3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES
3.10 HYDROLOGY AND WATER QUALITY

This section addresses the potential impacts of the proposed project with regard to drainage patterns, groundwater supply and recharge, and surface and groundwater water quality during both project construction and operation. The analysis of groundwater supply and recharge impacts are based on the *Preliminary Hydrogeologic Investigation*, dated March 2006, prepared by Sierra Geotechnical Services, Inc. The analysis of water quality and surface drainage impacts is based on the *Preliminary Drainage Study*, dated August 2006, and the *Storm Water Pollution Prevention Plan (SWPPP)*, dated April 2006, prepared by Triad/Holmes Associates. These studies are provided in Appendix H of this document. Additional reference documents include the *Town of Mammoth Lakes General Plan* dated October 1987, the *Town of Mammoth Lakes Draft General Plan* dated April 2005, the *Town of Mammoth Lakes 2005 General Plan Update Revised Draft Program Environmental Impact Report (EIR) dated October 2005*, the *Mammoth Lakes Storm Drainage Master Plan (SDMP) Update* dated May 2005, the *Inyo National Forest Land and Resource Management Plan ("Forest Plan")* dated 1988, and the *Water Quality Control Plan for the Lahontan Region, North and South Basins* dated March 1995.

3.10.1 REGULATORY FRAMEWORK

Hydrology and water quality is regulated at the Federal, State, and local levels. The U.S. Army Corps of Engineers (USACE), United States Environmental Protection Agency (USEPA), the California State Water Resources Control Board (SWRCB), the Lahontan Regional Water Quality Control Board (RWQCB), and the Town of Mammoth Lakes regulate hydrology and water quality in the project area.

a. Federal

(1) Federal Clean Water Act, Section 404

The USACE regulates "discharge of dredged or fill material" into "waters of the U.S.," which includes tidal waters, interstate waters, and all other waters that are part of a tributary system to interstate waters or to navigable "waters of the U.S.," as well as the use, degradation, or destruction of which could affect interstate or foreign commerce or which are tributaries to waters subject to the ebb and flow of the tide (33 C.F.R. 328.3(a)), pursuant to provisions of Section 404 of the Clean Water Act (CWA). Section 401 of the CWA requires that any applicant

for a federal permit that involves activities resulting in a discharge to "waters of the U.S." shall provide a certification from the State in which the discharge is proposed. The State certification needs to conclude that the discharge will comply with the applicable provisions under the federal CWA. Therefore, before the USACE will issue a Section 404 permit, applicants must apply for and receive a CWA Section 401 Water Quality Certification.

In the State of California, the overall regulation, protection, and administration of water quality is carried out by the SWRCB. Potential impacts to designated "waters of the U.S." are discussed in subsection 3.6, Biological Resources of this EIR/EA. However, no ACOE jurisdictional "waters of the U.S." and ACOE jurisdictional wetlands exist within the project site.

Section 303(d) of the CWA requires the identification and listing of water quality limited or "impaired" waterbodies where water quality standards and/or receiving water beneficial uses are not met. Once a waterbody is listed as "impaired," total maximum daily loads (TMDLs) must be established for the pollutants or flows causing the impairment (33 U.S.C. §1313(d)(c)). A TMDL, which is a written plan that describes how an impaired water body will meet water quality standards, contains:

- A measurable feature to describe attainment of the water quality standard(s);
- A description of required actions to remove the impairment; and
- An allocation of responsibility among dischargers to act in the form of actions or water quality conditions for which each discharger is responsible.

(2) National Pollutant Discharge Elimination System

The USEPA established the National Pollutant Discharge Elimination System (NPDES) Program as the primary implementation program for regulating surface water quality. The NPDES Program requires permits for storm water discharge from storm drain systems into "waters of the U.S." The NPDES Program addresses storm water discharge during both pre- and post-construction activities.

Construction activities disturbing one acre or more are required to comply with the SWRCB General Construction Activity Storm Water Permit. This requires the preparation and approval of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must include the implementation of Best Management Practices (BMPs) that would reduce the potential for discharge of accidental and/or implicit pollutants into the storm drain system during grading and construction. The BMPs should be designed to maintain construction areas in such a condition that storm flows do not carry wastes or pollutants off-site. The General Construction Activity Storm Water Permit requires that these BMPs be in place prior to issuance of a grading permit.

As many of the BMPs are incorporated as project design features, the BMPs serve not only to protect water quality during construction activities, but also during the operation of the project.

(3) Inyo National Forest Land and Resource Management Plan

The Inyo National Forest Land and Resource Management Plan ("Forest Plan") includes Forest-wide Standards and Guidelines for the management of resources to ensure their protection and enhancement. Forest–wide Standards and Guidelines regarding water quality and erosion that are applicable to the project include:

I. Stabilize all areas disturbed by management activities to minimize soil erosion.

II. Apply the BMPs from the handbook, "Water Quality Management for National Forest System Lands in California" when implementing ground-disturbing activities that may reduce the productivity of the landbase or cause surface erosion or mass wasting.

III. Maintain or improve water quality to meet state and federal standards. Cooperate and coordinate with state and federal agencies when planning projects that could offset water quality.

IV. Implement BMPs to meet water quality objectives and maintain or improve the quality of surface water on the Forest. Identify methods and techniques for applying BMPs during project level environmental analysis and incorporate into the associated project plan and implementation documents.

V. Avoid creating berms that hinder drainage on low gradient roads.

The following Management Direction for Management Prescription Area #13 also applies to the project:

I. Monitor water quality to ensure compliance with water discharge requirements.

b. State

(1) Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution issues is the Porter-Cologne Water Quality Control Act of 1970. The Porter-Cologne Act grants the SWRCB and the RWQCBs broad powers to protect water quality, and it is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous wastes and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil/petroleum products.

(2) Water Quality Control Plan for the Lahontan Region, North and South Basins

The Town is within the jurisdictional boundaries of the Lahontan RWQCB. One of nine regional boards in the state, the Lahontan RWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region. Its duties include developing "basic plans" for its hydrologic area, issuing waste discharge requirements, taking enforcement action against violators, and monitoring water quality. In March 1995, a Water Quality Control Plan for the Lahontan Region, North and South Basins (Basin Plan), adopted by the Lahontan RWQCB, took effect. The Basin Plan outlines policies and regulations for municipal wastewater, treatment, disposal, and reclamation. The Basin Plan also establishes specific erosion and sediment control guidelines for development within the Town. Chapter 4.8, Land Development, requires that a Report of Waste Discharge be prepared to control erosion and drainage in the Mammoth Lakes watershed at an elevation above 7,000 feet. The Report of Waste Discharge must contain a description of, and time schedule for implementation, for both the interim erosion control measures to be applied during project construction, and short- and long-term erosion control measures to be employed after the construction phase of the project. According to the Lahontan RWQCB, implementation of an approved SWPPP, pursuant to the SWRCB General Construction Activity Storm Water Permit authorized under the NPDES program, satisfies the requirements of a Report of Waste Discharge.[81]

The standards contained within the Basin Plan are designed to provide developers with a uniform approach for the design and installation of adequate systems to control erosion and

[81] *Telephone conversation with Doug Fay, Engineering Geologist at Lahontan RWQCB, April 18, 2006.*

mitigate urban drainage impacts from the Town in an effort to prevent the degradation of waters of Mammoth Creek and Hot Creek.

In 1991, the Lahontan RWQCB and the Town of Mammoth lakes adopted a memorandum of understanding (MOU) regarding storm water objectives and control measures. Per the MOU, the Town was granted the authority to issue construction permits for all developments less than 5 acres and provide site inspection. This MOU includes guidelines for the control and prevention of pollution from storm water, as follows:

1. Drainage, collection, retention and infiltration shall be constructed and maintained to prevent transport of the runoff from a 20-year, 1-hour design storm from the project site. The 20-year, 1-hour storm for the Mammoth Lakes area is equal to 1.0 inch.

2. Surplus or waste materials shall not be placed in drainage ways or within the 100-year flood plan of surface waters.

3. All loose piles of soil, silt, clay, sand, debris, or earthen materials shall be protected in a reasonable manner to prevent any discharge to waters of the State.

4. Dewatering shall be done in a manner so as to prevent the discharge of earthen material from the site.

5. All disturbed areas shall be stabilized by appropriate stabilization measures by October 15 of each year.

6. All work performed between October 15 and May 1 of each year shall be conducted in such a manner that the project can be winterized or protected from storm events within 48 hours.

7. Where possible, existing drainage patterns shall not be significantly modified.

8. After completion of a construction project, all surplus or waste earthen material shall be removed from the site and deposited at a legal point of disposal.

9. Drainage swales disturbed by construction activities shall be stabilized by the addition of crushed rock or riprap as necessary or other appropriate stabilization methods.

10. All nonconstruction areas shall be protected by fencing or other means to prevent unnecessary disturbance.

11. During construction, temporary erosion control facilities (e.g., impermeable dikes, filter fences, hay swales, etc.) shall be used as necessary to prevent discharge of earthen materials from the site during periods of precipitation or runoff.

12. Revegetated areas shall be continually maintained in order to assure adequate growth and root development. Physical erosion control facilities shall be placed on a routine maintenance and inspection program to provide continued erosion control integrity.

13. Where construction activities involve the crossing and/or alteration of a stream channel, such activities shall be timed to occur during the period in which stream flow is expected to be lowest for the year.

Pursuant to the Lahontan RWQCB Design Parameters, development projects must include facilities and/or features, also referred as treatment control BMPs, that treat, infiltrate, and/or filter the first inch of rainfall from a storm event of 20-year intensity. These project design features and/or treatment control BMPs also serve to mange runoff during the operation of a project.

The water resource protection efforts of the SWRCB and the Regional Boards are guided by a five year *Strategic Plan for the State Water Resources Control Board and the Regional Water Resources Control Boards* (updated 2001). The Strategic Plan lays out the Boards' mission "To preserve, enhance and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations." To help accomplish this mission, a key component of the Strategic Plan is a watershed management approach for water resources protection. To protect water resources within a watershed management context, a mix of point and non-point source discharges, ground and surface water interactions, and water quality/water quantity relationships must be considered. These complex relationships present considerable challenges to water resource protection programs. The State and Regional Boards are responding to these challenges with the Watershed Management Initiative (WMI). Each Regional Board has prepared a WMI designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. A WMI is also designed to focus limited resources on key issues. The overall purposes of the WMI are to direct resources towards the highest priority water quality issues throughout the state, and to aim towards achieving water quality goals in all of California's watersheds by supporting the development of local solutions to local problems with full participation of all affected parties.

The Clean Water Act requires the states to develop rankings for TMDLs. California, ranks TMDLs as high, medium or low priority based on a number of factors including the severity of the impairments and the importance of the specific beneficial uses. Regional Boards develop schedules that set the order for TMDL completion. These schedules are contained in the

Regional Boards WMI work plans. The WMI identifies the TMDL priority ranking, TMDL End Dates, and provides comments on the status of the TMDL. The TMDL End Date refers to the estimated year for the RWQCB to adopt of an amendment to the Basin Plan stating the TMDL.

c. Local

(1) Town of Mammoth Lakes Storm Drainage Master Plan Update

In May 2005, the Town updated its 1984 Storm Drain Master Plan (SDMP). The following are the objectives of the 2005 SDMP:

1. Assess the adequacy of the existing conveyance structures of the storm drain system in the Town.

2. Make specific recommendations for future improvements to the storm drain system.

3. Recommend and assess the impact of specific detention facilities as specified by the Town. The intent of these facilities is to reduce the drainage burden on downstream storm drain system.

4. Provide a basis for the cost estimates and financing necessary to make the storm drain and detention improvements recommended in (2) and (3) above.

5. Review the area's hydrology for both winter rain and snow and summer rain events.

6. Provide a concise and simple hydrologic methodology necessary for developers to plan and design specific design improvements and assess the impact of development on downstream constituents. This methodology will be designed so that it will be compatible with methods adopted in the 1984 study.

The 2005 SDMP updates the watershed and tributary subarea boundaries of the Basin that have resulted from development in the area and the availability of more accurate topographic data. In addition, the 2005 SDMP inventories all the existing storm drain pipe facilities and assesses the adequacy of the Town's storm drain system(s) under three general scenarios, namely existing conditions, future conditions, and "improved" conditions. The latter condition is defined as the future condition together with impacts due to the construction of a detention facility proposed as part of the SDMP. In the future and improved scenarios, future land uses as defined in the 1987 General Plan are considered in order to account for planned development. In all storm drain scenarios, the 20-year and 100-year return periods are considered.

Two separate criteria were applied to assess whether or not each pipe is considered to be adequately sized: (1) each pipe is to have adequate capacity to convey the 20-year discharge; and (2) in the cases of storm drain flows under streets, the combined street capacity and storm drain capacity is to have the necessary capacity to convey the 100-year flow. In the case where inadequate pipes are encountered, the pipes are identified and enlarged accordingly to meet the adequacy criteria for the future and improved condition scenarios. The drainage improvements would be primarily funded through payment of developer impact fees and would be constructed as needed or as further development occurs. According to the Exhibit 8.5, Area 2.3 West Plan, in the SDMP, no storm water improvements have been identified for the project site or the surrounding roadways (i.e., Meridian Boulevard and Majestic Pines Road).

As stated in the 2005 SDMP, the nature of engineering hydrology is inherently probabilistic and that related hydrologic calculations are typically estimates. Except for the most fundamental engineering equations, the various parameters that are determined as part of a hydrologic analysis are typically subject to statistical variance, especially in the study of rare events. The Town's 1984 SDMP was reviewed and it was concluded that the scope and detail of this report was generally satisfactory. Thus, according to Town Staff, current development projects may utilize the hydrology and hydrologic procedures set forth in the 1984 SDMP, subject to review and approval by the Town. Generally, under the current 2005 SDMP, the hydrology calculations result in estimates of greater runoff when compared to flows calculated using the 1984 SDMP methodology.[82]

(2) Town of Mammoth Lakes General Plan (1987)

The Town of Mammoth Lakes General Plan, which was adopted in 1987, includes a Land Use Element that includes Storm Water Drainage System policies to be implemented by the Town. The Storm Water Drainage System Policy #2is applicable to development of the proposed project:

> Policy #2: The Town shall, through requirements in the Town Development Code, assure that development projects provide the necessary on and off site drainage facilities and erosion control measures which assure that Mammoth Creek and other properties are not significantly affected by development runoff.

[82] *Telephone conversation with Peter Bernasconi, PE, Associate Engineer at Town of Mammoth Lakes, April 26, 2006.*

Additionally, the Conservation and Open Space Element provides goals and polices related to Water Resources. The following Water Resources goals and policies are applicable to the proposed project:

Goal #1: To maintain and improve water quality and dependability of water supplies.

Goal #2: To safeguard the productivity and capacity of surface and ground waters, the flood carrying capacity of streams, the storage of reservoirs.

Policy #1: The quality and quantity of surface and groundwaters should be maintained at acceptable levels as determined by appropriate agencies.

Policy #5: The Town shall carefully regulate construction and other activities and development, that which would cause or accelerate erosion sedimentation, water pollution and runoff volumes.

(3) The Town of Mammoth Lakes Draft General Plan Update (2005)

The Town is currently in the process of revising its General Plan. The preliminary draft, dated April 2005, includes updated goals/objectives, policies and implementation measures that have been designed to realize the community's vision and support Guiding Principal VI of the Vision Statement: "Mammoth Lakes has maintained high standards for development and design while allowing for a variety of styles that are complementary and appropriate to the Sierra Nevada alpine setting." While the 2005 General Plan Update is underway, it has yet to be formally adopted. However, the following policies and implementation measures from the preliminary draft have been identified that are applicable to the project:

Policy I.1.A.a: Erosion of soils and stream and lake embankments shall be minimized.

Implementation Measures

I.1.A.a.1: The Town shall require the use of BMPs during and after construction and development as a means to prevent erosion, siltation, and flooding.

I.1.A.a.2: Projects requiring a grading permit shall implement BMPs and shall be required to control erosion and sedimentation.

Policy I.7.A.b: The quality of Mammoth Lakes water resources is protected.

Implementation Measures

I.1.A.b.4: The Town shall require where practical and when warranted by the size of the project that parking lot storm drainage shall include facilities to separate oils from storm water.

(4) Town of Mammoth Lakes Development Code

Section 12.08.090, Drainage and Erosion Design Standards, in the Town's Development Code provides standards that runoff calculations and design must conform to in addition to the Lahontan RWQCB requirements. The following presents a summary of the key standards applicable to the proposed project cited in Section 12.08.090:

- New construction resulting in a total impervious surface on a lot of four thousand square feet or more shall meet Lahontan requirements if they apply, or shall provide a dry well per town standards if the Lahontan requirements do no apply.

- Erosion and sedimentation control shall effectively control erosion and sedimentation and shall conform to these standards as well as standard engineering practices.

- The planting or seeding of vegetative cover, including shrubs and trees, must be effective in preventing erosion and sedimentation. If the vegetation does not grow and offer the proper protection, as determined by the director, it shall be replanted or reseeded.

- The maintenance of vegetative protection shall be the responsibility of the owner of the land and shall be guaranteed until the vegetation is well established as determined by the director.

- Sediment control facilities must be constructed and in working order prior to the beginning of the winter season and must prevent sediment from being transported from the site.

- During snow melt runoff conditions, and at other times as necessary, the permittee shall inspect all erosion and sediment control devices and repair any damage.

3.10.2 AFFECTED ENVIRONMENT

The project site is located at the southwestern edge of the Long Valley caldera near the eastern flank of the Sierra Nevada. The caldera (collapsed volcano) is an east-west elongate,

oval depression formed approximately 760,000 years ago with continued volcanic activity to the present. The pre-volcanic basement rock in the Mammoth Lakes area is predominantly Mesozoic granitic rocks of the Sierra Nevada batholith. The batholith is a series of intrusions that displaced overlying ancient sedimentary sea floor rocks (roof pendants) during the Jurassic and Cretaceous Periods. Piedmont glaciation occurred throughout the Pleistocene leaving a mantle of glacial till covering the basement and volcanic rocks throughout the area now occupied by the Town of Mammoth Lakes.

The approximately 8.7 acre project site is almost entirely disturbed. The project site includes Majestic Pines Road, Meridian Boulevard, an approximately two-acre parking lot, the temporary Eagle Lodge Base Facility, lift towers and other miscellaneous facilities. Site elevations range between approximately 8,100 feet and 8,060 feet above mean sea level. In general, the subject site slopes gradually down toward the east/northeast.

Vegetation surrounding the parking area in the central and eastern portions of the site consists of a light growth of shrubs with few trees. Vegetation within the eastern portion of the site, which generally includes the USFS owned land (Lots 1, 6 and 7), consists of a light to moderate growth of grasses, shrubs and trees. It is believed that no ACOE jurisdictional "waters of the U.S." and ACOE jurisdictional wetlands exist within the project site. Please refer to Section 3.6, Biological Resources, of this EIR/EA for a detailed discussion of onsite vegetation.

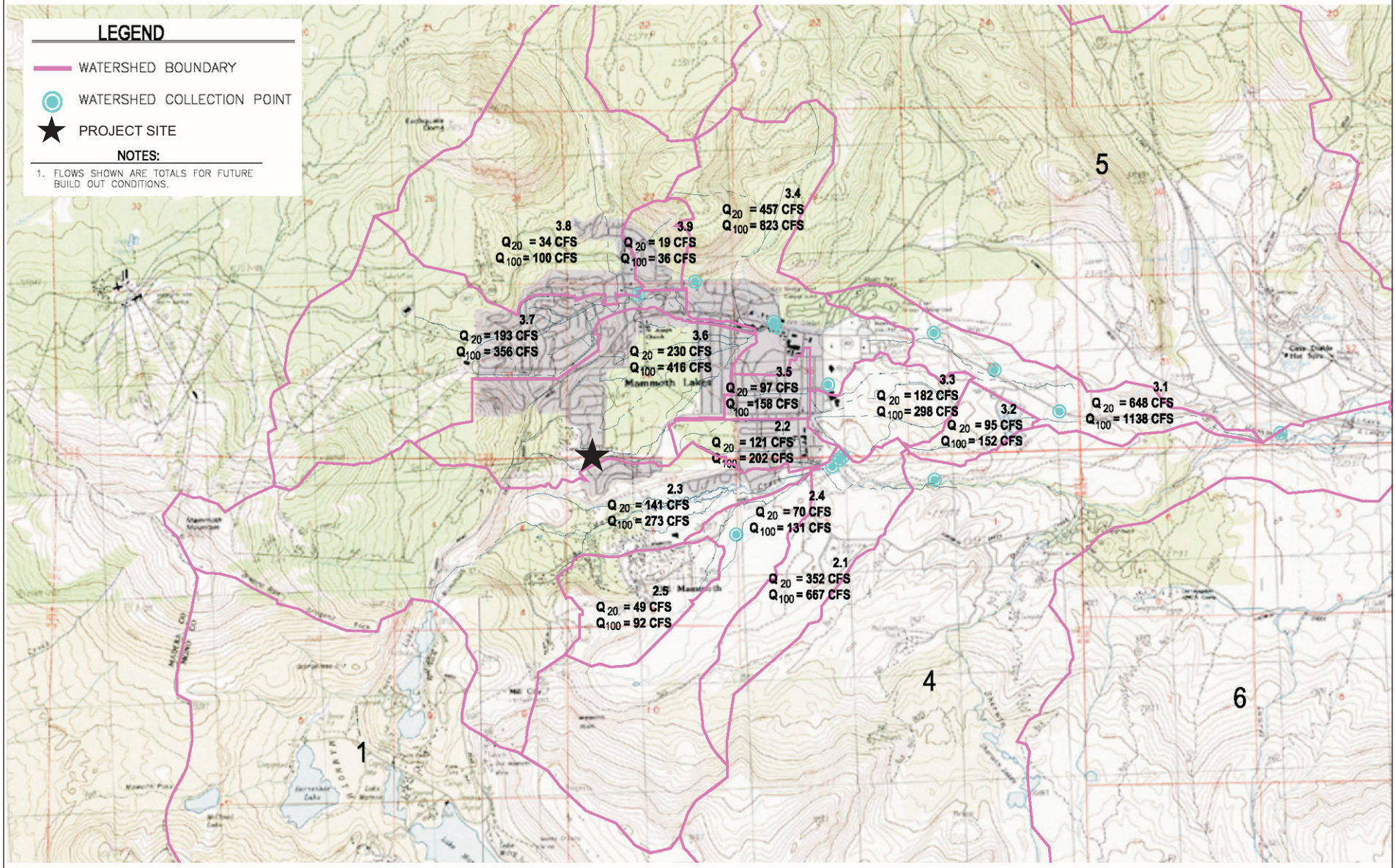
a. Hydrologic Setting

(1) Regional Watershed and Hydrologic Setting

The Town is located within the approximately 45,000-acre (71 square miles) Mammoth Basin (Basin). The Basin includes the entire watershed of Mammoth Creek. More specifically the site is located in the Upper Mammoth Creek watershed. Mammoth Creek and Hot Creek are the same stream, but the name changes to Hot Creek downstream of the U.S. Highway 395 crossing due to historical precedent. The general trend of the Basin is generally northeasterly, extending from Mammoth Crest at elevation 11,053 on the southwest, to the Hot Creek Gorge in the Upper Owens Valley at elevation 6,960 on the northeast. The total flow length of the Mammoth Creek/Hot Creek drainage system is approximately 18 miles.

The Basin includes a complex drainage system comprised of lakes and interconnecting surface streams in the higher elevations of its southwestern portion. All of these lakes and streams are eventually tributary by either surface flow or underground flow to Mammoth Creek.

The Basin contains six smaller drainage basins, or watersheds, that are ultimately tributaries to both the Owens River and Crowley Lake. Figure 41 on page 412 illustrates the



PCR

N

0 2200 4400 8800 Feet

Source: Town of Mamoth Lakes, 2005 Storm Drain Master Plan Update

Figure 41
Watershed Map

boundaries of the Basin and the Tributary Subareas within the six watersheds. As shown in Figure 3.10-1, which reflects the watersheds defined in the 2005 SDMP, the project site is located within Watershed 3, which is also referred to as the Murphy Gulch Watershed. The Murphy Gulch Watershed is approximately 5,120 acres (8 square miles) and encompasses most of the more intensely developed areas of the Town of Mammoth Lakes. More specifically, the project site is located within Tributary Subarea 3.6. Tributary Subarea 3.6 has a flow of 416 cfs during a storm of 100-year intensity.

(2) Local Watershed and Hydrologic Setting

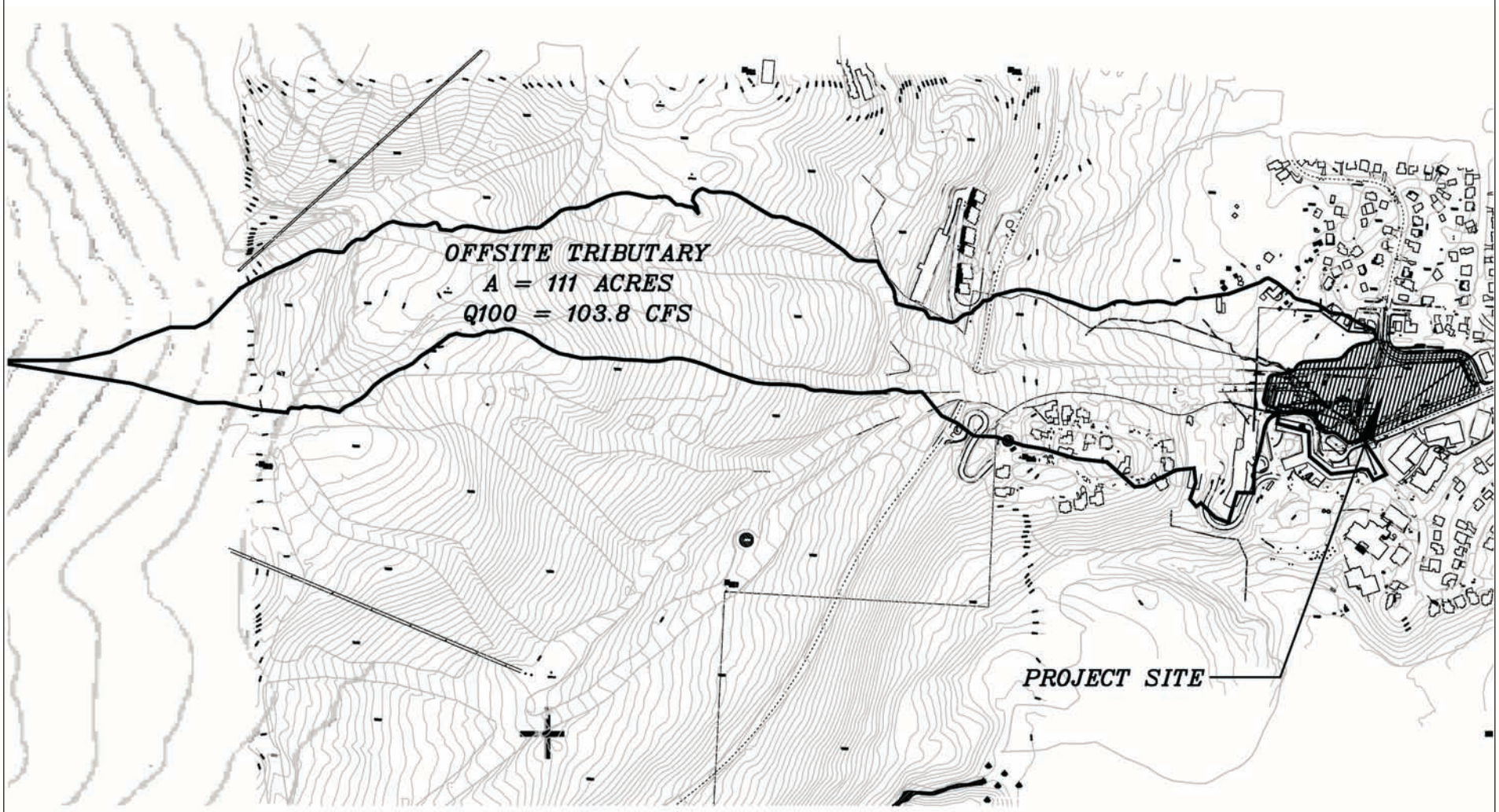
Within Tributary Subarea 3.6, the offsite area that is directly tributary to the project site is approximately 111 acres. Offsite storm water enters the site in sheet flow and in a natural swale from the west. Figure 42 on page 414 illustrates the direct tributary area to the project site.[83] Based on calculations in conformance with the Storm Drainage Design Manual and topographic information from the Town aerial photo maps prepared in 2000, under existing conditions runoff in this tributary area is approximately 103.8 cfs in a storm of 100-year intensity.[84] Currently, the project site consists of approximately 3.35 acres of impermeable surface areas or 39 percent of the site and contributes 8.4 cfs to this tributary area during a storm of 100-year intensity. Figure 43 on page 415 illustrates the existing site conditions, including paved area (2.86 acres), building area (0.39 acres) and landscape area (5.33 acres).

Runoff from the project site flows to the Town of Mammoth Lakes Separate Storm Sewer System (TMLSSS). This system is made up of underground and surface storm drainage facilities. Under existing conditions, runoff from the western portion of the site (Lots 1, 6 and 7) generally flows westerly towards the surface parking lot. The elevation of the parking lot and Majestic Pines Road directs flows to several storm drain inlets located in the southwestern portion of the site, near the entrance to the parking lot off of Majestic Pines Road, as well as several inlets located within the central portion of the parking lot.

All onsite flows are conveyed in an existing 36-inch corrugated metal pipe (CMP) that runs northeasterly under the surface parking lot and to two 36-inch storm drain pipes under Majestic Pines Road that outlet at the southwest corner of the Sierra Star (also known as Loadstar) Golf Course. From the Golf Course, runoff crosses Meridian Boulevard twice, enters a storm drain in Joaquin Road to Dorrance Avenue, where it outflows into a natural channel in the Shady Rest Parcel. A large inlet is located adjacent to Center Street that collects the runoff from this location. This runoff eventually is conveyed to storm drain pipes within Main Street

[83] *The final offsite tributary area will be determined during final design as inlets are placed in their final locations.*

[84] *Preliminary Hydrogeologic Investigation For MMSA Eagle Base Lodge Development: Mammoth Lakes, California, March 31, 2006, prepared by Sierra Geotechnical Services, Inc.*



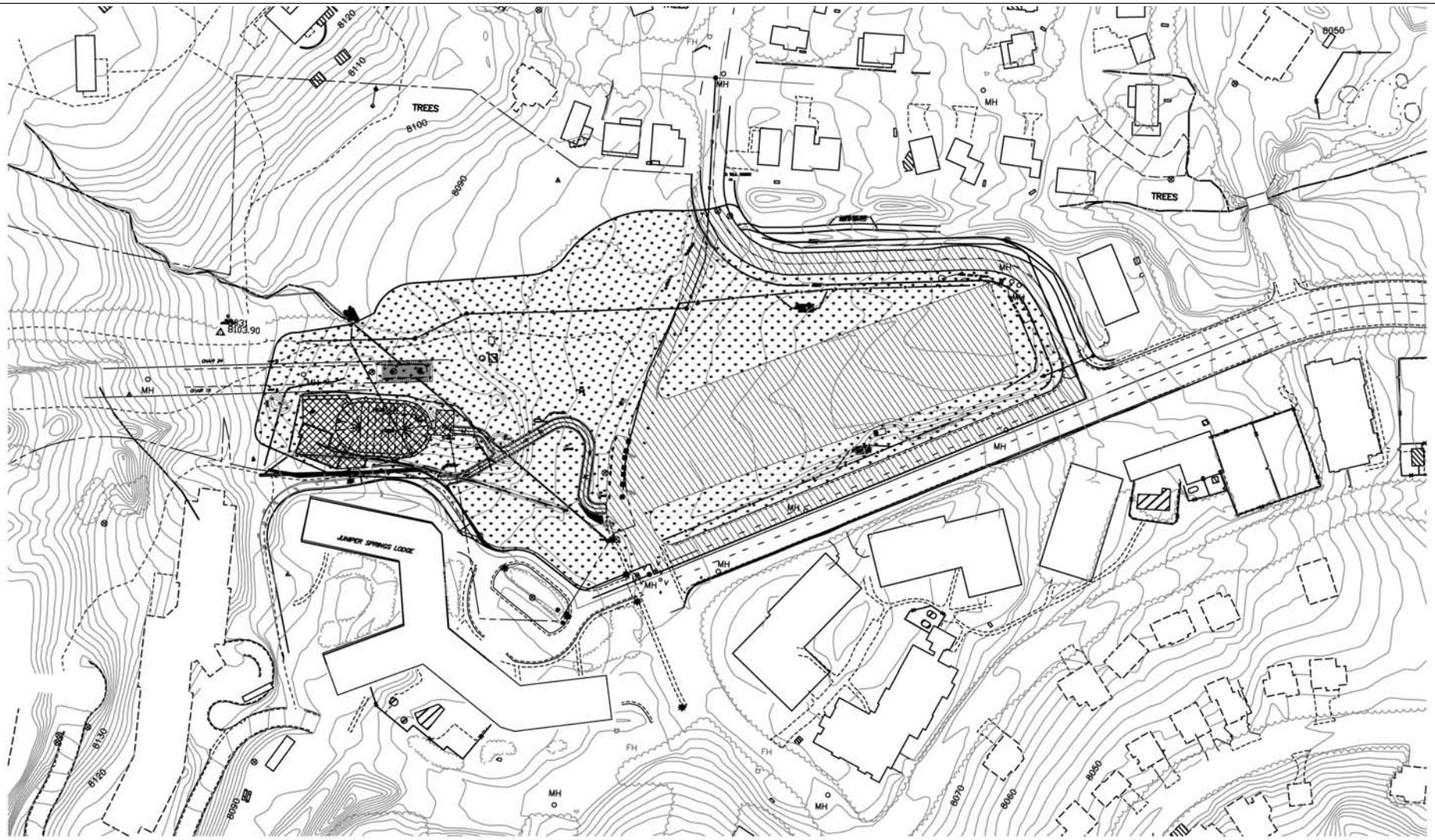
PCR

N

No scale

Figure 42
Area Basin Drawing

Source: Triad/Holmes Associates, March 10, 2006



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No scale

Figure 43
Existing Site Basin Drawing

Source: Triad/Holmes Associates, 2006

then into natural and manmade channels that outlet into Murphy Gulch. Runoff through Murphy Gulch goes through two desiltation basins, prior to entering a pipe that crosses under Highway 203 and entering Mammoth Creek. Runoff from the project site does not enter the existing retention/infiltration ponds facilities located in front or to the east of the Juniper Springs Resort. These facilities collect runoff from the Junipers Springs Resort facilities located to the southwest of the project site.

b. Groundwater

(1) Regional Groundwater Setting

The Town is located on the margin of Long Valley Ground Water Basin. The Basin is bordered to the west and southwest by the Sierra Nevada mountain range, to the north by Bald and Glass Mountains, and to the east by Round Mountain. The groundwater within the Mammoth Hydrologic Basin generally flows northeast and east from Mammoth Crest at an elevation of 11,600 feet above mean sea level (amsl) on the southwest, to the Hot Creek Gorge in the Upper Owens Valley at an elevation of 6,950 feet amsl on the northeast where it may seep through tuffaceous deposits into Owens Valley.[85] Recharge occurs around the Long Valley Caldera rim, within the western portion of the Caldera, 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.[86]

Groundwater hydrology in the Mammoth Hydrologic Basin is complex and has not been fully evaluated to date. Boundaries of the groundwater basin have not been specifically defined due to the complex hydrogeologic conditions of the basin. Generally, the groundwater basin lies largely within the central part of the Mammoth Basin watershed. Geophysical studies have identified at least two separate aquifers within the Town's Planning Area. Subsurface water in portions of the Mammoth Hydrologic Basin has been measured at less than ten feet beneath the surface. These saturated soils are probably fed by lateral migration of subsurface watercourses and probably do not represent the Mammoth Hydrologic Basin's true subsurface hydrology. The deeper aquifer is estimated to be at least 500 feet deep, but is otherwise poorly defined. The aquifers supply water to Mammoth Creek, Hot Creek, and lakes in the Lakes Basin. The California Department of Water Resources (CDWR) estimates that the subsurface flow in the Mammoth Lakes Basin is roughly equal to the surface flows.

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[85] *Tuffaceous deposits is rock composed of compacted volcanic ash varying in size from fine sand to coarse gravel.*

[86] *Town of Mammoth Lakes 2005 General Plan Update Revised Draft Program Environmental Impact Report, October 2005.*

(2) Local Groundwater Setting

(a) Groundwater Levels

Groundwater underlying the project site generally trends to the east/northeast in the direction of the topographic gradient. According to Mammoth Community Water District (MCWD) water well records, the depth to permanent static groundwater aquifer is approximately 450 feet below ground surface (bgs), as recorded from MCWD Well No. 16, which is located within an easement adjacent to the southern property line of the site.[87]

According to the Hydrogeologic Study prepared for the project site, two thirty-foot deep piezometers, which measure pressure or compressibility, were installed within two borings located in the central portion of the project site to the north of the parking lot. Depth to perched groundwater observed in these borings was approximately two to four feet bgs. The perched groundwater is a result of the water from surface flows permeating into the ground surface to the well-cemented zones, which consist of earthen materials that are mostly impermeable. The well-cemented zones are located at approximately four feet bgs. However, some groundwater seepage below the well-cemented zones does occur. During exploratory drillings conducted on the project site between October 6th and November 9th 2005, light to heavy perched groundwater seepage below the well-cemented zones was encountered at depths varying from approximately 4½-feet to 21-feet below grade. Zones of seepage varied based upon the subsurface lithology. In general, seepage occurred above and/or below the well-cemented zones where the grain size as well as the amount of gravels and cobbles increased.

(b) Groundwater Budget

The groundwater budget components consist of the inflow and outflow volumes. Inflow volumes include water from recharge, stream loss, sub-flow from adjacent basins, and return flow from municipal, mining, or irrigation uses. Outflow volumes include removed groundwater as a result of pumping from municipal, commercial, domestic, irrigation, industrial, livestock, mining, and power generation wells, evapotranspiration, discharge to springs, and sub-flow to other basins. As part of the Hydrogeologic Study prepared for the project, an estimate of the preliminary groundwater budget for the site was prepared based primarily on the relatively small direct offsite tributary area that surrounds the site. According to the Hydrogeologic Study, the direct offsite tributary area measures approximately 128 acres.[88] Based on estimated

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[87] *Preliminary Hydrogeologic Investigation For MMMSA Eagle Base Lodge Development: Mammoth Lakes, California, March 31, 2006, Sierra Geotechnical Services, Inc.*

[88] *This area slightly varies from the offsite tributary area calculated in the Preliminary Drainage Study, primarily because the Preliminary Drainage Study does not include the project site itself in the area calculation.*

precipitation and evapotranspiration data provided by the CDWR, approximately 210 acre-feet per year of precipitation is available to recharge the basin surrounding the site.

Groundwater removal occurs from two MCWD horizontal wells that are located beneath Lake Mary Road, directly upslope and to the west of the site, and from MCWD Well No.16. Between 1995 and 2000 Well No. 16 has been reported to have static levels ranging from 414 to 484 feet bgs, pumping levels between 471 and 492 feet bgs, pumping discharge rates of 350 to 500 gallons per minute (gpm), and a projected annual pumping rate of approximately 135 acre-feet during drought conditions. Overall, the MCWD removes approximately 357 acre-feet of water per year.[89] Water within the well and the surrounding area is likely replenished from deep recharge emanating from the fractured Lincoln Peak volcanics underlying the glacial till material as opposed to percolation from shallow run-off.[90] Lincoln Peak is a small sub-peak on the southern end of Mammoth Mountain.

(c) Groundwater Underflow and Drawdown Levels

On March 24, 2006, a pump test within Boring B-9, located in the central portion of the project site and north of the parking lot, yielded a sustained pumping rate of 1.62 gpm for a duration of 35 minutes.[91] Drawdown in the well was estimated at three feet, and the well water recharged to its static level at 4.05 feet bgs within 4.5 minutes of measured recovery time. Since these readings were collected prior to the beginning of the spring/summer snowmelt run-off season, groundwater flows are anticipated to be considerably higher during the run-off period. Based on this data, the groundwater underflow through the proposed Eagle Lodge building footprint was estimated at 1,312 cubic feet per day (ft^3/day) or 9,815 gallons per day (gpd).[92]

The recorded underflow is comparative to results obtained in the fall of 1997 from monitoring well B-4, which was located adjacent the Juniper Springs Lodge development. The results of this pump test indicated a sustained pumping flow of 1.2 gpm. This well along with the three others drilled prior to development of Juniper Springs Resort were destroyed during construction of the resort.

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[89] *1 acre-foot = 325,850 gallons of water.*

[90] *Ibid.*

[91] *Refer to Figure 3 in the Hydrogeologic Study for mapped location of borings on the project site.*

[92] *Please refer to the Hydrogeologic Study in Appendix H for the calculation used to determine the groundwater underflow.*

c. Water Quality

(1) Surface Water Quality

A net effect of development can be to increase pollutant export over naturally occurring conditions. The impact of the higher export can be on the adjacent water bodies and also on the downstream receiving waters. An important consideration in evaluating storm water quality from a project is to assess if it impairs the beneficial use to the receiving waters. Receiving waters can assimilate a limited quantity of various constituent elements, however, there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable impact. Background of these standard water quality categories provides an understanding of typical impacts.

Sediment - Sediment is made up of tiny soil particles that are washed or blown into surface waters and is the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy or turbid. The fine sediment particles also act as a vehicle to transport other pollutants including nutrients, trace metals, and hydrocarbons. Construction sites are typically a large source of sediment..

Nutrients - Nitrogen, phosphorous, and potassium are the major nutrients used for fertilizing landscaped areas. Heavy use of commercial fertilizers can result in discharge of nutrients to water bodies where they may cause excessive algae growth.

Trace Metals - Trace metals are primarily a concern because of their toxic effects on aquatic life and their potential to contaminate drinking water supplies. The most common trace metals found in runoff are lead, zinc, and copper. Fallout from automobile emissions is a major source of lead in urban areas. Materials such as galvanized metals, paint, or preserved wood may also contain metals.

Oil and Grease - Oil and grease contain a wide variety of hydrocarbons some of which could be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed to it. The major sources of hydrocarbons are through leakage of crankcase oil and other lubricating agents from automobiles. High hydrocarbon levels are typically found in the runoff from parking lots, roads, and service stations.

Other Toxic Chemicals - If improperly stored and/or disposed of, synthetic organic compounds (such as adhesives, cleaners, sealants, and solvents) could have a significant impact on receiving waters.

Miscellaneous Wastes - These may include wash water from concrete mixers, paints and painting equipment cleaning activities, solid wastes from land clearing activities, wood and paper material from packaging of building material, and sanitary wastes. Improper/illegal disposal of these wastes can lead to polluted waterways.

The quantity of a material in the environment and its characteristics determine the degree of availability as a pollutant in surface runoff. In a developed environment, the quantity of certain pollutants in the environment is a function of the intensity of the land use. For instance, a high density of automobile traffic makes a number of potential pollutants (such as lead and hydrocarbons) more available. The availability of a material, such as a fertilizer, is a function of the quantity and the manner in which it is applied. Applying fertilizer in quantities that exceed plant needs leaves the excess nutrients available for loss to surface or ground water.

The physical properties and chemical constituents of water traditionally have served as the primary means for monitoring and evaluating water quality. Evaluating the condition of water through a water quality standard refers to its physical, chemical, or biological characteristics. Water quality parameters for storm water comprise a long list and are classified in many ways. In many cases, the concentration of pollutant is needed to assess a water quality problem, instead of the annual pollutant loads. Some of the typical physical, chemical or biological characteristics used to evaluate the quality of the surface runoff include dissolved oxygen, biochemical oxygen demand, chemical oxygen demand, total dissolved solids (TDS), pH, alkalinity, specific conductance, turbidity, nitrogen, and phosphorus levels.

The project site lacks any measured data on storm water runoff quality. In the absence of site-specific data, expected storm water quality can be qualitatively discussed by relating typical pollutants to specific land uses. Currently, the project vicinity includes the temporary Eagle Lodge Base Area facility, a surface parking lot, roads, and permeable areas associated with various plant communities. The expected pollutants in the existing condition storm water runoff from the developed areas of the site include trash, sediments, nutrients, pesticides and herbicides, oil and grease, trace metals, synthetic organic compounds in from cleaning products and miscellaneous wastes.

According to the most recent CWA Section 303(d) List of Water Quality Limited Segments, approved by the USEPA in July 2003, "metals" have been identified as pollutant/stressor in Mammoth Creek. Mammoth Creek was identified with a "Low" TMDL priority on the 303(d) List. According to the Lahontan RWQCB WMI, a study is needed to verify the need for establishing a TMDL of metals in Mammoth Creek.[93] The TMDL end date

[93] *Lahontan RWQCB Watershed Management Initiative, 2002.*

for Mammoth Creek is 2008. Thus, currently there is no adopted TMDL plan that addresses metals in Mammoth Creek.

Additionally, Crowley Lake is listed as a water body having impaired water quality according to the 2003 CWA Section 303(d) List. The 303(d) List identifies nitrogen and phosphorus as pollutants/stressors within Crowley Lake. Potential sources of nitrogen include grazing-related sources, atmospheric deposition, internal nutrient cycling (primarily lakes), natural sources and non-point sources. Potential sources of phosphorus include grazing-related sources, erosion-siltation, internal nutrient cycling (primarily lakes), natural sources and non-point sources. Crowley Lake is identified with a "Low" TMDL priority for nitrogen and phosphorous on the 303(d) List. The TMDL end date for Crowley is 2008. Currently, no formal TMDL plan for Crowley Lake has been adopted. According to the Lahontan RWQCB WMI, nutrient loading in Crowley Lake is currently under study.

(2) Groundwater Quality

According to water quality data for MCWD Well No. 16, secondary drinking standards established by the State Health Department have historically been met for water extracted from Well No. 16, with the exception of iron and manganese standards.[94] These groundwater contaminates, including regulated and unregulated constituents, are currently removed from the MCWD groundwater supplies at two MCWD treatment facilities located within the Town. Compliance with primary drinking standards is determined by testing water within the distribution system, which supplies drinking water to the Town.

3.10.3 ENVIRONMENTAL CONSEQUENCES

a. CEQA Significance Criteria

Based on Appendix G of the CEQA Guidelines, the proposed project would have a significant impact on hydrology and/or surface or groundwater quality if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing

[94] *Water quality data for MCWD Well No. 16 provided by Gary Sisson, General Manager, Mammoth Community Water District, April 27, 2004.*

nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);

- Deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a substantial adverse effect on any riparian areas;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site; or

- Otherwise substantially degrade water quality.

b. Methodology

(1) Hydrology

According to the Preliminary Drainage Study prepared for the project, the existing conditions and post-development hydrology calculations for the project have been developed per the requirements and standards set forth in the Town of Mammoth Lakes Design Manual, Storm Drainage and Erosion Control. Hydraulic calculations are generally based on Manning's, Darcy-Weisbech, and Bernoulli's equations. LANDesk programs were used for some of the hydraulic calculations, with remaining hydraulic equations and hydrologic calculations written to Excel Spreadsheet programs.[95] To determine the extent of hydrology impacts as a result of rain or snowfall, first the analysis compares the post-development expected hydrologic runoff quantities from on and offsite sources with existing site conditions. Then, the size of facilities necessary to collect and convey storms of levels as indicated in the Town of Mammoth Lakes Design Manual is provided. Additionally, an estimate of the size required for the proposed infiltration/retention facilities is provided. The analysis assumes that infiltration/retention pipe systems and drywells would be designed to contain one hour of a 20 year intensity storm, which is assumed to be 1 inch (0.83 feet) x Area (square feet) x C (Infiltration Coefficient), as required by the Water Quality Control Plan for the Lahontan Region.[96]

[95] *Hydraulic calculations are included in Appendix C of the Preliminary Drainage Study.*

[96] *Water Quality Control Plan for the Lahontan Region, North and South Basins, prepared by the State of California, Regional Water Quality Control Board, Lahontan Region, 1994.*

(2) Groundwater Recharge

Based on the Hydrogeologic Report prepared for the project, groundwater underflow through the proposed project's footprint is determined through field-testing. Although groundwater flows could be higher than anticipated based on the field tests, since the groundwater flows calculated based on the field testing are lower than what are anticipated during the runoff period, this analysis presents flows that are indicated of a "low flow" scenario, which assumes a worse case scenario of impacts to groundwater flows and recharge capabilities. Thus, the calculated groundwater underflow conditions are acceptable to utilize in assessing groundwater supply and recharge impacts as a result of project development. As construction of the project requires excavation activities that would involve dewatering, impacts to riparian areas located to the west and up-gradient to the site are evaluated based on direction and quantities of flow of groundwater beneath the site, as well as data from drawdown tests conducted on the project site. Additionally, the calculated underflow rates and drawdown tests are utilized to determine whether the increased amount of impermeable surfaces associated with the project when compared to existing conditions would substantially interfere with groundwater recharge such that there would be net deficit in aquifer volume or lowering of the groundwater table level.

(3) Water Quality

Existing storm water quality is qualitatively discussed, as there is no measured data on storm water quality for the project site. For purposes of the surface water quality analysis, impacts are assessed by evaluating the types of pollutants and/or effects on water quality likely to be associated with construction and operation of the project, and how and where they would be conveyed. With this basis, the potential for project generated pollutants to impact sensitive receiving waters is assessed. Where potential impacts are identified, relevant BMPs in the Preliminary SWPPP prepared for the project and regulatory permits/requirements are considered.

As project operation would not include the use of below ground storage tanks and runoff would be conveyed into the Town's storm drain systems, direct impacts to groundwater quality would not occur as a result of project implementation. However, groundwater quality impacts could occur as a result of construction activities, particularly during dewatering activities. The potential for groundwater quality impacts during project construction are evaluated based on compliance with regulatory requirements and BMPs set in the Preliminary SWPPP prepared for the project.

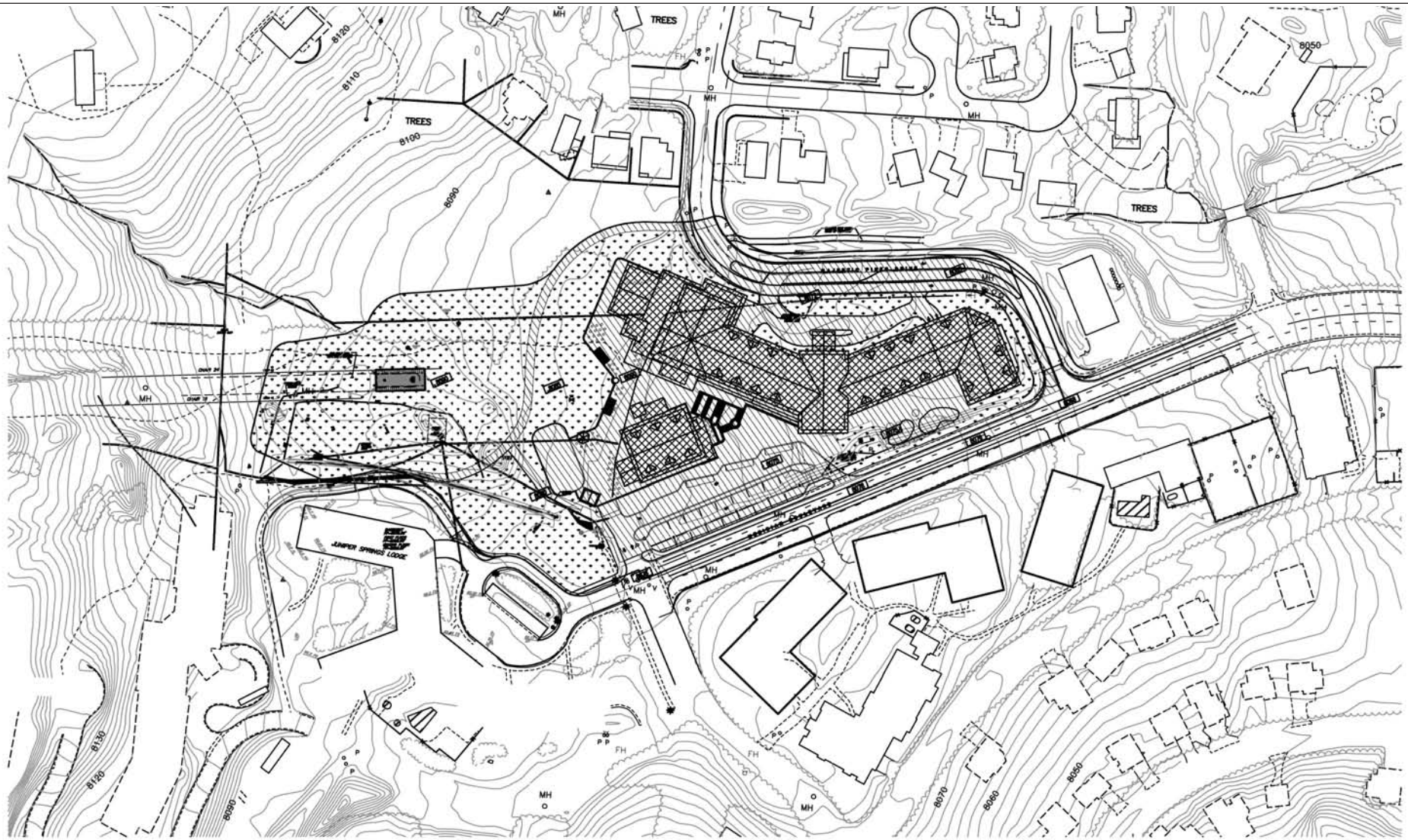
c. Environmental Consequences of the Proposed Action

(1) Hydrology and Drainage

Under the proposed development conditions, the amount of impermeable surface would be approximately 4.8 acres or 55 percent of the site. The permeable areas would consist of landscaped areas that would comprise approximately 45 percent of the site. Figure 44 on page 425 illustrates the proposed site conditions, including paved area (3.15 acres), building area (1.64 acres) and landscape area (3.89 acres). Thus, under the proposed site conditions, the amount of impermeable surface would increase by approximately 1.44 acres or approximately 13 percent when compared to existing conditions. Under the proposed project conditions, runoff from the site would be approximately 9.9 cfs during a storm of 100-year intensity. This is an increase of 1.5 cfs, out of total 103.8 cfs that is developed by the direct offsite tributary, or an increase of approximately two percent. An 18-inch diameter CMP pipe would convey 9.9 cfs. Thus, the maximum size of onsite storm drains would not need to exceed 18-inches in diameter.

As shown in Figure 45 on page 426, offsite runoff would be collected in a new inlet installed upstream of the project site. The existing 36-inch storm drain that traverses diagonally across the site would be removed as part of the proposed project. The new storm drain has been preliminarily routed from the northwest side of the project, to the intersection of Meridian Boulevard and the west intersection with Majestic Pines, along Meridian Boulevard, north at the east intersection with Majestic Pines, and would connect to the existing two, 36-inch storm drain pipes. It is estimated that runoff under the proposed conditions can be contained in one 36-inch smooth flow storm drain pipe at 2.1 percent or one 42-inch smooth flow storm drain pipe at 1 percent. The proposed storm drain facilities would accommodate 9.9 cfs of runoff during a storm of 100-year intensity. Similar to existing conditions, stormwater runoff from the project site would be conveyed through the existing two, 36-inch storm drains that cross under Majestic Pines Road and outlet at the southwest corner of the Sierra Star Golf Course. This runoff eventually would be conveyed to Main Street then into natural and manmade channels that outlet into Murphy Gulch. Runoff through Murphy Gulch goes through two desiltation basins, prior to entering a pipe that crosses under Highway 203 and entering Mammoth Creek. Please see Section 3.13, Stormwater, for a discussion infrastructure capacity.

The proposed on-site storm drain facilities would accommodate the offsite flows and increased onsite flows as a result of the increased impermeable surfaces associated with project development when compared to existing conditions. The underground parking garage would be at a lower elevation than the surrounding grades or storm drainage. Therefore, the project would include the installation of a sump pump system in the parking garage that would lift stormwater to the surface.



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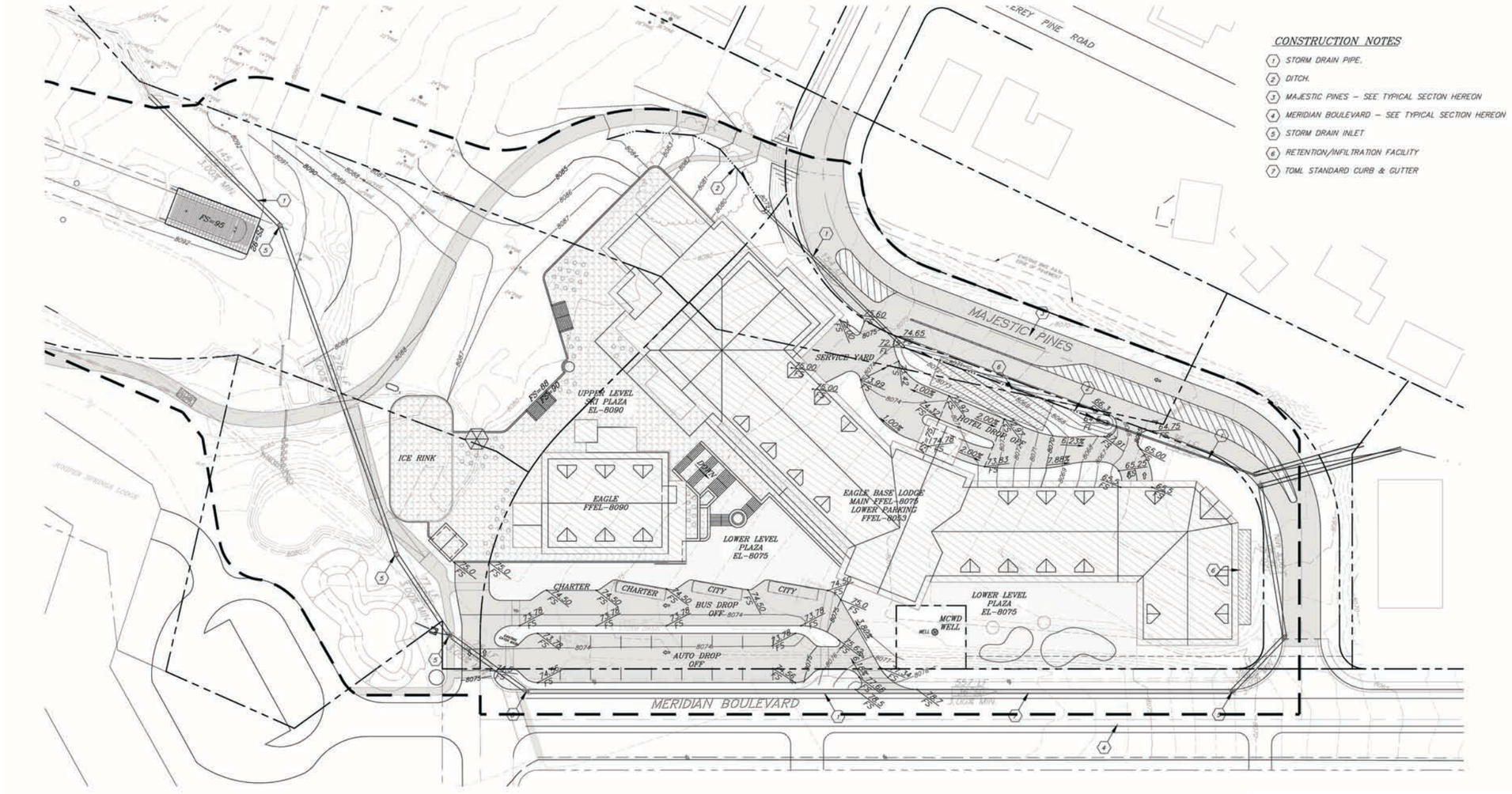
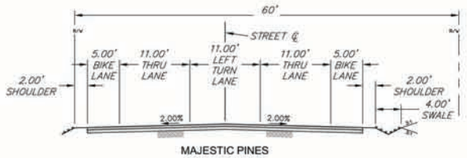
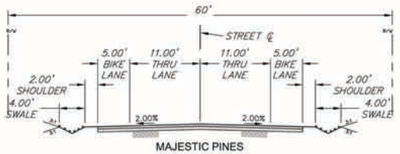
No scale

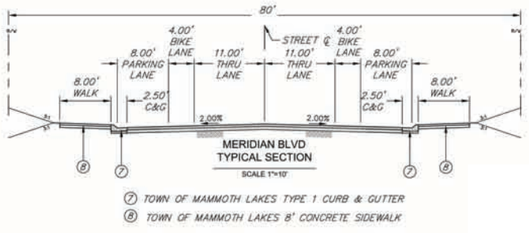
Figure 44
Post-Development Basin Drawing

Source: Triad/Holmes Associates,2006









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0 80 160 Feet

Source: Triad/Holmes Associates, 2006

Figure 45
Grading and Drainage Plan

Based on the Lahontan RWQCB design parameters, the Preliminary Drainage Study calculated runoff volumes and necessary infiltration/retention facility capacities to capture the first inch of rainfall during a storm event of 20-year intensity. Rainfall is assumed to occur at 1-inch/hour or 0.083 feet/hour. Based on the various types of proposed surfaces (i.e., roof area and pavement area) on the project site, the average rainfall coefficient for the project site under the proposed conditions is 0.72.[97] Average runoff volume is calculated by multiplying the total area (378,100 square feet) by the average rainfall coefficient (0.71) by the rainfall (first inch) (0.083 ft./hr.). Thus, the average runoff volume for the project site would be 22,442 cubic feet per hour.[98]

The project would include one infiltration/retention facility along the eastern boundary of the project site and another along the project's northern boundary near the lodge entrance, as illustrated in Figure 3.10-3. The drainage facilities would be below the ground and would have landscaping above. There are several infiltration/retention facility sizing options that can be used and the preliminary analysis prepared for the project considered four options (see Appendix D of the Preliminary Drainage Study contained in Appendix H of this document). The actual design would be determined during the design phase of the project. Since the depth of the infiltration/retention facilities can be varied to accommodate the flow, the necessary area below grade to incorporate the facilities within the project site would be provided with the footprint of the facilities as shown in Figure 45. In other words, the proposed building footprints would not be affected should additional capacity be required beyond the runoff volume calculation in the Preliminary Drainage Study. The size of the proposed infiltration/retention facilities would provide the necessary storage capacity to accommodate the first inch of rainfall during a storm event of 20-year intensity based on the Lahontan RWQCB Design Parameters. The final details of the proposed drainage facilities would be determined during the final project design. The criteria followed during the design process would address issues such as safety, erosion protection and water quality, as well as conforming to the requirements of the Clean Water Act, the State, Town of Mammoth Lakes and/or Lahontan RWQCB.

In conclusion, due to the topography of the site, which slopes downward from west to east, there would be no impacts regarding drainage patterns to sites above or to the west of the site. Drainage impacts to downstream sites or to the east of the site would be less than significant as drainage facilities would be constructed onsite to adequately collect and convey runoff under the proposed conditions across the site and outflow would be as close to historic conditions as practicable. As the project would increase the amount of runoff by 1.5 cfs out of total 103.8 cfs of runoff from the direct offsite tributary area, or an increase of approximately

[97] *Refer to Appendix D in the Preliminary Drainage Study for average runoff coefficient calculation.*

[98] *The factors in the average runoff volume calculation have been rounded off, which accounts for the difference in the calculated runoff volume utilizing the factors shown above.*

two percent, there would not be a significant increase in runoff quantities beyond exiting site conditions. Since onsite and offsite drainage facilities would be sized to accommodate flows entering and exiting the site during a storm of 100-year intensity, runoff would not exceed the capacity of existing or planned drainage systems. As such, drainage patterns would not be substantially altered, which in turn would not result in substantial erosion or siltation on- or offsite. Additionally, the rate of runoff would not be substantially increased in a manner that would result in flooding on- or offsite. Furthermore, the proposed infiltration/retention facilities would accommodate the first inch of rainfall during a storm event of 20-year intensity, which would allow the necessary water quality treatment measures to be implemented, as discussed under Water Quality, below. Thus, with implementation of the proposed drainage and grading plans, impacts regarding hydrology and drainage would be less than significant.

(2) Groundwater Supply and Recharge

As discussed in the section entitled Groundwater Underflow and Drawdown Levels above, approximately 9,815 gpd of water would move into the excavation area required for the proposed subterranean parking garage every day, subject to seasonal variation and to local precipitation events. Since excavation during project construction would result in contact with the groundwater table, dewatering would be required to lower the groundwater in the project area. The maximum amount of groundwater to be removed as a result of dewatering activities would equal approximately the amount of water anticipated to enter the site (approximately 9,815 gpd) during excavation activities.

During pump tests conducted on the project site, water levels were continuously recorded in two borings, one (Boring B-10) located in the north/central portion of the site and the other (Boring B-9) located "downstream" and to the east of Boring B-10 in the eastern portion of the site, to ascertain whether removal of water from B-9 would have an affect on water levels in B-10.[99] Prior to the test water levels in B-10 were recorded at approximately two feet bgs. During the testing period the change in water levels in B-10 were negligible.

Although no drawdown impact was observed during the field-testing, dewatering activities could result in drawdown levels that exceed those observed in the field tests. As stated above, there is a high volume of groundwater underflow through the proposed Eagle Lodge building footprint, estimated at approximately 1,312 ft^3/day or 9,815 gpd. Although flow rates would vary depending upon seasonal conditions, shallow groundwater flow through the site area should be continuous and not static. Since flow rates are relatively large, and the groundwater condition is not static, the bypass/removal of water from the proposed down-gradient construction area would not adversely affect any up-gradient vegetation.

[99] *Refer to Figure 3 in the Preliminary Hydrogeologic Study for location of the Boring B-9 and B-10.*

Since the field testing utilized to determine groundwater underflow rates occurred in March and not during the latter portion of spring when runoff is at it peak from the snow melting, the calculated groundwater underflow rates do not represent maximum underflow rates. Thus, mitigation has been recommended that the water levels within existing on-site wells be monitored on a monthly basis (especially during the snow melt run-off periods) to further assess seasonal flow rates. In addition, a mitigation measure is provided that would require that prior to construction, at least two monitoring wells would be installed adjacent to or up gradient of the proposed construction area to aid in the recording of groundwater depths and flow rates. This data would be utilized to determine the amount of water to be removed as part of the dewatering activities.

Additionally, all water removed from the site during dewatering activities would be re-introduced back into the down stream drainage system. All dewatering-related activities would occur in accordance with the Lahontan RWQCB and Town regulations. Compliance with the Lahontan RWQCB and Town regulations, combined with implementation of the prescribed mitigation would ensure that construction activities would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge.

At the completion of the project, the amount of impermeable surface would increase from approximately 3.35 acres to 4.79 acres when compared to existing site conditions. Thus, there would be an increase in impermeable surface area of approximately 1.44 acres under the proposed development conditions. Due to the small increase in impermeable area combined with the fact that groundwater flow through the site area should be continuous and not static, this increase would not substantially affect groundwater recharge. Furthermore, the project would not require the use of groundwater and, thus, would not deplete groundwater supplies. Please refer to Section 3.11, Water Supply, for a discussion of impacts regarding water supply.

In conclusion, compliance with the Lahontan RWQCB and Town regulations and implementation of the prescribed mitigation measures would ensure that construction activities, including dewatering, as well as project operation would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a substantial adverse effect on any riparian areas or a net deficit in aquifer volume or lowering of the local groundwater table.

(3) Water Quality

(a) Construction

Construction controls are temporary and specific to the type of construction. Construction controls typically address issues regarding exposed soils and the potential for

erosion. Grading, excavation and construction activities associated with the proposed project could impact water quality due to sheet erosion of exposed soils and subsequent deposition of particles and pollutants in drainage areas. Construction of the proposed project has the potential to produce typical pollutants such as nutrients, heavy metals, toxic chemicals related to construction and cleaning, waste materials including wash water, paints, wood, paper, concrete, food containers, and sanitary wastes, fuel, and lubricants. Thus, increased pollutant loading could occur immediately offsite as a result of construction activities.

Since the proposed project would disturb one (1) or more acres of soil, the applicant must comply with the requirements set forth in the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit, Permit Order 99-08-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation. In addition, off-site haul routes and temporary/permanent fill storage areas, as applicable, are considered within the scope of construction activities.

The Construction General Permit requires the development and implementation of a SWPPP. The applicant would prepare and submit a Notice of Intent to comply with the Construction General Permit to the California State Water Resources Board. The SWPPP must list Best Management Practices (BMPs) the discharger will use to protect storm water runoff and the placement of those BMPs. As required, the applicant has prepared a Preliminary SWPPP in accordance with the Construction General Permit. The Preliminary SWPPP prepared for the project is included in Appendix H of this document. The SWPPP identifies erosion control notes that specify inspection practices, training requirements, reporting requirements, penalties for violations of permit conditions, and construction scheduling in regards to the erosion control measures. The SWPPP also contains general interim erosion control measures that prescribe construction phase strategies, activities and revegetation plans to reduce short- and long-term erosion and sedimentation associated with project development. The general interim erosion control measures are separated into pre-construction and during construction measures.

The general interim erosion control measures (pre-construction) include the following:

- Employee/Subcontractor training regarding the installation, maintenance and inspection of BMPs.

- Preservation of existing vegetation. Native vegetation shall be retained, protected and supplemented wherever possible. Exposure of soil areas shall be immediately limited to the area required for construction operations. The native vegetation ground cover shall not be destroyed, removed or disturbed more than 15 days prior to grading.

- Grading areas shall be clearly marked and no equipment or vehicles shall disturb slopes or drainages outside of the drainage area.

- Contractor shall keep informed of potential weather conditions and limit excavation and grading activities to dry weather conditions. This reduces the chance of severe erosion from intense rainfall and surface runoff, as well as the potential for soil saturation in swale areas.

- Reduce the probability of significant wind erosion during the dry season, which would occur due to the wind regime and fine soils, by implementing a dust abatement program.

The following presents a summary of the general interim erosion control measures (during construction):

- Employee/Subcontractor training regarding the installation, maintenance and inspection of BMPs.

- Measures to reduce the tracking of sediment onto public or private roads at all times, such as stabilized construction entrances and vehicle and road inspections and cleaning as necessary.

- Preservation of existing vegetation (refer to pre-construction BMP, above).

- Limit excavation and grading activities to dry weather conditions (refer to pre-construction BMP, above).

- Water conservation practices shall be used for the project.

- Dewatering: During dewatering activities, the contractor shall use sediment controls and test the groundwater for pollution, to prevent or reduce the discharge of pollutants to storm water.

- Paving operations: Contractor shall prevent or reduce the discharge of pollutants for paving operations, using measures to prevent runon and runoff pollution, properly disposing wastes and training employees and contractors. Drainage courses shall be protected. Onsite mixing plants shall not be permitted. A separate industrial activities permit would be required to allow an onsite mixing plant.

- Vehicle and equipment maintenance: Contractor shall prevent or reduce the discharge of pollutants to storm water from vehicle and equipment maintenance by a “dry site.” This involves using offsite facilities, fueling in designated areas only, providing cover

for materials stored outside, checking for leaks and spills, containing and cleaning up spills immediately, and training employees and contractors.

- Vehicle and equipment cleaning: Offsite facilities shall be used for vehicle cleaning.

- Vehicle and Equipment Fueling: It is anticipated that vehicle and equipment fueling would take place offsite. Contractor shall prevent fuel spills and leaks, and reduce their impacts to storm water by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

- Dust Control: Dust control measures shall be used to stabilize soil from wind erosion, and reduce dust generated by construction activities.

- Material delivery and storage: Hazardous materials stored onsite shall be minimized. Specific areas shall be designated for materials storage. Designated areas shall not be near drainage paths or waterways. Material (except soil, gravel, and sand) shall not be stored on the ground (consider pallets). Stored materials shall be covered during the rainy season, or when a storm is predicted within 24 hours.

- Material Use: Use of hazardous materials, such as fertilizers, herbicides, pesticides, shall be minimized. Alternate materials (non-hazardous) shall be used where possible and/or use of hazardous material shall be minimized. Employees and subcontractors shall be trained in the use of hazardous materials.

- Spill prevention and control: Hazardous materials shall be protected from vandalism. Employees shall be trained in spill prevention and cleanup.

- Solid waste management: Contractor shall prevent or reduce discharge of pollutants to storm water from solid waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

- Hazardous waste management: Hazardous waste materials shall be removed from the site at the earliest convenience. Prevent or reduce the discharge of pollutants to storm water from hazardous waste through proper material use, waste disposal and training employees and subcontractors.

- Contaminated soil management: Contaminated soil is not anticipated. However, should contaminated be encountered, notify the RWQCB and the engineer, and prevent or reduce the discharge of pollutants to storm water from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly.

- Concrete waste management: Whenever possible, concrete washout shall occur offsite. When it must occur onsite, an area must be designated, and employees and subcontractors must be trained in its use. If onsite, a concrete washout must be at least 50 feet from storm drains, open ditches or water bodies. No runoff is allowed from the site. Washout must go into a temporary pit where the concrete can set, be broken up, and then disposed of properly.

- Sanitary/septic waste management: Sanitary/septic facilities shall be placed in convenient locations, at least 50 feet from any discharge path. They shall be inspected regularly. Contractor shall arrange regular waste collection. Untreated raw wastewater shall never be discharged or buried. Portable sanitary facilities must be secured to prevent overturning.

- Structure construction and painting: Contractor shall prevent or reduce the discharge of pollutants to storm water by enclosing or covering or berming building materials storage areas, using good housekeeping practices, using safer alternative products where possible, and training employees and subcontractors.

The BMPs contained within the SWPPP would avoid or mitigate runoff pollutants at the project construction site to the maximum extent practicable. The SWPPP would be subject to review and approval by the Lahontan RWQCB and/or the Town, if directed by the Lahontan RWQCB. As such, the RWQCB and/or the Town may recommend additional BMPs beyond those identified in the SWPPP.

The BMPs identified within the SWPPP have been developed based on the BMP Consideration Checklist provided in the California Storm Water Quality Handbook for construction activities. The BMP Checklist prepared for the project is included within Appendix H of this document. The BMP Checklist lists BMPs that should be considered for every project. The BMPs are separated with the following categories: erosion control, sediment control, wind erosion control, tracking control, non-stormwater management, and waste management and materials pollution control. The Checklist requires a determination to made whether each listed BMP was considered for the project, used by the project, and/or not used by the project. As shown on the BMP Checklist for the project, every BMP was considered for the project. For those BMPs that are not being used by the project, an explanation is provided why the project is not using the applicable BMP. Additionally, a Program for Maintenance, Inspection, and Repair of Construction Site BMPs has been prepared for the project that the contractor would use as guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP.

As a result of excavation required for the proposed parking structure, dewatering would be required to remove groundwater. Groundwater removed from the site would be discharged into the storm drain system. However prior to discharge into the storm drain system, pursuant to

the Preliminary SWPPP, the contractor would use sediment controls and test the groundwater for contaminants, to prevent and/or reduce the discharge of pollutants to storm water. In addition, the applicant would obtain the necessary permits for dewatering and discharge of removed groundwater into the Town's storm drain system through the Town and/or RWQCB and would comply with the conditions as required at that time for on-site dewatering activities. Therefore, with implementation of the BMPs in the SWPPP and issuance of dewatering permits by the Town and/or RWQCB, construction activities associated with the project would not degrade the groundwater quality to levels below standards considered acceptable by the Lahontan RWQCB or other regulatory agencies. As such, groundwater quality impacts during construction of the project would be less than significant.

In summary, construction activities associated with the proposed project could result in potentially significant short-term water quality impacts. However, compliance with regulatory requirements, including the Construction General Permit that requires implementation of BMPs identified in a SWPPP would reduce short-term construction impacts to surface water quality to a less than significant level. Additionally, groundwater impacts would be less than significant as groundwater would be treated pursuant to regulatory requirements and in accordance with the BMPs stated in the SWPPP.

(b) Operation

Operation of the proposed project would produce pollutants typically associated with urban uses, such as oil and grease, metals, fertilizers, pesticides, dirt from landscaped areas, and litter. Pollutants in the runoff have the potential to infiltrate pervious surfaces and affect groundwater quality. In accordance with the NPDES Program, the project would be required to prepare a SWPPP that would include construction-related BMPs, however, the BMPs would also ensure that storm water pollution is addressed through the operational life of the project through the incorporation of BMPs in the design of the development. For example, all final surfaces would be stabilized to eliminate the potential for erosion. Additionally, the Lahontan RWQCB requires that the storm water system be designed to treat potential pollutants and runoff from the first inch of rainfall during a storm event of 20-year intensity prior to its discharge to a storm water conveyance system. As such, the project would include two detention infiltration/retention facilities that would collect the first inch of rainfall from a storm event of 20-year intensity. The infiltration/retention facilities would include inlets that contain basic sediment control devices to minimize sediment transport to the storm drain system. Since metals are often attached to sediments, the proposed infiltration/retention facilities would also serve to reduce the introduction of metals into the storm drain system. Other permanent BMPs may include, but are not limited to, catch basin filters, biofilters, prohibitive stenciling at on-site catch basins, and oil/water separators at on-site parking areas. Additionally, the project would comply with Lahontan RWQCB regulatory requirements regarding outdoor trash, storage areas and storm drain stenciling standards.

Source control has been stated by the Lahontan RWQCB as the best way to limit sediment transport in stormwater. Accordingly, runoff quality would also be managed with landscaping and sediment traps prior to runoff entering the retention/infiltration facilities. The proposed landscaping would be designed as part of the sediment elimination system and would be maintained throughout the life of the project.

The final location and details of drainage facilities, as well as proposed permanent BMPs to manage runoff during operation of the project, would be determined during the final design plans for the project. The criteria followed during the design process would address erosion protection and water quality, as well as conforming to the requirements of the Clean Water Act, the State and Lahontan RWQCB. Since the existing site did not have infiltration/retention facilities, and since there was a significant amount of existing impervious surfaces, the project would result in an improvement with regard to drainage when compared with the existing conditions.

In addition to the regulatory requirements described above, to ensure that the proposed uses do not violate water quality standards or otherwise substantially degrade water quality, mitigation measures have been prescribed. Mitigation has been prescribed that requires that water conveyed from the subterranean parking garage be conveyed through a device that removes oil and silt, prior to reintroduction into the storm water system. The prescribed mitigation requires that the proposed infiltration/retention facilities be adequately sized to accommodate the first inch of rainfall during a storm event of 20-year intensity, pursuant to Lahontan RWQCB requirements. Implementation of the prescribed mitigation measures and project design features, as well as compliance with the applicable regulatory requirements, including preparation of a SWPPP, would reduce potentially significant impacts to water quality during project operations to a less than significant level.

(4) Consistency With Applicable Regulations

(a) Federal

(i) Federal Clean Water Act, Section 404

Potential impacts to designated "waters of the U.S." cited under the Federal Clean Water Act, Section 404 are discussed in subsection 3.6, Biological Resources of this EIR/EA. However, it is believed that no ACOE jurisdictional "waters of the U.S." and ACOE jurisdictional wetlands exist within the project site.

(ii) National Pollutant Discharge Elimination System

Pursuant to the NPDES Program, the applicant has prepared a SWPPP to comply with the requirements set forth in the SWRCB General Construction Activity Storm Water Permit. Preparation of the SWPPP, along with the BMP Checklist and Program for Maintenance, Inspection, and Repair of Construction Site BMPs would ensure that the project complies with the NPDES Program.

(iii) Inyo National Forest Land and Resource Management Plan

The project would incorporate BMPs provided in a SWPPP approved by the Town and/or Lahontan RWQCB. The BMPs would minimize soil erosion in an effort to meet water quality objectives and maintain or improve the quality of affected surface waters. Furthermore, the BMPs would be similar to or reflect the BMPs stated in the Water Quality Management for National Forest System Lands handbook. Thus, the project would be consistent with Forestwide Standards and Guidelines I, II, and IV. The SWPPP would be subject to regulatory review and approval, upon which coordination with the applicable regulatory agencies would occur to implement water quality control measures. As such, the project would comply with Forestwide Standard and Guideline III, which requires cooperation and coordination with state and federal agencies when planning projects that could offset water quality. Additionally, in regards to Forestwide Standard and Guideline V, the project would improve the existing berm located along the north side of Majestic Pines Road pursuant to Mitigation Measure 2 in Section 3,9, Aesthetics, but would not substantially alter any drainage patterns along this roadway. As such, the project would not create a berm that hinders drainage on a low-gradient road and would be consistent with the Forestwide Standards and Guidelines set forth in the Forest Plan.

The Forest Plan establishes Management Directions for Management Prescription Areas. The project area is located within Management Prescription Area #13. Management Prescription I requires that water quality be monitored to ensure compliance with water discharge requirements. The project would adhere to all Federal, State and local storm water quality monitoring requirements. Overall, the project would be consistent with the applicable Forestwide Standards and Guidelines and the Management Directions for Management Prescription Area #13 set forth in the Forest Plan.

(b) State

(i) Porter-Cologne Water Quality Control Act

The project would comply with the requirements of the Lahontan RWQCB, including the preparation of a SWPPP that includes pre-construction and during construction BMPs, as well as

construction of infiltration/retention facilities that would capture and treat the first inch of rainfall during a storm event of 20-year intensity. Compliance with the Lahontan RWQCB regulatory requirements would ensure that the project is consistent with the Porter-Cologne Water Quality Control Act.

(ii) Lahontan Regional Water Quality Control Board

The applicant prepared a Preliminary SWPPP that will be reviewed and approved by the Town and/or Lahontan RWQCB prior to the issuance of a grading permit. The Town and/or Lahontan RWQCB may require additional erosion control measures beyond the Preliminary SWPPP to ensure that impacts to surface and groundwater quality are reduced to the maximum extent practicable. Implementation of an approved SWPPP would supercede the requirement to prepare a Report of Waste Discharge. Thus, implementation of the approved SWPPP would ensure compliance with the Water Quality Control Plan for the Lahontan Region, North and South Basins, prepared by the Lahontan RWQCB.

(c) Local

(i) Mammoth Lakes Storm Drain Master Plan

As discussed in Section 3.9.1, Regulatory Framework, no storm water improvements have been identified for the project site or the surrounding roadways (i.e., Meridian Boulevard and Majestic Pines Road) in the SDMP. The proposed improvements incorporated in the Drainage and Grading Plans would accommodate the slight increase in onsite stormwater flows that would occur with the project. Therefore, the project would not conflict with the proposed improvements identified within the SDMP. Although no storm water improvements have been identified, the project is required to pay developer impact fees that would be utilized for offsite storm drain system improvements that may be necessary to accommodate runoff from the project site as well as offsite areas. Payment of the developer impact fees would result in the project's fair share contribution to offsite improvements identified in the SDMP.

(ii) Town of Mammoth Lakes General Plan (1987)

Storm Water Drainage System Policy #2 in the 1987 General Plan requires that development projects provide the necessary on and off site drainage facilities and erosion control measures to assure that Mammoth Creek and other properties are not significantly affected by development runoff. As discussed under the Hydrology and Drainage section above, the proposed improvements as part of the Drainage and Grading Plans would accommodate offsite and onsite stormwater flows that would occur with project implementation. Additionally,

erosion control measures would be implemented as part of the SWPPP. As such, the project would be consistent with Policy #2.

In addition, the Conservation and Open Space Element provides goals (Goal #1 and #2) and policies (Policy #1 and #5) relate to Water Resources. As discussed under the Water Quality section above, compliance with regulatory requirements, including the Construction General Permit that requires implementation of BMPs identified in a SWPPP would reduce short-term construction impacts to surface water and groundwater quality to a less than significant level. Furthermore, impacts regarding groundwater supplies and groundwater recharge would be less than significant. As such, the project would be consistent with the goals and policies set forth in the Open Space and Conservation Element.

(iii) The Town of Mammoth Lakes Draft General Plan (Update 2005)

As part of the Draft 2005 General Plan Update, two polices have been identified that relate to development of the project. Policy I.1.A.a requires that erosion of soils and stream and lake embankments be minimized. To implement this policy, Implementation Measure I.1.A.a.1 requires the use of BMPs during and after construction and development as a means to prevent erosion, siltation, and flooding. Implementation Measure I.1.A.a.2 states that projects requiring a grading permit need to implement BMPs and be required to control erosion and sedimentation. The SWPPP prepared for the project would ensure that erosion of soils is minimized as a result of runoff under the proposed conditions. The SWPPP would also incorporate BMPs to control erosion and sedimentation. Thus, the project would be consistent with Policy I.1.A.a.

Policy I.7.A.b requires that the quality of Mammoth Lakes water resources be protected. To implement this policy, Implementation Measure I.1.A.b.4 requires that parking lot storm drainage include facilities to separate oils and salts from storm water, where practical and when warranted by the size of the project. As stated above, the project would be required to implement measures contained in the SWPPP to protect water resources. The proposed mitigation for impacts regarding water quality during project operation requires that a sump pump system that lifts stormwater to the surface be installed within the underground parking garage. The system would convey water through a device that removes oil and silt prior to reintroduction into the storm water system. Additionally, the project would incorporate mitigation that would requires adequate sizing of infiltration/retention facilities to capture and treat the first inch of rainfall during a storm event of 20-year intensity. The prescribed mitigation measures would ensure that water quality impacts during operation of the project would be reduced to a less than significant level. In addition, compliance with regulatory requirements would ensure that water quality impacts during construction are reduced to a less than significant level. Thus, compliance with the regulatory requirements regarding stormwater discharge and implementation of the prescribed mitigation measure would ensure consistency with Policy

I.7.A.b. Overall, the project would be consistent with the policies and implementation measures set forth in the Town of Mammoth Lakes Draft General Plan (Update 2005).

(iv) Town of Mammoth Lakes Development Code

As discussed above, the project would comply with all applicable requirements of the Lahontan RWQCB regarding erosion control and design standards during construction and operation of the project. The project would include infiltration/retention facilities to capture and treat the first inch of rainfall during a storm event of 20-year intensity. The infiltration/retention facilities would be constructed and in working order prior to the beginning of the winter season and would prevent sediment from being transported from the site to the Town's storm drain system. During snow melt runoff conditions, and at other times as necessary, the applicant would inspect all erosion and sediment control devices and repair any damage, as necessary, in compliance with the Development Code. In addition, landscaping to be maintained by the applicant would be utilized to prevent sedimentation and erosion during project operations. Thus, the project would be consistent with the standards and guidelines set forth in Section 12.08.090, Drainage and Erosion Design Standards, in the Development Code.

d. Mitigation Measures

Hydrology Impacts

With implementation of the proposed drainage and grading plans, impacts regarding hydrology and drainage would be less than significant.

Groundwater Supply and Recharge Impacts

HYD-1: The applicant in cooperation with the Mammoth Community Water District shall monitor water levels within existing on-site wells on a monthly basis especially during the snowmelt run-off periods to assess maximum seasonal groundwater underflow rates.

HYD-2: The applicant shall fund the installation of at least two monitoring wells adjacent to or up gradient of the proposed construction area to aid in the recording of groundwater depths and flow rates. The wells shall be installed prior to the issuance of building permits for the project.

Water Quality Impacts

Construction Impacts

Compliance with regulatory requirements would reduce short-term construction impacts to surface water and groundwater quality to a less than significant level. Thus, no mitigation measures are necessary.

Operation Impacts

HYD-3: The applicant shall install a sump pump system that lifts stormwater to the surface within the underground parking garage, which conveys water through a device that removes oil and silt, prior to reintroduction into the storm water system. The sump pump system shall be installed prior to use of the parking structure.

HYD-4: The applicant shall design on-site detention facilities to capture approximately 22,442 cubic feet of stormwater, which represents the average runoff volume necessary to accommodate the first inch of rainfall during a storm event of 20-year intensity pursuant to Lahontan RWQCB design parameters. The final design of the detention facilities shall be determined during the design process and shall be subject to review and approval by the Town and/or Lahontan RWQCB.

Consistency with Applicable Regulations

The project would be generally consistent with the applicable plans and policies regarding hydrology and water quality. Thus, less than significant impacts would occur regarding the project's consistency with an applicable plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an impact regarding hydrology and water quality.

e. Environmental Consequences of Alternative 1 – Development in Accordance with Existing Regulations Alternative

Due to the topography of the site, which slopes downward from west to east, there would be no impacts regarding drainage patterns to sites above or to the west of the site under the Development in Accordance with Existing Regulations Alterative. This Alternative would not substantially change the amount of impermeable surface when compared to existing conditions such that a significant change in runoff quantities would occur. On- and off-site drainage facilities under this Alternative would be sized to accommodate flows entering and exiting the site during a storm of 20-year intensity. Thus, runoff would not exceed the capacity of existing

or planned drainage systems. Thus, impacts regarding hydrology and drainage would be less than significant.

This Alternative would not require dewatering activities during construction activities. Thus, no impacts would occur regarding water supply or recharge during construction activities. At buildout of this Alternative, there would be a negligible change in the amount of impermeable surface when compared to existing site conditions. Thus, impacts regarding groundwater supply and recharge during operation would be less than significant.

During construction activities, this Alternative would comply with applicable regulatory requirements to reduce short-term construction impacts to surface water and groundwater quality to a less than significant level. Thus, no mitigation measures would be necessary.

During operation, this Alternative would be subject to regulatory requirements of the NPDES, Lahontan RWQCB, and Town of Mammoth Lakes that would minimize runoff pollutants at the project site. Nonetheless, mitigation requiring the installation of on-site detention/retention facilities to accommodate the first inch of rainfall during a 20-year intensity storm would be required to reduce potentially significant water quality impacts during operations to a less than significant level.

The construction and operation of this Alternative would comply with all applicable policies and regulations regarding hydrology and water quality. Therefore, impacts regarding consistency with applicable regulations would be less than significant.

f. Environmental Consequences of Alternative 2 - Reduced Intensity Alternative

Due to the topography of the site, which slopes downward from west to east, there would be no impacts regarding drainage patterns to sites above or to the west of the site under the Reduced Intensity Alterative. This Alternative would not substantially change the amount of impermeable surface when compared to existing conditions such that a significant change in runoff quantities would occur. On- and off-site drainage facilities under this Alternative would be sized to accommodate flows entering and exiting the site during a storm of 20-year intensity. Thus, runoff would not exceed the capacity of existing or planned drainage systems. Thus, impacts regarding hydrology and drainage would be less than significant.

Alternative 2 would include a subterranean parking garage that could result in potentially significant impacts to groundwater supply and recharge during construction activities. Thus, mitigation would be required to monitor water levels within existing on-site wells on a monthly basis (especially during the snow melt run-off periods) to further assess seasonal flow rates. In addition, the prescribed mitigation would require that prior to construction, at least two monitoring wells be installed adjacent to or up gradient of the proposed construction area to aid

in the recording of groundwater depths and flow rates. This data would be utilized to determine the amount of water to be removed as part of the dewatering activities. Additionally, all water removed from the site during dewatering activities would be re-introduced back into the down stream drainage system. All dewatering-related activities would occur in accordance with the Lahontan RWQCB and Town regulations. Compliance with the Lahontan RWQCB and Town regulations, combined with implementation of the prescribed mitigation would ensure that construction activities would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge.

During construction activities, this Alternative would comply with applicable regulatory requirements to reduce short-term construction impacts to surface water and groundwater quality to a less than significant level. Thus, no mitigation measures would be necessary.

During operation, this Alternative would be subject to regulatory requirements of the NPDES, Lahontan RWQCB, and Town of Mammoth Lakes that minimize runoff pollutants at the project site. However, this Alternative would require mitigation to install a sump pump system that lifts stormwater to the surface within the underground parking garage, which conveys water through a device that removes oil and silt, prior to reintroduction into the storm water system and installation of on-site detention/retention facilities to accommodate the first inch of rainfall during a 20-year intensity storm event. Potentially significant operational water quality impacts would be reduced to a less than significant level with incorporation of the prescribed mitigation measures.

The construction and operation of this Alternative would comply with all applicable policies and regulations regarding hydrology and water quality. Therefore, impacts regarding consistency with applicable regulations would be less than significant.

g. Environmental Consequences of Alternative 3 - Alternate Design Alternative

Due to the topography of the site, which slopes downward from west to east, there would be no impacts regarding drainage patterns to sites above or to the west of the site under the Reduced Intensity Alterative. This Alternative would not substantially change the amount of impermeable surface when compared to existing conditions such that a significant change in runoff quantities would occur. On- and off-site drainage facilities under this Alternative would be sized to accommodate flows entering and exiting the site during a storm of 20-year intensity. Thus, runoff would not exceed the capacity of existing or planned drainage systems. Thus, impacts regarding hydrology and drainage would be less than significant.

The Alternate Design Alternative would include a subterranean parking garage that could result in potentially significant impacts to groundwater supply and recharge during construction activities. Thus, mitigation would be required to monitor water levels within existing on-site

wells on a monthly basis (especially during the snow melt run-off periods) to further assess seasonal flow rates. In addition, the prescribed mitigation would require that prior to construction, at least two monitoring wells be installed adjacent to or up gradient of the proposed construction area to aid in the recording of groundwater depths and flow rates. This data would be utilized to determine the amount of water to be removed as part of the dewatering activities. Additionally, all water removed from the site during dewatering activities would be re-introduced back into the down stream drainage system. All dewatering-related activities would occur in accordance with the Lahontan RWQCB and Town regulations. Compliance with the Lahontan RWQCB and Town regulations, combined with implementation of the prescribed mitigation would ensure that construction activities would not substantially deplete groundwater supplies or substantially interfere with groundwater recharge.

At buildout of this Alternative, there would be a negligible change in the amount of impermeable surface when compared to existing site conditions. Thus, impacts regarding groundwater supply and recharge during operation would be less than significant under this Alterative.

During construction activities, this Alternative would comply with applicable regulatory requirements to reduce short-term construction impacts to surface water and groundwater quality to a less than significant level. Thus, no mitigation measures would be necessary.

During operation, this Alternative would be subject to regulatory requirements of the NPDES, Lahontan RWQCB, and Town of Mammoth Lakes that would minimize runoff pollutants at the project site. However, this Alternative would require mitigation to install a sump pump system that lifts stormwater to the surface within the underground parking garage, which conveys water through a device that removes oil and silt, prior to reintroduction into the storm water system and installation of on-site detention/retention facilities to accommodate the first inch of rainfall during a 20-year intensity storm event. Potentially significant operational water quality impacts would be reduced to a less than significant level with incorporation of the prescribed mitigation measures.

The construction and operation of this Alternative would comply with all applicable policies and regulations regarding hydrology and water quality. Therefore, impacts regarding consistency with applicable regulations would be less than significant.

h. Environmental Consequences of Alternative 4 – No Action Alternative

This Alternative stipulates no development, which would prevent any significant short-term construction related hydrology or water quality impacts. Under Alternative 4 the operation of the ski area would not change although the existing tent would be removed. Therefore, Alternative 4 would not result in any operational hydrology or water quality impacts.