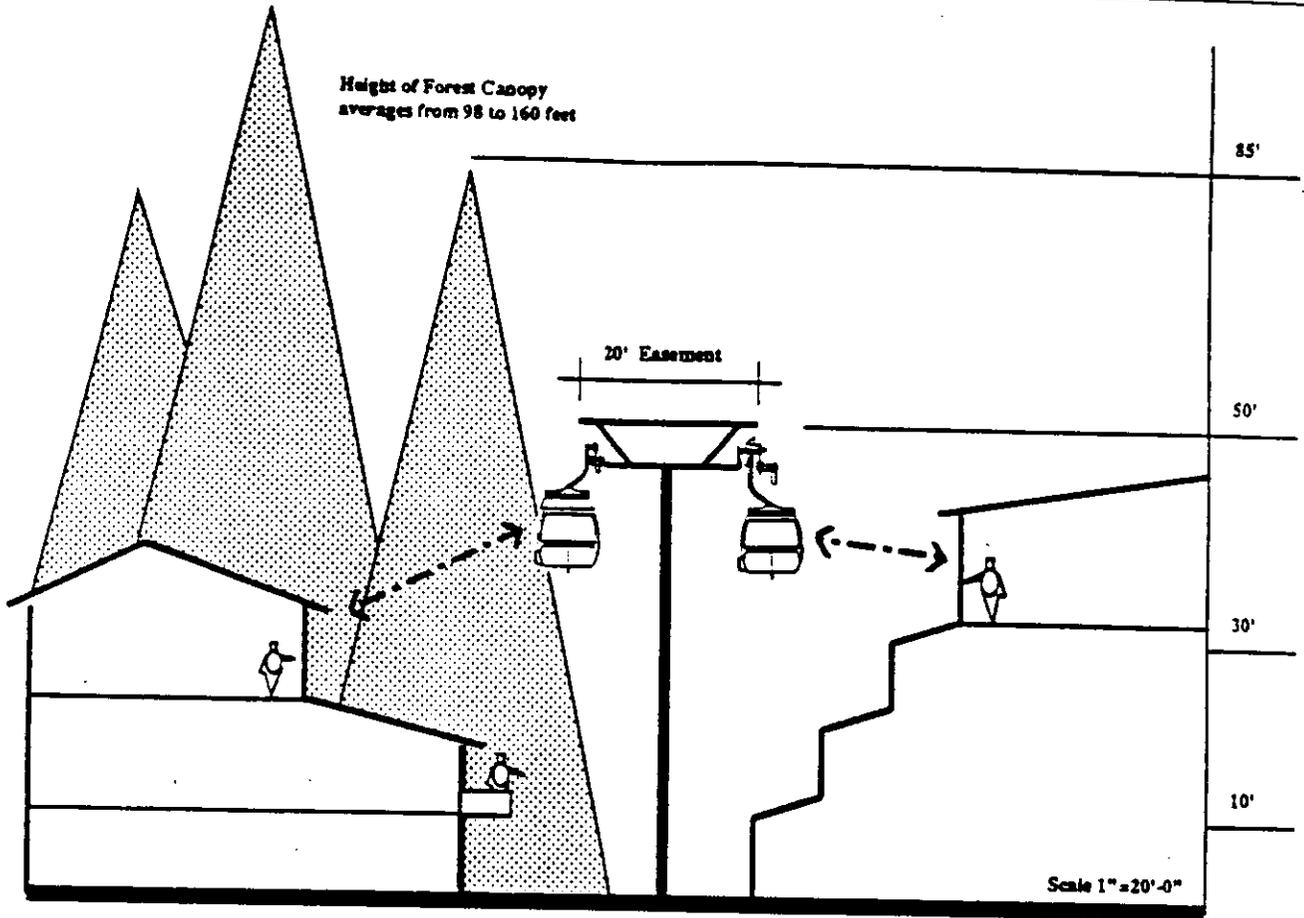
The approximately 1-mile route for the gondola that would connect North Village plaza with MMSA base facilities would pass directly through the mammoth slopes residential area located to the west of the project site. Cabins spaced a distance of 160 feet, and suspended from a height varying from 36 to approximately 90 feet would be highly visible, passing over residential streets and between one and two story homes and two-to-five story condominiums (Figures 4.11-5 and 4.11-6). Although a 20-foot air rights easement has been secured along the majority of the route, there is not a cleared ground level right-of-way. As a result, a number of developed properties would be located directly adjacent to the towers and or directly below the gondola cabins. In some instances, where taller condominiums are located alongside the gondola route, the cabins could be visible from the windows of individual condominium units. Homes and condominium units not located directly adjacent to the gondola route could also have indirect views to the gondola from interior windows. Where trees do not adequately buffer views, the gondola cabins and towers would also be highly visible from other outdoor areas within the Mammoth slopes neighborhood. Additional visual impacts could also occur within the project site as units from the hotel planned along the western ridgeline could potentially view the gondola from their north-facing windows.

Mitigation Measures

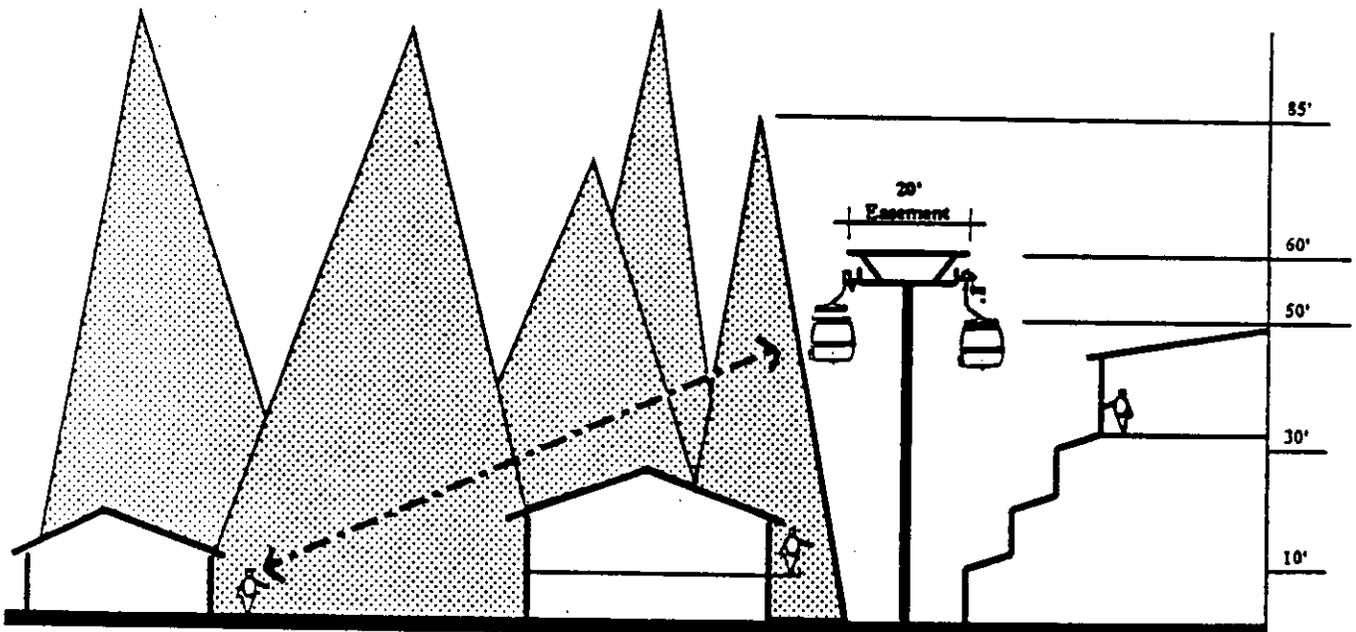
- 4.11-2(a) *The height of the proposed gondola shall be maintained at or near a maximum of 90 feet (just below the tree line), in order to protect views from adjacent residential buildings.*
- 4.11-2(b) *To the maximum extent feasible, existing trees located along the gondola easement shall be retained. Replacement trees, in addition to those existing, shall be planted adjacent to the*

Gondola Schematic

Figure 4.11-6



Areas along the gondola easement where tower heights are in the 50 to 70 foot range, condo units at three to five story levels, could potentially have views of the gondola towers and cabins.



Residential properties and outdoor areas further from the gondola route could also potentially have views to the gondola towers and cabins. Where taller trees exist between the easement and residential properties views would be screened.

gondola easement (with property owner approval) in order to create a buffer that will protect privacy and minimize visual impacts on affected properties.

- 4.11-2(c) *Natural earth-tone colors and non-glare, non-reflective materials shall be used for the gondola towers and cabins.*

Notwithstanding these mitigation measures, impacts related to the visual effects of the proposed gondola would remain significant.

Impact

- 4.11-3 Existing views to the project site from Minaret Road and Main Street/Lake Mary Road will be permanently altered.

Distant views from motorists and pedestrians traveling along Minaret Road and Main Street/Lake Mary Road would not be significantly affected by the proposed gondola.

The proposed pedestrian overpass connecting the eastern and western components of the North Village Plaza would extend across Minaret Road, screening forest and mountain views from motorists traveling north along the road (Figure 4.11-3).

Views from both Minaret Road and Main Street/Lake Mary Road would also be affected by the intensification of development, and by potential 100 foot maximum hotel heights in the area limited to West Plaza. Hotels potentially having the greatest impact on views and on the visual character of the area are those which could be located on the ridgeline in the western portion of the site, and adjacent to Lake Mary Road. Due to the higher elevations of these sites and their proximity to major roadways, these areas, if developed to their maximum height, could be visually obtrusive and contrary to the Town's goal of encouraging development that is sensitive to and compatible with the natural environment and scenic resources of the community.¹

Other aspects of the project that have not been defined at this time - including building heights, massing, landscaping, type of construction materials, and exterior colors - could have a negative visual effect on the Town's environment if not properly guided and controlled.

Mitigation Measures

- 4.11-3(a) *Adoption of the North Village Specific Plan shall include all provisions for design review stated in the Plan, with all phases and developments proposed within the Specific Plan area undergoing review by a Town-appointed Design Review Committee and/or Planning Commission.*

- 4.11-3(b) *The design and height limits of hotels along the ridgeline in the western portion of the site, and along Lake Mary Road, shall be carefully reviewed for visual impacts. The height, massing and visibility of these hotels shall respond to, and be compatible with, the natural environment and "Town" character of Mammoth Lakes.*
- 4.11-3(c) *The architectural style for the development shall blend with the site's natural setting. Rooflines shall reflect the slope of the site, and natural "earth tone" colors and materials such as stone and wood shall be emphasized. Project development plans (Use Permits & Building Permits), shall be subject to review by the Town of Mammoth Lakes Planning Commission.*
- 4.11-3(d) *In order to reduce the visual impact of the proposed Minaret Road pedestrian overpass, the structure's height and visual mass shall be kept to a minimum. The design and materials used for the overpass shall be compatible with the materials and architectural character of North Village.*

Full implementation of these mitigation measures would reduce impact 4.11-3 to a less-than-significant level.

CUMULATIVE IMPACTS

The cumulative impacts of development in the Town of Mammoth Lakes on visual quality cannot be assessed without a review of site-specific development plans. However, it can be assumed that planned and future development in the area will alter the visual character of the Town, particularly where forested areas are replaced with structures, roads, and parking lots. In some cases new, new development may obstruct or degrade scenic views from highways, residential areas, and public gathering spaces.

ENDNOTES

1. Town of Mammoth Lakes General Plan, Conservation and Open Space Element, October 14, 1987.

4.12 LIGHT-GLARE

4.12 LIGHT-GLARE

SETTING

As a result of project development, intrusive light and glare often occur in the vicinity of a project. There are primarily two sources of light intrusion: 1) light emanating from the interior of a structure and passing through windows; and 2) light from exterior sources, such as street lighting, building illumination, security lighting, and landscape lighting.¹ Glare mainly results from sunlight reflection off flat building surfaces, with glass typically contributing to the highest degree of reflectivity. Light intrusion can be a nuisance to adjacent residential areas and if uncontrolled can disturb wildlife in natural habitat areas.

The existing site does not produce undue light and/or glare impacts to adjacent uses. Ground surfaces are generally nonreflective, and there are no significant light generating sources.

IMPACTS

Levels of lighting on-site would increase with the implementation of the proposed project. External lighting systems would be introduced for safety and security. Street lights may also be extended into new area of the project site. Internal lighting systems would not be of an intensity that would cause impacts to adjacent residential areas. The most light sensitive receptors would be residential and hotel uses located adjacent to the project site.

Impact

- 4.12-1 Exterior lighting, specifically street lighting, if not controlled, could have significant impacts on adjacent residences and hotels.

Mitigation Measures

- 4.12-1(a) *All exterior lighting shall be designed and located so as to avoid intrusive effects on adjacent residential properties and undeveloped areas adjacent to the project site. Low-intensity street lighting and low-intensity exterior lighting shall be used throughout the development to the degree feasible.*
- 4.12-1(b) *Lighting used for various components of the development plan shall be consistent with North Village Specific Plan implementation standards for light intensity levels, fixture height, fixture location, and design.*

- 4.12-1(c) *Vegetative buffers shall be used to reduce light intrusion on residential development and on forested areas located adjacent to the project site.*

Impact

- 4.12-2 Sources of reflective glare could emanate from window glass (including the gondola cabins), and from other construction materials. The use of reflective glass and other materials could have significant impacts on adjacent land uses, pedestrians, and motorists traveling along Minaret and Lake Mary Road.

Mitigation Measure

- 4.12-2 *The project shall use minimally reflective glass and all other materials used on exterior buildings and structures (including the gondola cabins and towers) shall be selected with attention to minimizing reflective glare.*

ENDNOTES

1. The Town of Mammoth Lakes currently has a sign ordinance prohibiting neon signs; thus, there would not be any glare from signs.

4.13 PUBLIC SERVICES/FISCAL IMPACTS

4.13 PUBLIC SERVICES/FISCAL IMPACTS

PUBLIC SERVICES

SNOW REMOVAL

CALTRANS provides snow removal services on State Highway 203 (Minaret Road and Main Street) from the junction of State Highway 395 to the Mammoth Mountain Inn. Snow removal service for all other publicly maintained roads is provided by The Town of Mammoth Lakes Public Works Department. Roads and paved surfaces on privately maintained areas, such as the plaza, project sidewalks, and private roads will be the responsibility of the North Village maintenance district.¹ The Town considers current snow removal activities adequate to meet existing needs.

SCHOOLS

Mammoth Unified School District provides public school services for Mammoth Lakes. The two District facilities are Mammoth Elementary School (K-6), located on Meridian Boulevard, and Mammoth High School (7-12), located at the intersection of Sierra Park Road and Meridian Boulevard in the Gateway District. Mammoth Elementary has a present enrollment of about 500 students with a 513 student capacity, while Mammoth High has a present enrollment of about 300 students with a 366 student capacity.²

POLICE PROTECTION

The Mammoth Lakes Police Department provides police protection services and parking enforcement to the Town. The Department staff is currently made up of fifteen sworn officers and six non-sworn personnel. The sworn officers consist of one chief, one lieutenant, three sergeants, one detective, and nine patrol officers. The non-sworn personnel are made up of one clerk dispatcher, one community service representative, one secretary, a part-time clerk, and two staff persons in charge of the Animal Control Division. Police facilities include six patrol cars and a police station located near the intersection of Old Mammoth Road and Chateau Road. Non-emergency response time averages 8-10 minutes, while emergency response time is typically less than two minutes.³ In event of natural disasters such as earthquakes and volcanic eruptions, the County Sheriff is responsible for implementing the Mono County Emergency Plan. Traffic control and accident investigations for State Highway 203 are performed by the Highway Patrol.

FIRE PROTECTION

Fire protection and emergency response to the urbanized portions of Mammoth Lakes are provided by the Mammoth Lakes Fire Protection District. Properties surrounding the Town are within the Inyo National Forest and are therefore protected by the U.S. Forest Service, as is the Mammoth Mountain Ski Area. The Fire District will assist in fighting structural fires in the Forest if requested by the Forest Service. The District covers approximately 8 square miles and operates from two fire stations, one located at the intersection of Main and Pinecrest Streets and the other on Old Mammoth at the Snowcreek subdivision entrance. The District facilities consist of four engine companies, two truck companies, one heavy-duty rescue truck, and one ambulance. Fire District personnel consists of 65 volunteer firefighters and six paramedics.⁴

IMPACTS AND MITIGATION MEASURES

SNOW REMOVAL

Impact

- 4.13-1 Snow removal requirements will increase as a result of street improvements and the development of the pedestrian plaza. The closing of Canyon Boulevard, will result in accessibility problems for the removal of snow from the plaza. This is a *significant impact*.

Mitigation Measures

The project would have a less-than-significant impact on snow removal services pursuant to the incorporation of the following mitigation measures:

- 4.13-1(a) *All project road alignments and project phases shall be designed to provide the necessary snow storage areas as determined by the Town Department of Public Works. Snow storage areas shall equal at least 70 percent of the surfaces to be cleared.*
- 4.13-1(b) *All buildings, walkways and pedestrian open spaces shall be located a minimum of 20 feet from the roadway edge to limit the amount of snow storage/blowing interference.*
- 4.13-1(c) *Alternate methods of snow removal, such as radiant heat decking, shall be implemented in the plaza area. Access to the plaza shall be provided at all times to provide for snow removal services.*

- 4.13-1(d) *Parking garage entry points shall avoid north-facing orientation. Design solutions shall be implemented to prevent blowing and drifting snow from accumulating in the garage entry area.*
- 4.13-1(e) *Sloping roofs shall be designed so as not to shed snow onto adjacent properties, parking lots, walkways or other passage ways.*
- 4.13-1(f) *The Town and CALTRANS shall retain the right to cover with snow any sidewalks located adjacent to streets during snow removal activities.*
- 4.13-1(g) *No snow removal activities, except that which is performed by the Town or by CALTRANS, shall be allowed to deposit snow within the public rights-of-way.*
- 4.13-1(h) *To avoid ice build-up, all structures shall be oriented to prevent shading of streets and pedestrian areas to the fullest extent feasible.*
- 4.13-1(i) *Clearing of private roads shall be handled by the North Village maintenance district.*
- 4.13-1(j) *Snow associated with the plaza will be hauled off-site and deposited at a suitable location.*

SCHOOLS

Impact

- 4.13-2 **The project is anticipated to produce approximately 373 students (see section 4.5 Jobs/Housing Relationship), resulting in an overcrowded situation for School District facilities.⁵ The cumulative impact of the proposed projects within the Town, including North Village, will result in the need for a new elementary school. Each new student is expected to cost the district \$11,000 in capital facilities plus an additional \$4,760 in operating cost.⁶ This is an *unavoidable, significant impact.***

The incorporation of this mitigation measure will not reduce project impacts to a less-than-significant impact unless funding levels provided by State law are dramatically increased.

Mitigation Measure

- 4.13-2(a) *The project proponent shall pay school impact fees under the provisions of AB 2926 or provide equivalent alternative mitigation as determined by the School District.*

- 4.13-2(b) *The project proponent may volunteer to designate a portion of the project site to the District for the purpose of constructing a new elementary school facility or to participate in a proportionate share of a school site of another location.*

POLICE PROTECTION

Impact

- 4.13-3 **The population increase resulting from North Village will require a 24-hour patrol of the project area. Service calls associated with North Village are expected to increase 15 to 30 percent. The closing of Canyon Boulevard between Minaret and Hillside, along with the overall pedestrian emphasis of the project, results in limited access to motor vehicles. As a result, patrols will be conducted on foot or bicycle and thus, response time will be longer. This may also be true for areas surrounding North Village as a result of the closing of Canyon Blvd.⁷ This is a potentially significant impact.**

Mitigation Measures

The project will have a less-than-significant impact on police protection services pursuant to the incorporation of the following mitigation measure:

- 4.13-3(a) *All conceptual and final development plans shall be reviewed by the Mammoth Lakes Police Department for crime-prone design features prior to plan approval. Police Department recommendations shall be included in final plans.*
- 4.13-3(b) *If not provided by the developer, phasing plans shall also include the provision of police protection by the Town.*
- 4.13-3(c) *The Project proponent shall contribute sufficient funds to the Town of Mammoth Lakes for the cost of purchasing one patrol car.*

FIRE PROTECTION

Impact

- 4.13-4 **The closing of Canyon Boulevard will result in an access problem both to the rear of the proposed buildings and to surrounding residential areas; thus, access for delivery service will not meet District requirements. Intensive new development within the Town will also result in a need for a new aerial ladder truck. There is also concern over pumping capacity within the project area. This is a *potentially significant impact.***

Mitigation Measures

The project is anticipated to have a less-than-significant impact on fire protection services pursuant to the incorporation of the following mitigation measures:

- 4.13-4(a) *A fire lane shall be dedicated to all of the commercial properties of North Village. Access to all structures shall comply with Mammoth Lakes Fire Protection District Ordinance #85-02. Access roads shall be of an approved hard all-weather surface and shall have a minimum clear unobstructed width of 20 feet. All access roads shall have a minimum vertical clearance of 15 feet. Access roads shall have a grade of not more than ten percent. To provide for aerial ladder access to building roof tops, a minimum 20 foot wide access road shall be provided for each structure located not more than 25 feet from the structure, but no closer than one foot for every three feet of building height. This access road shall have a grade of not more than three percent and shall be clearly posted "No Parking -Fire Lane." All high-rise structures (defined by the District as any structure exceeding three stories or 35 feet in height for nonresidential structures and 55 feet for residential structures) shall be required to have approved Fire Department access roads to at least two sides of the structure. One of these access roads shall be on the side of the building with the longest continual roof line. Fire Department access roads that are 150 feet or more in length shall be provided with approved fire apparatus turn-arounds. The required width and height clearances for Fire Department access roads shall be maintained. A lane shall also be designed within North Village to allow access to surrounding neighborhoods.*
- 4.13-4(b) *The project proponent shall pay a one-time mitigation fee for construction of the project, based upon building height, and another one-time mitigation fee on project operations. Both fees are to be determined by the Fire Protection District and collected by the Town.*
- 4.13-4(c) *If a smoke tower or stairway is used as a required exit for a structure, that exit shall have an unobstructed passage of not less than six feet in width the to Fire Department access, and not less than three feet in width from that point to the public way.*
- 4.13-4(d) *An approved water supply system capable of supplying required fire flow for fire protection purposes shall be provided to all premises upon which buildings or portions of buildings are constructed. The establishment of gallons-per-minute requirements for fire flow shall be based on the "Guide for Determination of Required Fire Flow" published by the Insurance Service Office.*
- 4.13-4(e) *Fire hydrants shall be located and installed per Fire Department standards and approved by the Fire Chief. On-site fire hydrants shall be provided when any portion of the building*

protected is in excess of 150 feet from a water supply on a public street, or as required by the Fire Chief.

- 4.13-4(f) *Fire hydrants and access roads shall be installed and made serviceable prior to and during time of construction. All hydrants shall be properly identified per Fire Department standards.*
- 4.13-4(g) *An approved automatic fire extinguishing system shall be installed in all covered parking areas and other structures having: a foundation footprint of 5,000 square feet or more; a height of more than 35 feet (50 feet for residential condominiums or apartment buildings); or a height of more than three stories. Fire extinguishing systems shall also be installed for all other occupancies designated for this system in the Uniform Fire and Uniform Building Code, or structures identified as special hazard occupancies as outlined in the appropriate National Fire Protection Association pamphlet.*
- 4.13-4(h) *Fire standpipe systems shall be installed in conformance with National Fire Protection Association Standards and the Uniform Fire Code.*
- 4.13-4(i) *Incorporation of other fire protection methods, as necessary, in underground parking garages and high-rise structures based upon building construction, size, and adjoining occupancy types, shall be determined by the Fire Chief upon formal plan submission.*
- 4.13-4(j) *All vehicular bridges and pedestrian bridges shall comply with fire apparatus access road requirements in regards to minimum width and height clearances.*
- 4.13-4(k) *Liquid petroleum gas storage and system installation shall comply with Mammoth Lakes Fire Protection District Ordinance #85-02, which establishes and regulates the storage of liquid petroleum gases.*
- 4.13-4(l) *The developer shall contribute a fair share proportional amount as determined by the MLFPD for the purchase of a new aerial ladder.*

RECREATION AND PARKS

Impact

- 4.13-5 **The proposed project would create a demand for approximately 14 acres of parkland. This is a potentially significant impact.**

As provided by the Quimby Act, and as stated in the Town of Mammoth Lakes Parks and Recreation Element, 5 acres of parkland per 1000 people should be provided to off-set the increase in demand created

by new development projects. Based on this ratio and an estimated project generated population of approximately 2,828 the North Village Specific Plan development will create a demand for approximately 14 acres of parkland.

Mitigation Measure

4.13-5 *To help off-set this increase in demand for parkland in the Town of Mammoth Lakes, the project proponent shall be required to help fund the dedication of an off-site park or recreation facility.*

FISCAL

The purpose of this fiscal impact analysis is to determine the net effect of the proposed North Village Specific Plan on the fiscal condition of the Town of Mammoth Lakes and local public agencies. The analysis will project the direct, current, public costs and revenues associated with the North Village development.

The proposed North Village Specific Plan would have a net fiscal impact on various jurisdictions that provide services to this project. The jurisdictions include the Town of Mammoth Lakes, the County of Mono, the Mammoth Unified School District (MUSD), the Mammoth County Water District (MCWD), Fire Protection District and the Southern Mono Hospital District. Capital and operating revenues and costs are estimated, and a cost/revenue balance is calculated. Dollar amount are calculated in current (1990) dollars. All projections of project revenues and costs are based on build-out.

SETTING

The North Village Specific Plan area consists of 41 separate parcels involving 36 different owners; together, these parcels total about 64 acres. The current total taxable assessed valuation of the project site is approximately \$17.8 million¹. North Village Development is the largest land owner in the North Village site with almost thirteen acres or one-fifth of the total land. All 41 parcels are located in the Tax Area Code (TAC) 10-6, which has a property tax rate of 1.08671 percent. This rate includes the Prop. 13 one percent property tax rate and an additional .08671 percent for school, water and hospital bonds. Based on the total taxable assessed value, the site generated \$193,400. (See Table 4.13-1) In 1990, the Town of Mammoth Lakes General Fund receives \$11,100 or 5.72 percent of the total property tax revenue. Other jurisdictions also receive property tax revenues: Mono County (37.45%), MUSD (19.46%), MCWD (12.67%), Fire Protection District (5.86%) and the Southern Mono Hospital District (4.57%)².

IMPACTS AND MITIGATION MEASURES

Development of the Specific Plan would generate demand for various services and utilities from the Town of Mammoth Lakes, Mono County and various other public agencies. At the same time, development of the Specific Plan would provide these jurisdictions with one-time and on-going revenues.

When the 2,400 unit hotel/condo and 251,000 square feet commercial/retail/restaurant development is completed, North Village has the potential of adding about 2,800 people to the Mammoth Lakes area, with 2,240 people going to the Town of Mammoth Lakes (assumes 80 percent of the workers and family reside in Mammoth Lakes, and the other 20 percent commute from communities such as Crowley/Hilton, June Lake, Bridgeport, Lee Vining and Bishop). For more detail of employment and housing projections, see the Jobs and Housing Relationship section of this EIR.

TABLE 4.13.1
CURRENT PROPERTY TAX ALLOCATION BY JURISDICTION

Taxable Assessed Valuation	\$17,800,000
Property Tax Rate (10-6)	1.08671%

<u>Agency Funds</u>	<u>Tax</u> <u>Apportionment</u>	<u>Tax</u> <u>Revenue</u>
Mono County	37.45%	\$72,400
Mammoth Lakes	5.72%	11,100
M.U.S.D.	19.46%	37,600
Library	2.02%	3,900
E.S.U.S.D.	10.24%	19,800
Supt. School	2.01%	3,900
Fire Protection Dist.	5.86%	11,300
So. Mono Hospital Dist	4.57%	8,800
Mono Co. Water Dist.	12.67%	24,500
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TOTAL	100.00%	\$193,400

Source: Town of Mammoth Lakes Final Budget, Fiscal Year 1989-1990

TOWN OF MAMMOTH LAKES

Impact

4.13-6 The proposed Project would result in a net revenue for the Town of Mammoth Lakes. This is a *beneficial impact*.

Mammoth Lakes provides public services such as general government, planning and zoning, police protection, recreation and public works, all of which will be impacted by the North Village Specific Plan. The largest expenditure of the 1989-90 General Fund was for police services. This accounted for 21 percent of the total expenditure. The primary revenue source for the Town is transient occupancy tax, which generated almost half (48%) of the total General Fund revenues for the 1989-90 fiscal year.

One-Time Revenues

These are revenues generated from the original construction of the site. These include building permits, and water and sewer hook-up fees. These fees are structured to offset the cost of providing the respective services. The total one-time revenues from North Village is projected at about \$9.70 million. Mammoth Lakes' General Fund would receive about half of the revenues, at \$4.56 million. Table 4.13-2, presents the one-time revenues for the Town of Mammoth Lakes and the Mono County Water District

Building Permits

Residential building permit fees are based on the valuation of the structure. Additional fees, such as seismic, new construction, public works, state program surcharge, solid waste, and fire mitigation fees are also added into the building permit fee⁹. Residential building fee amount to about \$4.15 million and commercial building fees about \$410,300 for a total of over \$4.56 million.

TABLE 4.13.2
ONE-TIME REVENUES FROM THE DEVELOPMENT OF THE
NORTH VILLAGE SPECIFIC PLAN
(1990 Dollars)

Revenue Source	Revenues
MAMMOTH LAKES GENERAL FUND:	\$ 4,561,800
Residential Building Permit	4,151,500
Commercial Building Permit	410,800
MCWD:	5,139,100
Sewer Hook-up	2,378,800
Water Hook-up	2,760,300
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TOTAL REVENUES	\$ 9,700,900

Source: Mammoth Lakes Building Department, MCWD

Annual RevenuesProperty Tax Revenues

The property tax rate for the North Village site is 1.08671 percent of the total assessed value of the property. Current assessed value of the land and existing structures is about \$17.02 million. Currently, Mammoth Lakes receives 5.72 percent of the property tax. As presented in Table 4.13-3, the project site is projected to have a total assessed valuation of \$164.10 million upon completion. Based on the current property tax rate, the property tax revenue from North Village is projected at about \$1.78 million.

TABLE 4.13.3
PROJECTED TAX REVENUES FROM
THE NORTH VILLAGE SPECIFIC PLAN

<u>Component</u>	<u>Units</u>	<u>Square Footage¹</u>	<u>Value/Sq.Ft.²</u>	<u>Projected Assessed Value</u>	<u>Proj. Tax Rev.</u>
Budget Hotel	600	500	\$ 63	\$ 18,900,000	\$ 205,400
Moderate	650	650	\$ 63	26,617,500	289,300
Full Service	700	800	\$ 63	35,280,000	383,400
Bed & Break.	50	500	\$ 63	1,575.00	17,100
Resort Condo	400	1,100	\$ 81	35,640,000	387,300
Commercial/Retail		191,000	\$ 63	12,033,000	130,800
Restaurant		60,000	\$ 70	4,200,000	45,600
Skating Rink ³				900,000	9,800
Ski Lift ³				5,000.00	54,300
Total Improvements				\$140,145,500	\$1,523,000
Total Land ⁴				\$ 23,958,500	\$ 260,400
TOTAL				\$164,104,000	\$1,783,400

¹Square footage estimates provided by developer.

²Building Valuation Data. November-December, 1989 Building Standard.

³Skating Rink and Ski Lift cost provided by the developer.

⁴2% inflation adjustment for fifteen years allowed by Proposition 13.

TABLE 4.13.4

**NORTH VILLAGE PROPERTY TAX ALLOCATION
BY JURISDICTION**

Taxable Assessed Valuation: \$ 164,104,000
 Property Tax Rate: 1.08671%

<u>Jurisdiction</u>	<u>Tax Apportionment</u>	<u>Tax Revenue</u>
Mono County	37.45%	\$ 667,900
Mammoth Lakes	5.72%	102,000
M.U.S.D.	19.46%	347,100
Library	2.02%	36,000
E.S.U.S.D.	10.24%	182,600
Supt. School	2.01%	35,800
Fire Protection Dist.	5.86%	104,500
So. Mono Hospital Dist.	4.57%	81,500
Mammoth Co. Water Dist.	<u>12.67%</u>	<u>226,000</u>
TOTAL	100.00%	\$1,783,400

Source: Town of Mammoth Lakes Final Budget, Fiscal Year 1989-1990

Property tax revenues from the proposed hotel and commercial development in the project area would generate a significant amount of revenues for the Town. The Specific Plan would generate \$102,000 in annual property tax revenue to the Town of Mammoth Lakes at project buildout. (See Table 4.13.4)

Transient Occupancy Tax

According to the 1989-1990 Mammoth Lakes General Fund, transient occupancy tax represented almost half of the revenues. With 2,000 hotel rooms and 400 resort condominium units proposed for rent under the North Village Specific Plan, a transient occupancy tax rate of nine percent would generate approximately \$5.66 million annually to the Town's General Fund.¹⁰

Sales Tax

The Town of Mammoth Lakes' General Fund receives one percent (1%) of the total taxable sales. Annual taxable sales is based on an assumed sales factor of \$150 per square feet of commercial/retail development. The North Village Specific Plan proposes 191,000 square feet of commercial/retail space and 60,000 square feet of restaurant space; therefore, sales tax revenues would generate approximately \$436,500 to the Mammoth Lakes' General Fund. It cannot be determined whether the sales revenue is totally from new customers or customers attracted away from another store in town.

Franchise Tax

The Town of Mammoth Lakes is serviced by three privately operated utility companies, Southern California Edison, Mammoth Disposal, and King Videocable Company. Based on a 1989 per capita utility charge, revenues would amount to \$74,900. Below is the per capita factors used to determine the franchise tax:¹¹

- Southern California Edison: \$21.24
- Mammoth Disposal: \$3.85
- King Videocable Company: \$8.36

Business Tax

Business tax revenues are imposed on all business establishment by the Town. Business tax is based on the type of business established. Hotel and condominium units are generally taxed at a rate of about \$5.10 per unit and commercial/retail at \$207 per establishment. Based on the number of businesses proposed by North Village, revenues total \$28,600¹².

Other Revenues

Other revenues, which include license and permits, intergovernmental agencies, charges in services, police fines, interest on investments, were estimated based on a per capita basis, relying on the actual revenue levels in the Town of Mammoth Lakes 1989-1990 budget. Total 1989-1990 revenues from this source

accounted for 23 percent of Mammoth Lakes total revenue budget in 1989. As summarized in Table 4.13.5, other revenues from North Village, at the time of completion, would generate \$549,100.

**TABLE 4.13.5
OTHER REVENUES FROM THE NORTH VILLAGE SPECIFIC PLAN TO
THE TOWN OF MAMMOTH LAKES**

<u>Revenue Sources</u>	<u>Per Capita Multipliers</u>	<u>Projected Revenues</u>
License and Permits	\$ 24.21	\$ 54,200
Intergovernmental	56.03	125,500
Charges for Services	76.46	171,300
Police Fines	9.62	21,500
Interest on Investments	49.04	109,800
Misc. Revenues	29.81	66,800
TOTAL REVENUES		\$ 549,100

Source: Town of Mammoth Lakes Final Budget, Fiscal Year 1989-1990.

Expenditures

The Town's services which would be affected by development of the Specific Plan include general government, planning and zoning, public works, recreation, and police protection. Based on per capita expenditures from the 1989-1990 Mammoth Lakes Budget, the annual expenditure is projected at about \$2.18 million. (See Table 4.13.6) Per capita expenditure factors are listed below:

• General Government	\$ 340.54
• Planning and Zoning	\$ 56.45
• Public Works	\$ 121.30
• Recreation	\$ 58.19
• Public Services	\$ 253.34
• Expenditure Contingency	\$ 26.69
• Transfer to Gas Tax Fund	\$ 115.50

Cost/Revenue Balance

The total revenues to the Town of Mammoth Lakes generated from North Village at the time of completion is projected at \$6.85 million, and the total cost is projected at about \$2.18 million: thus, as shown in Table 4.13.6 below, a positive fiscal impact amounting to \$4.68 million is projected for the Town of Mammoth Lakes.

Mitigation Measure

4.13-6 *None Required.*

MAMMOTH UNIFIED SCHOOL DISTRICT

Impact

4.13-7 **The proposed Project would add 373 more students to the Mammoth Unified School District and would result in a net cost for the District. This is an *unavoidable, significant impact.***

During the 1989-90 academic year, there were 865 students attending school grades K-12 in the Mammoth Unified School District. A current student/population ratio of 166 (865 students/5,200 people) and a projected population increase to the Town of Mammoth Lakes of 2,240 generate an additional 373 students to the District.

School Impact Fees

The State enables school district to charge impact fees on new development in their jurisdiction to pay for capital facilities associated with increased students population. The District could collect \$1.58 per square feet of residential development and \$.26 per square feet of non-residential development¹³. As the present time, MUSD is not collecting school impact fees.

TABLE 4.13.6

**ANNUAL FISCAL IMPACT OF THE NORTH VILLAGE SPECIFIC PLAN
ON THE TOWN OF MAMMOTH LAKES' GENERAL FUND**

<u>Revenue Sources</u>	<u>Net Impacts</u>
Property Tax	\$ 102,000
Transient Occupancy Tax	5,663,400
Sales Tax	436,500
Franchise Tax	74,900
Business Tax	28,600
Other Revenues	549,100
Total Revenues:	6,854,500
 <u>Costs</u>	
General Government	\$ 762,800
Planning Zoning	126,400
Public Works	271,700
Recreation	130,300
Police Services	567,500
Expenditure Contingency	59,800
Transfer to Gas Tax Fund	258,700
Total Costs:	\$2,177,200

NET REVENUES/(COSTS)	\$4,677,300

Source: Town of Mammoth Lakes Final Budget, Fiscal Year 1989-1990.

Annual MUSD Revenues

These revenues include property tax and Average Daily Attendance (ADA) revenues. Property tax revenues are projected to be \$347,100. ADA revenues, money from the State to be spent on each student, is based on a rate of \$3,400 per student. The added students from North Village could generate as much as \$1.27 million.

Cost Per Student

Each student is expected to cost the District \$4,760 in operating costs and \$11,000 in capital costs. Therefore, an additional 373 students would cost approximately \$1.78 million in operating costs and \$4.10 million in capital costs, totalling \$5.88 million.

Mitigation Measure

4.13-7 *Implement Mitigation Measure 4.13-2(a) and 4.13-2(b).*

MAMMOTH COUNTY WATER DISTRICTImpact

4.13-8 **The proposed Project is anticipated to generate a net revenue to the Mammoth County Water District. This is a *beneficial impact*.**

Sewer and Water Hook-up Fees

Sewer hook-up fees are based on rates of: \$1,440/condo units; \$824/hotel room; and \$93.25/retail fixture; and \$93.80/restaurant seat. Water hook-up fees are calculated according to the rates: \$1,442/condo unit; \$995/hotel room; and \$117/retail fixture. One-time revenues generated by sewer and water hook-up fees amount to \$2.38 million and \$2.76 million, respectively, for a total of \$5.14 million. See Table 4.13.2.

Cost/Revenue Balance

Property tax allocation is the annual revenue for the MCWD. At the time of completion, property tax revenues will total \$ 226,000. The increase in cost of providing water service on account of the development is picked-up by the sewer and water hook-up fee and any new on-site facilities is the responsibility of the developer. Therefore, the North Village Specific Plan would be a net benefit to MCWD in the amount of the property tax.

Mitigation Measure

4.13-8 *None required.*

FIRE PROTECTION DISTRICT

Impact

4.13-9 **The proposed Project would result in a net cost for the Mammoth Lakes Fire Protection District. This is a *less-than-significant impact*.**

Fire Mitigation Fees

A fire mitigation fee is included in the building permit as a one-time revenue. Based on square footage of building space, fire mitigation fees amount to \$585,300.

Cost/Revenue Balance

Property tax amounts to \$ 104,500 for the Fire Protection District. It was estimated by Fire Chief John Sweeny, that the project would require the purchase of additional equipment at an annual cost to the District of \$175,000. Therefore, on an annual basis, the impact would be a net deficit of \$70,500.¹⁴

Mitigation Measure

4.13-9 **Implement Mitigation Measure 4.13-4(b).**

SOUTHERN MONO HOSPITAL DISTRICT

Impact

4.13-10 **The proposed Project would contribute towards the Southern Mono Hospital District's annual revenues through payment of property taxes. This is a *beneficial impact*.**

Cost/Revenue Balance

Property tax from North Village will contribute to \$81,500 towards the Southern Mono Hospital District. No impact fees are imposed by the Mono County Hospital District. Currently there are enough beds to meet the demands of the project, and therefore, no additional costs to the District¹⁵.

Mitigation Measure

4.13-10 **None required.**

MONO COUNTY

Impact

4.13-11 **The proposed Project would result in an undetermined net cost to Mono County. This is a *significant impact*.**

Cost/Revenue Balance

During the 1989-90 Fiscal year, \$12.51 million was required to finance the County's general fund budget.¹⁶ Based on the countywide population of 9,900 people, the per capita expenditure is approximately \$1,260. Therefore, an increase of 2,800 people to the County would result in a theoretical increase expenditure of approximately \$3.53 million. Given that the Project's property tax revenue would only contribute \$667,900, there remains a theoretical deficit of about \$2.86 million. However, County services to Mammoth Lakes are limited since the Town and special districts provide the bulk of governmental services.

Mitigation Measure

4.13-11 *None feasible.*

ENDNOTES

1. North Village EIR, Town of Mammoth Lakes, CA, 1989.
2. Communication with Richard McAteer, Superintendent, Mammoth Unified School District, October 19, 1990.
3. Communication with Michael Donnelly, Police Lieutenant, Mammoth Lakes Police Department, October 18, 1990.
4. Communication with Jon Sweeny, Fire Chief, Mammoth Lakes Fire Protection District, October 18, 1990.
5. Projection based upon student to population ratio.
6. Richard McAteer, Superintendent of Schools, Mammoth Unified School District, telephone conversation, June 1, 1990.
7. Michael Donnelly, Mammoth Lakes Police Department, *op. cit.*
8. Mono County Assessor's Office.
9. Permit fees and additional fees based on worksheets provided by Mammoth Lakes Building Department.
10. Assumes hotel occupancy rate of 67% at \$117 a day and condominium occupancy rate of 33%. Market Study and Financial Analysis of Proposed 300-Room Hotel in Mammoth Lakes, by Kenneth Leventhal and Company, 1989; and Steve Black, Mammoth Reservation Bureau, June 1990.
11. Tracy Fuller, Finance Director, Town of Mammoth Lakes, June 7, 1990.
12. Tracy Fuller, op. cit.
13. Richard McAteer, Superintendent of Schools, Mammoth Unified School District, telephone communication, June 1, 1990.
14. John Sweeney, Fire Chief, Fire Protection District, telephone communication, December 13, 1990.
15. Sally DePerrot, Administrator, Mono County Hospital District, telephone communication, July 17, 1990.
16. Onnika Wilkes, County Auditor, Mono County, telephone communication, October 29, 1990.

4.14 ENERGY CONSERVATION

4.14 ENERGY CONSERVATION

SETTING

Electricity is provided to the Town of Mammoth Lakes by the Southern California Edison Company. Propane gas is supplied by a number of private firms when requested by property owners. There is no natural gas distribution system in the Town.

The electric power comes from both hydroelectric facilities and thermal generating plants which burn oil and natural gas to generate electricity. In an effort to improve current air quality conditions in California, many of the power generating facilities have been moved to other Western States such as Utah, Arizona and Nevada.

The energy consumption of new buildings in California is regulated under the State Building Energy Efficiency Standards contained in Title 24 of the California Administrative Code. These efficiency standards regulate the energy consumption for air heating and cooling, water heating, ventilation, and lighting. The building efficiency standards are controlled through the local building permit process. Compliance with Title 24 can be achieved through either a "performance" or a "prescriptive" approach. In the performance compliance approach, a building must be designed to consume no more energy than specified in the appropriate energy "budget." The energy budget is based on building type and size, and the climatic zone in which it is located. In the prescriptive compliance approach, a building must comply with design requirements that have been determined to achieve building designs that meet the applicable energy budgets. In this approach, the builder can choose from a variety of alternative component packages which specify features such as insulation, glazing, lighting, shading, and water and space heating systems.

IMPACTS AND MITIGATION MEASURES

Project Construction

Impact

4.14-1 The construction of the proposed project would involve the consumption of electricity and fossil fuels. It is estimated that approximately 2,000 BTU of gasoline, diesel fuel, and electricity are expended for every dollar of construction cost for fabrication and transportation of building materials, worker transportation, site development, and building construction.¹ The construction process will also involve the consumption of water, mainly for dust abatement purposes. This is not considered a significant impact.

Mitigation Measure

4.14-1 *None required.*

Development of the proposed project would result in increased short- and long-term energy consumption. However, as there would be no need to develop new power plants or other supply systems other than ties to the existing electrical distribution system, the project's impact on the Town's energy supply needs is considered to be less-than-significant.

Project OperationsImpact

4.14-2 The project is anticipated to consume approximately 20,415,200 kilowatt hours (Kwh) of electricity annually. This aggregate consumption amount is made up of approximately 6,432,400 Kwh for residential uses, 2,253,800 kWh for retail uses, 8,891,000 kWh for the hotel rooms (based upon full occupancy), and 2,838,000 kWh for restaurant uses.² This is not considered a significant impact.

Development of the proposed project would result in increased short- and long-term energy consumption. However, as there would be no need to develop new power plants or other supply systems other than ties to the existing electrical distribution system, the project's impact on the Town's energy supply needs is considered to be less-than-significant.

The following mitigation measures are recommended to improve energy efficiency:

Mitigation Measures

- 4.14-2(a) *Energy efficient lighting (e.g., high-pressure sodium outdoor and fluorescent indoor lighting) shall be used rather than less-efficient types. Where possible, miniature fluorescent lamps shall be used rather than incandescent lamps in fixtures. External lighting shall be controlled by photocells and/or time switches. Internal lighting systems shall employ separate switching schemes to ensure maximum use of daylight. Public area lighting, both interior and exterior, shall be time controlled for safety and protection.*
- 4.14-2b *Thermal insulation that meets or exceeds standards established by the State of California and the Department of Building and Safety shall be installed in all walls and ceilings.*
- 4.14-2c *Feasible opportunities for passive or natural heating and cooling shall be incorporated in the building designs, which could include: tinted or solar reflective double glazing and heat reflective draperies on appropriate exposures; windowless walls for certain exposures or appropriate passive solar inset of windows; thermal insulation in walls which meets or*

exceeds State and local standards; and placement of the focus of pedestrian activity within sheltered outdoor areas.

- 4.14-2d *The incorporation of high efficiency air conditioning controlled by computerized energy management systems shall be installed to provide the following: variable air volume systems which result in minimum energy consumption and which avoid hot water energy consumption; 100 percent outdoor air economizer cycles to obtain free cooling during cool and dry climatic periods; sequential operation of air conditioning equipment in accordance with building demands; the isolation of air conditioning to any selected floor or floors; and time-controlled interior and exterior public area lighting as necessary for security purposes.*
- 4.14-2e *The project sponsor should consult with the Southern California Edison Company for assistance with energy conservation design features and other passive energy design features.*
- 4.14-2f *The feasibility of geothermal energy as an alternative energy source should be explored.*

The project sponsor is required by law to demonstrate compliance with the standards of the Uniform Building Code and Title 24 of the California Administrative Code prior to issuance of a building permit. Furthermore, the following State laws require water-efficient plumbing fixtures:

- Health and Safety Code Section 17921.3 requires low-flush toilets, as defined by the American National Standards Institute Standard A112.19.2, and urinals that use less than an average of 1.5 gallons per flush.
- Title 20, California Administrative Code Section 1604(f) establishes efficiency standards for maximum flow rates of all new showerheads, lavatory faucets, and sink faucets.
- Title 24, California Administrative Code Section 2-5307(b) prohibits the installation of fixtures unless the manufacturer has certified CEC compliance with the flow rate standards.
- Title 24, California Administrative Code Section 2-5352(i) and (j) establishes pipe insulation requirements for steam and steam-condensate return piping and recirculating hot water piping.

ENDNOTES

1. The British Thermal Unit (BTU) is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level. Energy use was estimated in accordance with Title 24 energy budgets shown in the California Energy Commission's Energy Efficiency Standards, 1985 Edition.
2. Projections based on generation rates of 16,081 kWh per dwelling units per year for residential uses, 11.8 kWh per square foot of retail space per year, 6.8 kWh per square foot of hotel space per year, and 47.3 kWh per square foot of restaurant space per year. These generation rates are taken from Air Quality Handbook for Preparing Environmental Impact Reports, South Coast Air Quality Management District, 1987.

5. LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

5. LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The North Village Specific Plan will increase the density of existing development in the area from a sparse semi-urban character to multiple-density residential, retail, and commercial use. The development of the property will continue a long-term commitment by the Town to provide its current and future residents with a wide range of housing types and services. Future long-term uses of the property would include the development of the area as a residential neighborhood, commercial, retail, and public space developments.

Advantages of the near-term development of the project would be the extension of fully improved streets and utilities to the area planned for future growth. Development of the project will also increase sales tax revenue to the Town.

IRREVERSIBLE ENVIRONMENTAL CHANGES

The development of the project implies an irreversible commitment of resources. Building materials, energy spent during construction and energy spent during the operational phase of the project are essentially irreversible commitments of resources. Upon completion of the project, natural resources would be used by the occupants of hotels and condos, including fuels used by project-generated traffic. The proposed project would increase recreational and commercial densities on the site and would preclude other uses of the site for the lifetime of the project.

Increased human activity accompanying the development could further induce wildlife to decrease or discontinue use of wildlife habitats. Effects on the scattered Jeffrey Pine-Fir forest are considered the most sensitive to long term impacts on North Village's limited natural ecosystem productivity.

CUMULATIVE IMPACTS

The current Mammoth Lakes General Plan and the current Zoning Ordinance density and land use regulations permit the uses and design concepts of the North Village Specific Plan. There is nothing proposed in the Specific Plan that could not have been accommodated under traditional zoning

5. Long-Term Implications of the Proposed Project

classifications and under current Town policies. Therefore, the development on North Village represents an expected, planned and incremental stage in the development of the Town of Mammoth Lakes.

However, as referenced in the Mammoth Lakes General Plan Environmental Impact Report, each incremental development will contribute to certain cumulative effects. These include:

- An overall increase in traffic will eventually exert pressure on existing roadways and intersections throughout the community.
- While decreased air quality has not been identified as a potential environmental impact, it could become a cumulative impact when viewed in conjunction with other large developments contemplated for Mammoth Lakes.
- The North Village development could increase the level of general commercial and recreational noise in the planning area.
- The loss of trees and other native vegetation, when viewed in conjunction with other major developments planned for Mammoth Lakes, could be considered a negative cumulative effect.
- The general increase in energy and water consumption for construction and human habitation could place additional pressure on existing resources. In particular, additional water sources may need to be developed.
- Structural damage, injury and loss of life could be greater if a sizable volcanic or seismic event were to occur in the vicinity.
- The increased impervious surface area resulting from the development of North Village could contribute to water quality and drainage problems in the future.
- Based on the fiscal analysis, the North Village Project is expected to have a positive long-term fiscal impact on the Town of Mammoth Lakes.

6. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

6. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

A discussion of the ways in which the proposed project, directly or indirectly, could foster economic or population growth in the surrounding environment is required under Section 15126(g) of the CEQA Guidelines. Growth-inducing impacts include projects which would remove obstacles to population growth and projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

Typically, the growth-inducing potential of a project either induces growth or creates the capacity to accommodate growth above and beyond that which is permitted by planning policies or contained in independent growth projections. However, the creation of growth-inducing potential does not automatically cause growth, whether it be a portion of the project growth or an actual increase over projected growth levels. Growth at the local level is fundamentally controlled by the land use policies of local municipalities or counties, which are determined by the local politics of growth in each jurisdiction. Growth-inducing potential or pressure created by economic and social conditions interacts with a locality's growth-management policy in the transformation of growth potential into actual growth.

The Town of Mammoth Lakes General Plan governs commercial and residential growth in the North Village Specific Plan Area. This area is currently divided into several zoning units, including areas characterized by a mixture of hotels and restaurants, some retail businesses, several office and service businesses, and a condominium complex.

The North Village Specific Plan will create new employment opportunities in the Town, both during and following construction and, therefore, could directly induce growth in the Town's population. It is projected that 292 employees will be associated with the Commercial Space outside the Plaza. Based on the number of jobs created by North Village, there is projected to be an increase of 2,000 in the region's population. Assuming each employee is associated with an additional 1.3 people, there will be a demand for housing. Since over half of these jobs will be in low to very low income brackets, there will be a definite need for affordable housing. The Specific Plan states that there will be employee housing associated with the project, however, no numbers regarding dwelling units are given. An increase in population (both permanent and temporary) may cause a growth in retail services designed to accommodate the needs of this population increase. Many of these services will be provided within the North Village project itself, however additional growth may occur outside of the project area.

The intensity of the proposed project, along with its proximity to Mammoth Mountain, may result in a shift in the Town's main business district from Old Mammoth Road, between Meridian Street and State Highway 203, to North Village itself. This shift would not be in accordance with The Town of Mammoth Lakes General Plan.

7. ALTERNATIVES TO THE PROJECT

7. ALTERNATIVES TO THE PROJECT

INTRODUCTION

In accordance with Section 15125 (d) of the California Environmental Quality Act (CEQA) guidelines require that an EIR describe a range of reasonable alternatives to the proposed project, or alternative locations and designs for the proposed project. These alternatives should be those which could feasibly attain the basic objective of the project and/or eliminate significant adverse impacts to the environment. In addition, these alternatives must include a comparative evaluation of the No Project alternative, per Section 15143 of the CEQA Guidelines.

This chapter identifies and discusses three project alternatives for the proposed North Village project. The environmental effects associated with the No Project alternative are examined under Alternative One. Alternative Two examines the impacts of a project reduced in scale while Alternative Three evaluates the project at an alternative site.

Town of Mammoth Lakes General Plan Goals

The proposed project should meet the following objectives to the degree feasible:

- Provide for community development that is consistent with the community's general health, safety and welfare.
- Preserve and maintain the unique natural setting and mountain resort character of Mammoth Lakes while accommodating changing community needs and conditions.
- Preserve and maintain the natural environment and wildlife of the area.
- Provide opportunities for economic growth and diversification.
- Provide a wide range of housing, employment and community facilities for the Town.
- Provide a land use plan and policies that provide suitable types and intensities of land use.
- Establish conservation and development policies for the wise management of the Town's resources.
- Establish transportation policies that will promote the development of a comprehensive transportation system for the community.

- Establish policies for the development of public services and facilities in accordance with the community's needs and the Town's resources to provide for those needs.

The General Plan Designation for the project site is Commercial and High Density Residential with Low Density Residential as the surrounding use.

ALTERNATIVE ONE - NO PROJECT

Under the No Project alternative, the North Village project would not be constructed. The proposed hotel/motel lodging, Plaza Resort, Ski Lift, Condominiums, Recreational and Community Facilities would not be developed and the project site would remain in its undeveloped state. The following section discusses the Impacts associated with the "No Project" alternative.

Aesthetics/Visual Impacts

No project-related impacts would occur, and the site would continue to be used as a mixed-use commercial/motel and retail use.

Archaeology

Because of the absence of grading and construction, the No Project alternative would avoid the likelihood for inadvertent excavation of cultural resources in the proposed project area.

Biological Resources

The proposed project area currently comprises numerous mature trees and partially vacant areas. The existing commercial/retail uses (including hotels/motels) are predominately located along Minaret Road. One beneficial impact of the No Project alternative is the preservation of approximately 25 acres of non-contiguous undeveloped lots.

Energy Conservation

No significant impacts would occur under the No Project alternative.

Geology/Soils/Seismicity

The area would not be subject to new or increased slope instability or soil erosion under the No Project alternative. Existing slope stability and soil erosion condition would not be changed. There would be no increase in the number of people exposed to seismic and volcanic activity.

Grading

No excavations for sub-surface parking or construction would occur under the No Project alternative and no earth would be exported from the project site. Existing drainage patterns would be retained and there would be no change in stormwater runoff rates.

Hydrology/Water Quality

There would be no change in stormwater runoff rates.

Jobs/Housing

There would be no impact on employment or housing. Without the construction of the proposed project under this alternative, no additional housing (2,400 hotel/condo units) would be provided. In addition, a housing demand of 1,280 units would not be generated.

Light/Glare/Aesthetics

Impacts in the areas of urban design, light and glare, aesthetics or shade and shadow would not occur under the No Project alternative.

Noise

No construction or project-related impacts on noise levels would occur under the No Project Alternative.

Public Services

School enrollment increases and demands on police and fire services will not increase under the No Project alternative.

Risk of Upset/Human Health

No project-related impacts would occur under this alternative.

Transportation/Circulation

Traffic impacts in the site vicinity would decrease under the No Project alternative.

Utilities

Sewer

Under the No Project alternative, there would be no increased demand placed on the existing sewer treatment operations.

Solid Waste

Landfill capacity would not be affected by the No Project alternative.

Water

Water demand on-site would not increase under the No Project alternative.

ALTERNATIVE TWO - REDUCED SCALE PROJECT

The Reduced Project Size Alternative involves a 30 percent reduction in the overall intensity (square footage) of the project. The alternative includes the removal of all commercial and resort condominium/hotel uses east of Meridian Road.

The overall result of this alternative would be a lower magnitude in project impact for each environmental concern. The relative significance of the project impacts would be similar to impacts resulting from the project as proposed on the developed areas, but would have substantially less impact on the remaining portion of the site to be left undeveloped.

Aesthetics/Visual Impacts

The implementation of the Reduced Project Size would result in a reduction in project impacts. A decrease in Floor Area Ratio (FAR) would reduce aesthetic impacts due to scale.

Archaeology

Grading would be reduced with this alternative. Depending on the area of construction, grading may decrease the potential for the excavation of cultural resources.

Biological Resources

Because the proposed project area currently comprises numerous mature trees and partially vacant areas, impacts associated with biological resources will be similar to the proposed project. However, the impact may be decreased depending on the location of construction, due to the reduced project size.

Energy Conservation

No significant impacts. Energy consumption under the Reduced Project Size would reduce electrical and gas consumption.

Geology/Soils/Seismicity

The potential risk would be similar to other developments in the area and would not be considered a significant impact.

Grading

Short-term adverse impacts due to grading activities would be reduced with a shorter construction period and the elimination of at least one level of the subterranean parking structure.

Housing

A 30% decrease in housing construction will result in a decrease in housing demand to 896 units. The increase in population and employment levels associated with the project would also be reduced.

Hydrology/Water Quality

The increased discharge to the existing drainage capacity as a result of the construction of the project would be reduced. Stormwater runoff would be reduced due to less impervious surfaces and impact on groundwater and surface water quality would be minimal.

Light/Glare/Aesthetics

Depending on the type of architecture style, development under the alternative may reduce impacts from light and glare when compared to the proposed project. No significant impacts would occur with implementation of mitigation measures.

Noise

Contingent upon the amount of architectural changes that will occur as a result of the reduced project alternative, construction and traffic may decrease. If a shorter construction period and a reduction in vehicle trips occur, there would be a decrease in the project's contribution to ambient noise levels when compared to the proposed project.

Public Services

As with the proposed project, the alternative would increase the level of demand for police protection. The level of potential impacts under this alternative would be slightly reduced.

As with the proposed project, the alternative would increase the level of demand for fire protection and emergency services. The level of potential impacts under this alternative would be slightly reduced.

The Reduced Project Size would decrease the school enrollment from the proposed project. No significant impacts would occur with implementation of the mitigation measures required under the proposed project.

The Reduced Project Size would lower snow removal. However, implementation of mitigation measures will still be necessary to have a less-than-significant impact.

Risk of Upset/Human Health

No significant impacts would occur with implementation of the mitigation measures required under the proposed project.

Transportation/Circulation

As with the proposed project, the reduced project alternative would increase the level of demand for transportation and circulation. The level of potential impacts under this alternative would be slightly reduced.

Utilities

The Reduced Project Size would increase surface water runoff, however, not to the same degree as the proposed development.

ALTERNATIVE THREE - ALTERNATIVE SITE

Alternative Three would relocate the project to a 100-acre site southeast of the proposed project. The alternative site, currently referred to as the "South Gateway" is located south of Meridian Road and east of Old Mammoth Road. The Alternative Site option assumes that the number of dwelling units and design of the master plan would remain as proposed at the alternative location (see Figure 7-1).

Due to the location of the Alternative site, a gondola-type transportation system will not be constructed.

Aesthetics/Visual Impacts

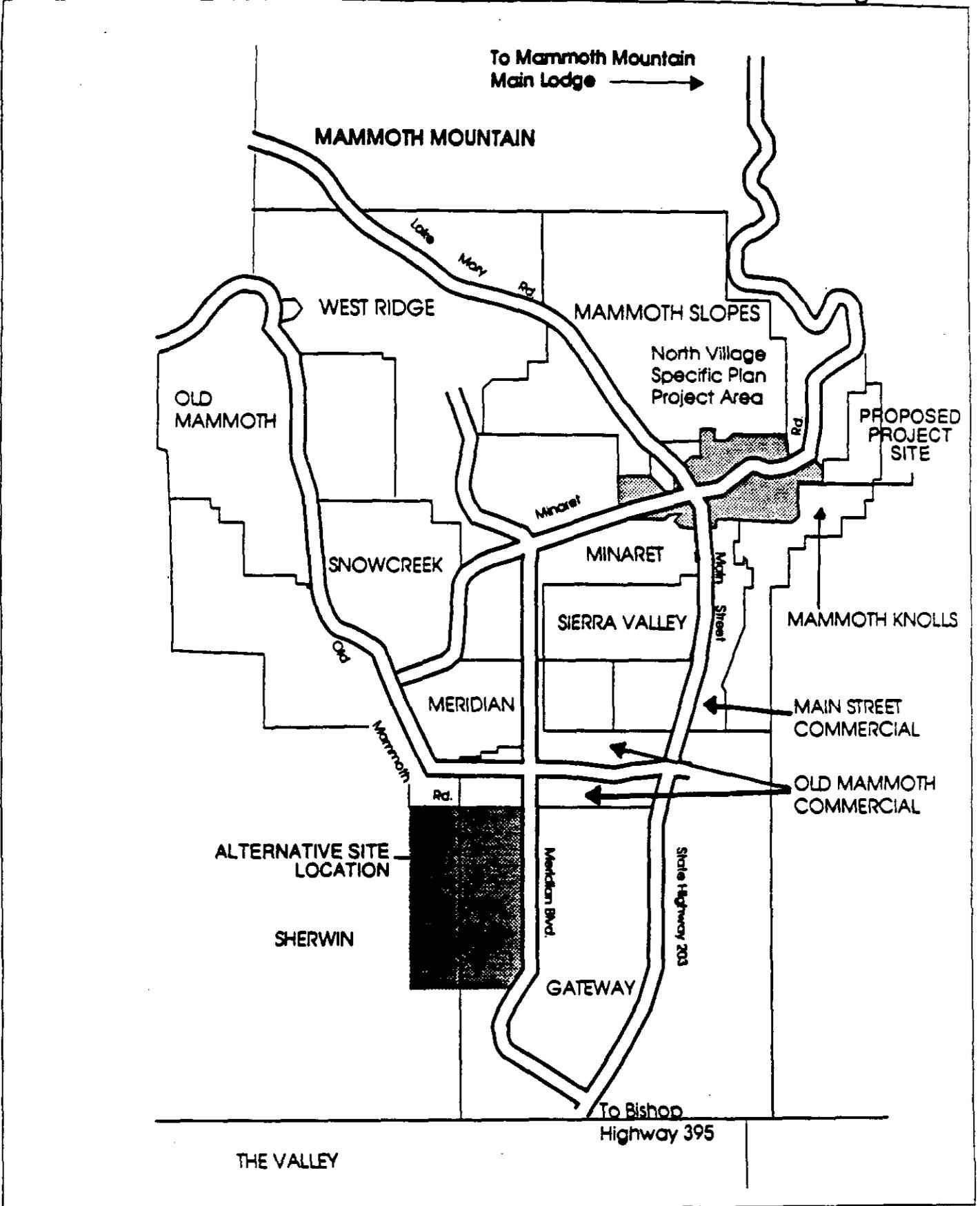
Due to the undeveloped condition of the site, visual impacts will be more significant than at the proposed site.

Archaeology

Without an Archaeological reconnaissance at the Alternative Site, it is difficult to determine the impacts at this time.

Alternative Site Location Map

Figure 7-1



SOURCE: Jack Johnson Company

90182



Biological Resources

At the Alternative Project site, development would result in a similar disruption and loss of native plant and wildlife communities than on the proposed project site.

Energy Conservation

No significant impacts. The level of demand would remain the same as for the proposed project.

Geology/Soils/Seismicity

Not considered a significant impact. Same level of risk as with other alternatives.

Grading

Impacts and mitigation measures for the Alternative Site would be essentially the same as proposed project.

Housing

Housing impacts would be similar to the proposed project.

Hydrology/Water Quality

Surface runoff would be increased and will require mitigation measures similar to proposed project.

Light/Glare/Aesthetics

Lighting impacts would be similar to the proposed project.

Noise

The construction period and the amount of traffic generated from this alternative would remain virtually the same as with the proposed project.

Public Services

As with the proposed project, development at the alternative site would place a near equal demand on police services, which would be considered a significant impact.

As with the proposed project, development at the alternative site would increase demand for fire protection and emergency services. With implementation of the mitigation measures required under the proposed

alternative and any others that may be required for the new site, the level of impact on fire protection services would not be considered adverse.

As with the proposed project, development at the alternative site would place an equal demand on student services, which would be considered a significant impact.

Risk of Upset/Human Health

It is not known if the alternative site contains any hazardous materials or abandoned oil fields, thus the risk to human health is unknown. It can be assumed that with adequate mitigation measures potential risks would be reduced to less than significant levels.

Transportation/Circulation

Without a Traffic impact study at the Alternative Site, it is difficult to determine the impacts at this time. Because of the absence of the gondola transportation system, vehicle miles per trip may increase slightly.

Utilities

Surface runoff will be increased and will require mitigation measures similar to the proposed project.

ALTERNATIVE FOUR-ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative in terms of avoidance of significant adverse impacts attributable to the project would be Alternative One - No Project, where the effects of the environment would remain substantially the same as presently exist.

The Reduced Scale Alternative would be the environmentally superior alternative because it meets the following goals of the Town's General Plan.

- Preserve and maintain the unique natural setting and mountain resort character of Mammoth Lakes while accommodating changing community needs and conditions. The Reduced Scale Alternative accomplishes both goals.
- Preserve and maintain the natural environment and wildlife of the area. Because the Reduced Scale Alternative is less intense, there would be less disruption to the natural environment and wildlife of the area.

7. Alternatives To The Project

- Provide a wide range of housing, employment and community facilities for the Town. The Reduced Scale Alternative involves a 30% percent reduction in the number of proposed dwelling units.
- Provide a land use plan and polices that provide suitable types and intensities of land use. The land use under the Reduced Scale Alternative would remain consistent with the Town's General Plan. The level of intensity under this alternative would be at a lower degree.
- Establish conservation and development policies for the wise management of the Town's resources. The Reduced Scale Alternative for the proposed project would result in a slight reduction in project impacts on the Town's resources. Because of its smaller building footprint, this alternative would result in the preservation and conservation of more open space than the proposed project.

Alternative Three - Alternative Site option is not significantly dissimilar to the proposed project. No environmental benefits will be derived from the relocation of the proposed project site to the alternative site. In addition, the site is a contiguous, undisturbed parcel of land. Any development would have an adverse impact to the parcel's pristine state.

COMPARISON OF ALTERNATIVES

Table 7-1 is a comparison of the North Village project and the alternatives considered.

TABLE 7-1: COMPARISON OF ALTERNATIVES

Impact Area	Alternative 1 No Project	Alternative 2 Reduce Scale	Alternative 3 Alternative Site
Aesthetics /Visual Impacts	No project-related impacts would occur, and the site would continue to be used as a mixed-use commercial/motel and retail use.	A reduction in project scale will lessen project impacts. The decrease in FAR would reduce aesthetic impacts due to scale.	Due to the undeveloped condition of the site, visual impacts will be more significant than the proposed site.
Archaeology	Because of the absence of grading and construction, the No Project alternative would avoid likelihood for inadvertent excavation of cultural resources in the proposed project area.	Reduction in grading would decrease the potential for the excavation of cultural resources, contingent upon the location of construction.	Without an Archaeological reconnaissance at the Alternative Site, it is difficult to determine the impacts at this time.
Biological Resources	The proposed project area currently comprises numerous mature trees and partially vacant areas. One beneficial impact of the No Project alternative is the preservation of approximately 25 acres of non-contiguous undeveloped lots.	Impacts associated with biological resources will be similar to the proposed project. However, the impacts may be decreased depending on the location of construction, due to the reduced project size.	At the Alternative Project site, development would result in a similar disruption and loss of native plant and wildlife communities than on the proposed project site.
Energy Conservation	No significant impacts would occur under the No Project alternative.	No significant impacts. Energy consumption under the reduced scale alternative would reduce electrical and gas consumption.	No significant impacts. The level of demand would remain the same as for the proposed project.
Geology, Soils, & Seismicity	No Significant Impacts. Without project construction, the degree of geologic hazard at the site would not be changed.	The potential risk would be similar to other developments in the area and would not be considered a significant impact.	Not considered a significant impact. Same level of risk as with other alternatives.
Grading	No Significant Impacts. No grading or removal of soils would take place.	Short-term adverse impacts due to grading activities would be reduced with a shorter construction period and the elimination of at least one level of the subterranean parking structure.	Impacts and mitigation measures for the Alternative Site would be essentially the same as proposed project.

7. Alternatives To The Project

Impact Area	Alternative 1 No Project	Alternative 2 Reduce Scale	Alternative 3 Alternative Site
Housing	Without construction of the proposed project under this alternative, no additional housing (2,400 hotel/condo units), would be provided. In addition, a housing demand of 1,280 units will not be generated.	A 30% decrease in housing construction will result in a decrease in housing demand of 896 units. The increase in population and employment levels associated with the project would also be reduced.	Housing impacts would be similar to the proposed project.
Hydrology /Water Quality	There would be no change in stormwater runoff rates.	The Reduced Site Alternative will increase surface water runoff, however, not to the same degree as the proposed development.	Surface runoff will be increased and will require mitigation measures similar to proposed project.
Noise	No construction or project related impacts on noise levels would occur under the No Project Alternative.	If a shorter construction period and a reduction in vehicle trips occur, there would be a decrease in the project's contribution to ambient noise levels when compared to the proposed project.	The construction period and the amount of traffic generated from this alternative would remain virtually the same as with the proposed project.
Public Services ■Police	There would be no increase in the demand for police services under this alternative.	As with the proposed project, the alternative would increase the level of demand for police protection. The level of potential impacts under this alternative would be slightly reduced.	As with the proposed project, development at the alternative site would place a near equal demand on police services, which would be considered a significant impact.
Public Services ■Fire	There would be no increase in the demand for fire services under this alternative.	As with the proposed project, the alternative would increase the level of demand for fire protection and emergency services. The level of potential impacts under this alternative would be slightly reduced.	As with the proposed project, development at the alternative site would increase demand for fire protection and emergency services. If the mitigation measures required under the proposed alternative and any others that may be required for the new site are implemented, the level of impact on fire protection services would not be considered adverse.
Public Services ■Schools	No increase in student enrollment will be generated due to this alternative.	No significant impacts would occur with implementation of the mitigation measures required under the proposed project.	As with the proposed project, development at the alternative site would place an equal demand on student services, which would be considered a significant impact.

7. Alternatives To The Project

Impact Area	Alternative 1 No Project	Alternative 2 Reduce Scale	Alternative 3 Alternative Site
Public Services ■ Snow Removal	No project-related impacts would occur under this alternative.	The reduced size project will impact snow removal. However, implementation of mitigation measures will still be necessary to have a less-than-significant impact.	Not considered a significant impact. Same level of risk as with other alternatives.
Risk of Upset /Human Health	No project-related impacts would occur under this alternative.	No significant impacts would occur with implementation of the mitigation measures required under the proposed project.	It is not known if the alternative site contains any hazardous materials or abandoned oil fields, thus the risk to human health is unknown. It can be assumed that with adequate mitigation measures potential risks would be reduced to less than significant levels.
Transportation /Circulation	Traffic impacts in the site vicinity would be greater under the No Project alternative due to the proposed project ability to improve existing street systems.	As with the proposed project, the reduced project alternative would increase the level of demand for transportation and circulation. The level of potential impacts under this alternative would be slightly reduced.	Without a Traffic impact study at the Alternative Site, it is difficult to determine the impacts at this time.
Utilities ■ Drainage	Existing drainage patterns would be retained.	The Reduced Site Alternative will increase surface water runoff, however, not to the same degree as the proposed development.	Surface runoff will be increased and will require mitigation measures similar to proposed project.
Utilities ■ Electricity	No project-related impacts would occur under this alternative.	No significant impacts would occur with implementation of the mitigation measures required under the proposed project.	No significant impacts. The level of demand would remain the same as for the proposed project.
Utilities ■ Solid Waste	Landfill capacity would not be affected by the No Project alternative.	No significant impacts would occur with implementation of the mitigation measures required under the proposed project.	No significant impacts. The level of demand would remain the same as for the proposed project.

7. Alternatives To The Project

Impact Area	Alternative 1 No Project	Alternative 2 Reduce Scale	Alternative 3 Alternative Site
Utilities ■ Wastewater /Water	<p>Under the No Project alternative there would be no increased demand placed on the existing sewer treatment operations.</p> <p>Water demand on-site would not increase under the No Project alternative.</p>	<p>No significant impacts would occur with implementation of the mitigation measures required under the proposed project.</p>	<p>No significant impacts. The level of demand would remain the same as for the proposed project.</p>

8. ORGANIZATIONS AND PERSONS CONTACTED

8. ORGANIZATIONS AND PERSONS CONTACTED

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