



**Community Services Department  
Planning & Building Division**

**Master Plan  
Warm Springs Area Plan**





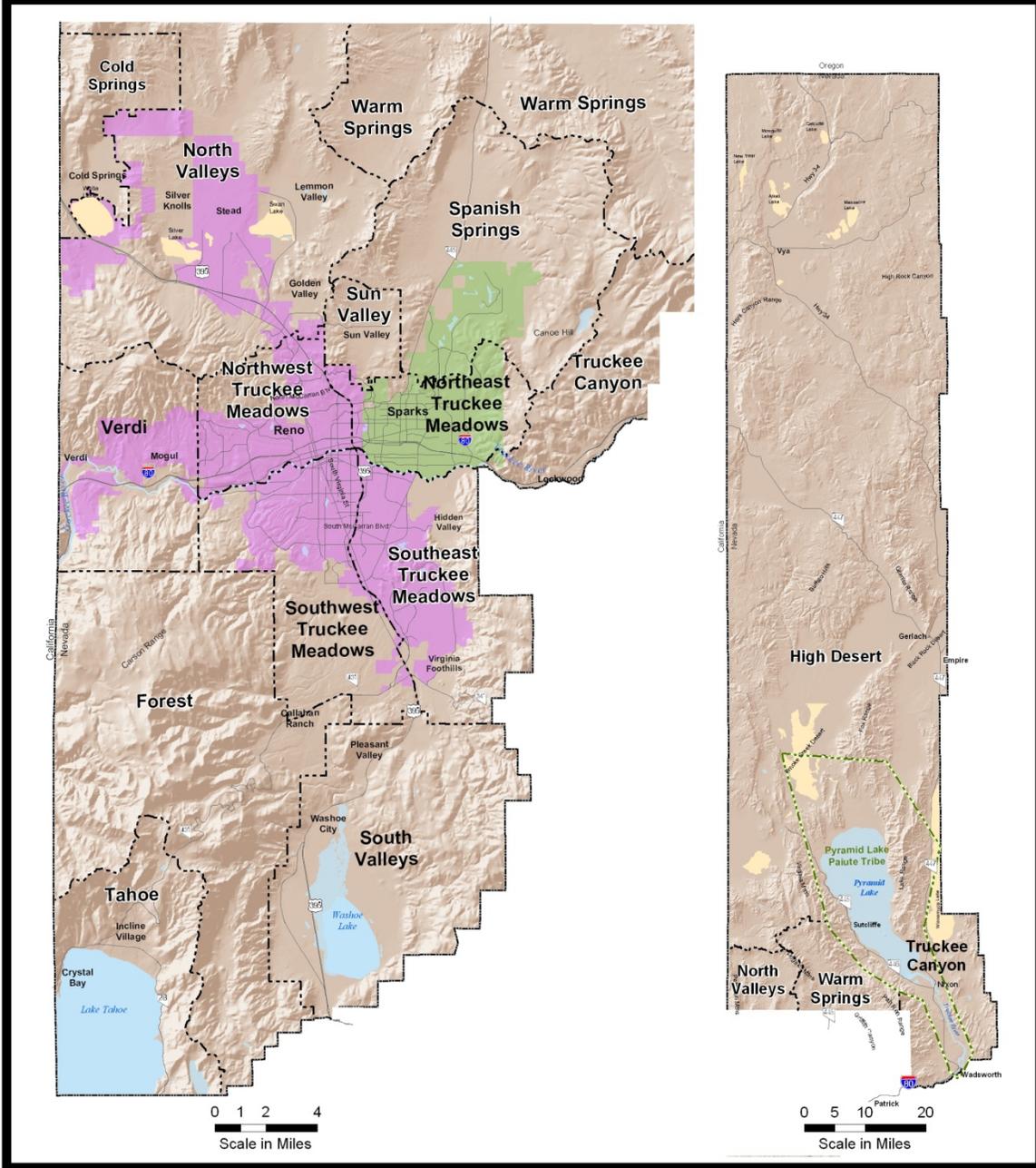
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**Master Plan  
Warm Springs Area Plan**

This document is one of a series, which, as adopted, constitute a part of the Master Plan for Washoe County, Nevada. This document is available for \$10.00 from the Washoe County Department of Community Development. If you have a copy of the Master Plan notebook, please place this behind the Warm Springs Area Plan tab. The Washoe County Master Plan can also be found on our department's website, [www.washoecounty.us/csd/planning\\_and\\_development](http://www.washoecounty.us/csd/planning_and_development).

This printing of the Warm Springs Area Plan reflects amendments adopted as part of Master Plan Amendment Case Number MPA11-003. In accordance with Article 820 of the Washoe County Development Code, the amendment was adopted by Resolution Number 11-13 of the Washoe County Planning Commission on October 4, 2011, by the Washoe County Commission on November 8, 2011, and found in conformance with the Truckee Meadows Regional Plan by the Regional Planning Commission on January 11, 2012. The adopting resolution was signed by the Washoe County Commission Chairman on January 12, 2012.

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### WASHOE COUNTY PLANNING AREAS

--- Planning Area boundary	☐ Dry Lakes
--- Washoe County boundary	☐ Water Bodies
--- Pyramid Lake Paiute Tribe boundary	☐ Hillshade, 10 meter elevations
☐ City of Reno	
☐ City of Sparks	

Source: Community Services

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Scale Bars are shown below each map

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# Introduction

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The purpose of the Warm Springs Area Plan is to act as a guide for the Board of County Commissioners, the Washoe County Planning Commission, and the community on matters of growth and development within the Warm Springs planning area. The plan outlines the existing pattern of development and provides a guide for growth. The plan guides growth by recognizing critical conservation areas, establishing existing and future land use and transportation patterns, and identifying current and future public services and facilities needs. This plan was prepared to carry out Nevada Revised Statutes, Sections 278.150 to 278.230, inclusive, and other related sections.

The Warm Springs planning area, that includes all of Palomino Valley, is located north of the City of Sparks on both sides of the Pyramid Lake Highway, State Route 445, in Washoe County. The planning area is bounded on the northeast by the Pyramid Lake Paiute Tribe Reservation boundary and on all other sides by the Warm Springs Valley Hydrographic Basin boundary. The planning area is approximately 291 square miles in size.

The Washoe County population projections for the year 2020 forecast a future population of 1,700 in the Warm Springs planning area. This forecast was based upon existing zoning and land use patterns, current development proposals, and expected development potential. The build-out projections for the Warm Springs planning area were based upon existing information for the planning perennial groundwater yield resources in the hydrographic basin. Population growth will have numerous impacts in the area. These impacts are related to conservation, land use and transportation, and public services and facilities. Therefore, the plan is organized into sections corresponding to these main topics.

The Conservation section provides basic information on the natural features, resources, and physical constraints that affect the development of the planning area. Some of the specific issues addressed include:

- Water resources for the planning area
- Flood prone areas
- Excessive slopes

The Land Use and Transportation section provides information on existing and future land uses, development patterns, and transportation facilities. Some specific areas of concern are:

- Maintaining the rural/agricultural character of the planning area
- Maintaining the viability of the Warm Springs Specific Plan
- Upgrading existing roads and constructing new roads to better serve future development in the planning area

Existing services and facilities, and those planned or under development, are discussed in the Public Services and Facilities section. Some of the items specifically addressed are:

- Inclusion of public services and facilities as an integral part of the Warm Springs Specific Plan.
- Evaluation of the need for community water and sewer systems within the Warm Springs Specific Plan.
- Protection of groundwater from contamination by sludge and sewer treatment by-products.
- Development of recreational facilities to serve the residents of the planning area.

Planning is a dynamic process. To remain useful, a plan must be continually monitored and periodically updated. If it is determined that the plan needs to be updated, the Washoe County Planning Commission will recommend that the update be included in the Washoe County Department of Community Development's annual work program. The Warm Springs Area Plan is intended to help

guide growth and development while protecting the unique natural, cultural and scenic resources of the area. The ultimate success of the plan in meeting these objectives is dependent upon the continued interest and support of all parties involved.

### **Community Vision to Preserve the Agricultural and Rural Lifestyle**

The Warm Springs Planning Area encompasses the Warm Springs Specific Plan Area, Palomino Valley, the Warm Springs Valley, Winnemucca Valley and Hungry Valley where the Reno-Sparks Indian Colony is located, and is bounded on the north by the Pyramid Lake Paiute Tribe Reservation and on the south by the City of Sparks.

It is the guiding principle of the Warm Springs Area Plan to conserve and protect the individual property rights of all property owners to pursue agricultural activities in the planning area. There may be impacts associated with proximity to existing agricultural activities which might include sounds, odors and dust that may accompany agricultural activities. These impacts can be a natural result of living in or near agricultural uses and should be anticipated.

The Warm Springs Valley originally consisted of open range with several cattle ranches operating on private and Bureau of Land Management (BLM) land, the Palomino Valley community continues to be open range with several cattle ranches operating in this agricultural and rural environment.

The property owners of Palomino Valley are good stewards of the land by keeping its agricultural and ranching heritage, and by maintaining the rural quality of its wide-open spaces, dark skies, and unique beauty. The vision includes the property owners engaging in activities such as agriculture, livestock and poultry raising, 4-H projects, equestrian activities, home businesses and other endeavors.

The Specific Plan Area's vision includes a mix of land uses, including residential, public facilities, low density office commercial and small scale general commercial, which offers an orderly and controlled way for development to occur within the valley. The Specific Plan Area is intended to serve as the center of residential development and the community service center for the Warm Springs community. Development within the Specific Plan Area is also intended to maintain and enhance the agricultural and rural character of the Palomino Valley.

# Conservation

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This section of the plan identifies types of resources and their constraints on land use in the Warm Springs planning area. The first part deals with cultural and scenic resources. The second addresses land and water resources that pose safety and environmental problems for future development. This section concludes with a number of policies and action programs designed to promote the protection and proper utilization of cultural and scenic resources, plus land and water resources within the Warm Springs planning area.

Cultural and scenic resources discussed in this section include archaeological sites, architectural and historic places, and wildlife habitats, and agricultural lands; and water resources include 100-year floodplains, creeks and potential wetlands.

The Warm Springs planning area has many cultural and scenic resources, and other characteristics that make it a desirable place in which to live, work or visit. These include the foothills of Dogskin Mountain and the Virginia Mountains and the Pah Rah Range, varied topography, and wildlife habitats. These resources pose constraints and influence the location and intensity of future land use.

## Cultural and Scenic Resources

The Warm Springs planning area contains many cultural resources, defined here as prehistoric and archaeological. Equally important are the scenic qualities available in the area, including mountain ranges, canyons, wide valley floors, creeks and springs. These attributes contribute to an aesthetically pleasing area that provides educational and scientific opportunities; make the area an attractive one in which to work and live; and contribute to the planning area's character. The goal of this section is to point out the need to protect these resources while providing for their proper utilization.

## Archaeological Resources

Prehistoric artifacts, seasonal camps and residential sites give evidence of long-term human occupation of the Warm Springs planning area. Past cultures of the area include the Washoe Tribe and Northern Paiute Tribe. A few archaeological surveys have been conducted in the area in the past and these surveys suggest that a high potential for archaeological sites exists in those locations that have not been previously disturbed. The Nevada State Historical Preservation Office should be contacted concerning any requirements for a site survey prior to development in these undisturbed areas.

## Architecturally Significant and Historic Places

Accurate data does not exist for architecturally significant and historic sites within the Warm Springs planning area but include building foundations, structures, and various artifacts related to early settlements, including mining and ranching.

In the future, if additional sites are found to have historic significance, appropriate surveys should be conducted. Developments in or near these sites should mitigate impacts on the historic value of the sites.

## Scenic Areas

The Warm Springs planning area has outstanding scenic qualities, which add to the desirability of the area as a place in which to live, work or visit. The scenic corridor, as seen from Pyramid Lake Highway (State Route 445), offers views of rugged mountain terrain and broad, open valleys. The planning area is surrounded by Hungry Ridge, Dogskin Mountain, the Virginia Mountains, and the Pah Rah Range. Contrasts of color and elevation make these mountains an important visual resource. The character of the area would be dramatically changed if slopes and escarpments were scarred by roads and buildings. Development should be set back away from roadways and restricted on steep slopes in order to maintain

the existing views. The Warm Springs planning area contains the BLM's Palomino Valley Wild Horse and Burro Center. Portions of The Virginia Mountains are designated as a BLM semi-primitive recreation area and should be protected from development. The *Incandescent Rocks* are located in the Virginia Mountains and have been designated as a Nevada Natural Heritage Site and as a scenic Area of Critical Environmental Concern (ACEC) by the BLM. As the planning area develops, recreational trails should be considered to provide access to these areas.

## **Land Resources**

The Warm Springs planning area is located in a large valley surrounded by mountain ranges and canyons with various soil properties, diverse vegetative coverage, wildlife habitats, and geologic and seismic activity. Development in the area should not degrade or destroy these resources, nor jeopardize the safety of the people in the area.

### **Soils**

The characteristics of soils in an area help determine expected development constraints. In the Warm Springs planning area, soil related constraints include problems of erosion, limitations for septic tank absorption fields, and building limitations. Additional information about soils is available in the Washoe County Master Plan Conservation Element and in the Soil Survey of Washoe County, Nevada, prepared by the Natural Resources Conservation Service.

### **Erosion**

Soil types in the Warm Springs planning area determine whether erosion is classified as slight, moderate or severe. Erosion can be a concern in the area and must be taken into account during any development or construction activity. During construction, erosion controls are needed until ground cover is re-established. All areas subject to erosion after development need to be stabilized with an acceptable stabilization method. Hillside development standards are found in Article 424, Hillside Development, of the Washoe County Development Code and provide guidelines for development on steep slopes.

### **Limitations for Septic Tank Absorption Fields**

The Natural Resources Conservation Service (NRCS) has identified some soils in the Warm Springs planning area as having severe limitations for septic tank absorption fields. Any development proposal in the Warm Springs planning area and in the Specific Plan Area must take this into consideration. On-site surveys will determine appropriate design of septic systems in accordance with Washoe County Health District regulations.

### **Building Limitations**

Soils that present restrictions within prescribed bounds with regard to buildings or other structures in the Warm Springs planning area and in the Specific Plan Area have been identified by the NRCS. Development in areas with designated restrictions on buildings without basements would require design that takes these restrictions into consideration. On-site investigations by a certified professional must be conducted before a site plan is submitted. These site-specific investigations determine the appropriate design of foundations

## **Topography**

The topography of the Warm Springs planning area is composed of a large, gently sloping valley surrounded by mountainous terrain and canyons. The Washoe County Department of Community Development used the County's Geographic Information System to prepare the Development Suitability map, which represents slopes in the Warm Springs planning area. The Development Suitability map illustrates slopes of 15 percent to 30 percent and greater within the Warm Springs planning area. In areas of 15 to 30 percent slopes, mitigation, including special design techniques, larger lots and

ingress/egress, are needed to ensure integration of development and construction with the existing topography, soils, vegetation, and compatibility with slope restrictions. In steeply sloping areas greater than 30 percent, development is not allowed.

## **Vegetation**

The type of vegetation in the Warm Springs planning area varies from pinyon-juniper woodlands through transition zones of sagebrush and rabbitbrush to annual grasses in the valleys and riparian vegetation scattered throughout the area. Higher elevations in the planning area consist of extensive pinyon-juniper woodlands mixed with bitterbrush and sagebrush. The most abundant vegetative type in the non-developed areas of the Warm Springs planning area is the northern desert shrub community. This shrub, brush and grass community provides an important habitat for many species of wildlife. Existing riparian communities located near water sources and potential wetlands are composed of willows and other phreatophytes and also provide an important wildlife habitat.

## **Wildfire**

Wildfires can burn very rapidly due to flammable resins in the desert shrub and pinyon-junipers prevalent in the area. Consequently, local fire agencies should educate property owners on the techniques of “defensible space” and be consulted about ways to minimize wildfires. The planning area is served by two volunteer fire departments located on Whiskey Springs Road and in Sutcliff and straddles the boundaries of the Truckee Meadows Fire Protection District and the Washoe County Fire suppression program.

## **Geologic Factors**

### **Earthquake Faults**

Two major effects of earthquakes that may occur in the Warm Springs planning area and in the Specific Plan Area are surface rupture/ground displacement along a fault, and ground shaking. Each of these effects can cause damage to structures, utilities and roads. The U.S. Geological Survey has mapped both Holocene and Quaternary faults throughout the planning area. Any faults in the Warm Springs planning area and in the Specific Plan Area should be considered potentially hazardous and the most recent Holocene-era fault lines should be located on all subdivision maps.

### **Landslides and Debris Flows**

Both landslides and debris flows may have occurred in recent times and could be a hazard in the Warm Springs planning area. In general, areas at greatest risk due to earth movement are those located on steep slopes, hillsides, or below the mouths of canyons. According to preliminary mapping by the Nevada Bureau of Mines and Geology, Mackay School of Mines, University of Nevada, Reno, there are alluvial fans in the planning area which are deposited in part by debris flows. These alluvial fans appear to be the most susceptible to this hazard. Some of these flat, alluvial areas may be prone to flash flooding.

## **Wildlife and Wildlife Habitats**

The Warm Springs planning area provides important habitat to a variety of wildlife species. The natural setting, including wildlife habitat areas, is an appealing attraction for development. Wildlife habitats on public land are managed by the BLM under the Pah Rah and Dogskin/Virginia Habitat Management Plan. The importance of the area to wildlife should not be overlooked during development. For this reason, the appropriate wildlife agencies should be given the opportunity to review and comment on all proposed development projects in the area. These agencies should recommend appropriate mitigation measures to protect these natural resources on public lands.

In addition to the game species discussed below a variety of nongame species also occur in the planning area. These species include squirrel, mice, skunk, hawk, eagle and sparrow. The planning area additionally has two federal species of concern. The U.S. Fish and Wildlife Service should be contacted

for specifics regarding the Carson Wandering Skipper (*Pseudocopa eunus obscurus*) and the Sage Grouse (*Centrocercus urophasianus*).

### **Game Species**

Pronghorn antelope and mule deer are the major big game species found in the Warm Springs planning area. Their habitat includes much of the Virginia Mountains and the Pah Rah Range. Portions of the southern part of the planning area have been identified as winter range for the Lassen-Washoe Interstate (Mule) Deer Herd by the Nevada Department of Wildlife. Deer herds use drainage ways as access for grazing on lower slopes.

Small game species found in the planning area include black-tailed jack rabbits, coyotes and mountain lions. Most of these small game species' natural ranges include both the upper elevations of the surrounding mountains and the valley floor. Measures to protect or enhance game species' habitat should be implemented on public lands.

### **Game Birds**

Habitat areas of chukar partridge, mountain quail, sage grouse and California quail are located in the Warm Springs planning area. The quail in the area depend on riparian vegetation for cover and roosting areas. Migratory birds (ducks, geese, etc.) occasionally use the agricultural fields and open water sources of the valley. Sage Grouse depend on sage brush habitat for cover, food and roosting, and established Leks (mating grounds) do exist in the planning area.

## **Agricultural Land**

### **Farmland**

The Natural Resources Conservation Service has determined areas which are considered prime farmland. These are lands which provide the highest crop yields with minimal inputs of energy and economic resources and can economically sustain high yields of crops when managed using acceptable farming methods. Prime farmland has not been mapped in the Warm Springs planning area. Some of these lands have been designated as receiving an active agricultural deferment by the Washoe County Assessor.

### **Rangeland**

There is some rangeland in the planning area that supports cattle herds on private and public land. More information about agricultural land is available in the Conservation Element of the Washoe County Master Plan.

## **Water Resources**

Policy WS.3.10 has been included in the Area Plan update and details an approach for revising the current adopted Warm Springs Water Budget (Appendix A of the Area Plan). The approach is to not update the water budget at this time but rather to maintain the "status-quo" of the existing water budget, with its historical data, while developing and analyzing additional data, over a three year period, on the state of water level decline in the Warm Springs aquifer. The information gained from this study will assist in developing the final water resource management plan for Warm Springs Valley and identify any needed amendments to this Water Resources section of the Area Plan, changes to Appendix A, and changes to the water budget for the Specific Plan Area. An appropriate course of action will then be recommended to the community and the Washoe County Planning Commission, and ultimately the Washoe County Commission for their consideration.

The Warm Springs planning area contains the Warm Springs Valley Hydrographic Basin. In addition, the planning area contains Cottonwood and Paiute Creeks, both perennial streams, and many unnamed intermittent streams. There are several year-round springs in the planning area, particularly in the Winnemucca Valley area. Large agricultural land uses in the middle of the Warm Springs planning area

utilize extensive amounts of groundwater for irrigation and runoff from these uses contributes to surface water flow in the planning area.

Appendix A is a water budget for Warm Springs Valley (Hydrologic Basin No. 84) that was developed in the early 1990s.<sup>1</sup> The water budget summarized the existing information from that time on water resources in the Warm Springs Valley in order to establish a preliminary water budget for land use planning purposes. The water budget was used as a tool for generating the land use plan for the original Warm Springs Area Plan and will be updated as new data becomes available following further study and analysis of the aquifer. This Area Plan will be reviewed and updated as necessary to correspond with any changes to the water budget.

The original water budget estimated the planning perennial yield groundwater resource of the Warm Springs Hydrographic Basin to be 4,000 acre feet per year. Based on this groundwater yield, a maximum of 3,097 dwelling units on individual domestic wells (to include existing dwelling units) may be developed in the basin. Policy WS.3.10 included in this plan update acknowledges the 3,000 acre-feet safe yield for the basin, making the continuation of the current water rights discount factor of 43 percent, and the current dedication factor of two and one-half acre-feet for new parcel creations important until the completion of further study and analysis of the planning area's ground water aquifer.

Allowing for development of general rural areas into 40 acre parcels, the water budget has provided 1,571 dwelling units (out of the maximum of 3,097) for the Warm Springs Specific Plan Area. This amount of development, together with existing development, was used to determine the population potential of the planning area. The water budget has also provided groundwater reserves for future potential industrial, recreational and quasi-municipal land uses in the basin, principally within the specific plan area.

The potential for additional development in the Warm Springs Valley Hydrographic Basin is based upon existing stockwatering and agricultural irrigation water rights being converted for non-agricultural uses. Due to the Nevada State Engineers over-allocation of irrigation and stockwatering permitted and certificated groundwater rights in the basin, a discount value was provided by the water budget to ensure future developed land uses did not exceed the planning perennial groundwater yield of the basin. Existing irrigation and stockwatering permitted and certificated groundwater rights must be discounted 43 percent to satisfy one acre-foot of demand when purchased and converted for future developed land uses. This discount value does not apply to existing, as of July 31, 1990, certificated and permitted groundwater rights issued by the Nevada State Engineer for industrial, domestic, recreation, quasi-municipal or municipal-industrial uses. These existing non-agricultural water rights will continue to be dedicated for an amount equal to the water right demand.

Future development requests in the Warm Springs planning area will require dedication of water rights consistent with County Ordinance 586, or any subsequent ordinance or policy adopted by Washoe County. Water rights dedicated from the Warm Springs Hydrographic Basin will remain irrevocably tied to the hydrographic basin. This dedication of water rights does not apply to existing parcels in the planning area. For example, should a resident desire to split an existing 160-acre parcel into four 40-acre parcels for future residential use, a sufficient amount of water rights would be dedicated to permit residential development for the three "new" parcels. The resident would be permitted to develop one of the parcels for residential use without water rights dedication through the exception outlined in Nevada Revised Statute 534.185.

Chemical analysis of water from wells in the Warm Springs Valley Hydrographic Basin<sup>2</sup> indicate some wells contained high concentrations of fluoride and total dissolved solids. In a few wells (near Ironwood Road at the entrance to Rattlesnake Canyon), high concentrations of nitrate were recorded. Future development on the Warm Springs Valley floor (in an area roughly bounded by Range Land Road, Winnemucca Ranch Road, Ironwood Road, Amy Road and Grass Valley Road) should test groundwater to ensure levels of minerals and solids are within acceptable water quality standards.

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<sup>1</sup> See Appendix A, Water Budget for the Warm Springs Area Plan.

<sup>2</sup> Guyton, William F. and Associates, Inc., 1987, Study of Ground-Water Availability in Warm Springs Valley, Washoe County, Nevada, prepared for Sierra Pacific Power Company, Reno, NV.

The Washoe County Water Resources Division is investigating the feasibility of utilizing surface water from the Winnemucca Ranch as an additional water resource for Washoe County. This five-year phased investigation focuses on surface water mainly within the Dry Valley Hydrographic Basin. If a reliable surface water resource is identified, Washoe County may be able to utilize portions of the water to enhance natural recharge of the Warm Springs Valley Hydrographic Basin. Current estimates of the resource available indicate there may not be a reliable enough source to directly serve perennial residential use.

Groundwater resources of the Warm Springs Hydrographic Basin shall not be exported. Washoe County will discourage the Western Regional Water Commission and the State Engineer from taking any action to allow such transfers. Development in the Warm Springs planning area must be done in a manner that protects the water resources of the area from siltation and pollution; does not increase erosion, flooding and other surface water damage; and preserves and enhances the area's water resources.

## **Flood Hazards**

The potential for floods caused by winter snowmelts, rains or summer cloudbursts is high in the Warm Springs planning area. The Federal Emergency Management Agency (FEMA) has mapped the area's 100-year floodplains. These FEMA maps were utilized in preparing the Development Suitability map.

Several creeks, including Cottonwood and Paiute Creeks, drain throughout the planning area and are susceptible to flash flooding. Proper mitigation of the hazards of both the 100-year floodplains and that of flash flooding must be provided for in all development proposals.

## **Wetlands**

The U.S. Fish and Wildlife Department has issued a series of generalized wetland maps. These maps are for use as guides for planning purposes only and were used in preparing the Development Suitability map. The potential wetlands areas shown on the Development Suitability map were identified by the federal agency from aerial photographs, soil surveys, and other data. Only limited areas were field checked due to lack of access. There are some areas of non-wetlands within the wetland boundary. Therefore, the Development Suitability map should be used as a guide only in determining the presence of wetlands regulated by the U.S. Army Corps of Engineers. Anyone planning to conduct any earth moving or other construction activities in or near the areas identified as potential wetlands should contact the U.S. Army Corps of Engineers for information about any additional study or permits that may be required.

## **Policies and Action Programs**

### **Cultural and Scenic Resources**

- WS.1.1 Protect the visual quality of the peaks and ridges surrounding the Warm Springs planning area.**
- WS.1.1.1 During review of development proposals, projects will be evaluated to determine if road cuts and grading adversely affect views from the valley floor. If they do, mitigation measures such as screening, relocation, etc. will be required.
- WS.1.2 Maintain the rural character of the planning area and protect natural habitats and preserves.**
- WS.1.2.1 Washoe County should work closely with agencies and property owners seeking to preserve and protect both the rural character and natural surroundings of the area.
- WS.1.3 Protect the agricultural resources and preserve the scenic resources and views of the Warm Springs planning area as seen from the Pyramid Lake Highway. Future development should be set back a sufficient distance from Pyramid Lake Highway to ensure that the scenic views of the wide valley floor and surrounding ridges and mountains are not degraded while not prohibiting use by the property owner. Future development adjacent to Pyramid Lake Highway should complement and enhance the rural character of the planning area.**

### **Land Resources**

- WS.2.1 Allow use and development of natural resources only when not detrimental to surrounding properties, land uses and the environment in general.**
- WS.2.1.1 During development review of proposed resource utilization projects, access, surrounding land use, visual aspects, and site rehabilitation shall be considered. Site rehabilitation shall include, as a minimum, provisions to return all affected areas to their original natural condition or acceptable restoration.
- WS.2.2 Ensure that landscaping is an integral part of each project design. Landscaping shall provide erosion control, enhance structures, and reduce wildfire hazards.**
- WS.2.2.1 The use of vegetation native and/or adapted to the area should be encouraged.
- WS.2.2.2 Vegetation that requires minimum water applications should be encouraged.
- WS.2.3 Washoe County will cooperate with federal and state agencies and willing property owners to recover the Carson Wandering Skipper to the point where it can be delisted from the Endangered Species list.**

### **Water Resources**

- WS.3.1 Ensure that applications for zone changes, major project reviews, tentative subdivision maps, parcel maps, special use permits, and division of land maps show that the following water resource criteria are met:**
- A. Existing certificated and permitted agricultural and stockwater groundwater rights, issued as of July 31, 1990, are utilized in a proportional amount to serve proposed development. In order to balance the existing, issued groundwater rights with the planning perennial yield of the basin, two and one-half acre feet of groundwater rights per dwelling

unit will be dedicated to Washoe County. A maximum of 3,097 residential dwelling units on individual wells may be developed in the Warm Springs Valley Hydrographic Basin based on the planning perennial yield of groundwater. Additional water rights will be dedicated to Washoe County for common landscaped areas, community swimming pools, pastures, etc. within residential developments.

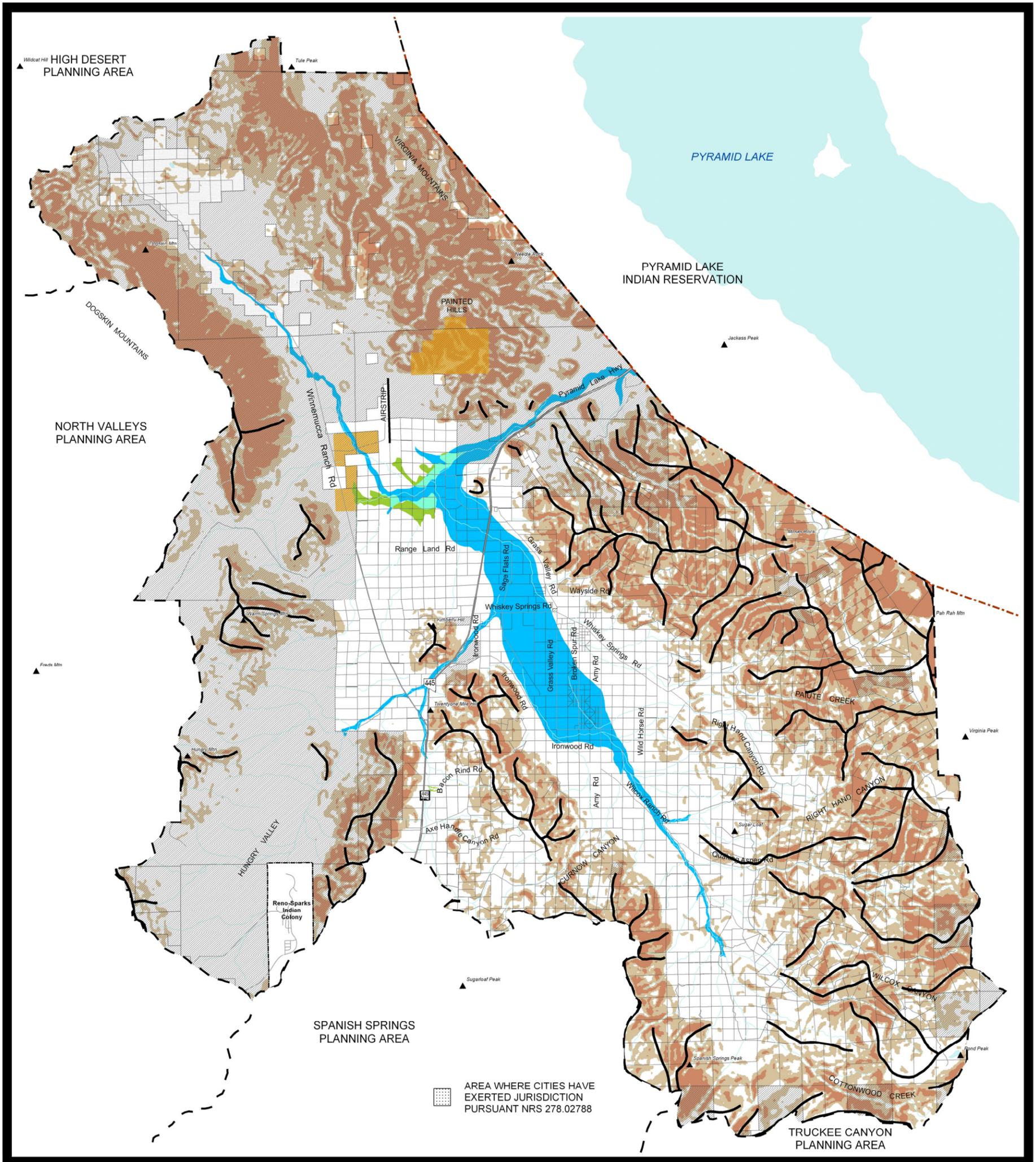
- B. **Parcels created by applications submitted through September 4, 1990, may develop for residential uses without the requirement for dedication of water rights. When existing parcels are subdivided, new parcels will require the dedication of water rights; however, one parcel will be designated as existing and will not have to dedicate water rights. The Washoe County Department of Community Development will track the date of parcel subdivisions.**
- C. **Commercial and industrial development, to include public facilities, golf courses, etc., will be required to document project water demand and supply sufficient groundwater rights for the project. If existing certificated and/or permitted irrigation or stock-watering groundwater rights, issued as of July 31, 1990, are used to serve the proposed project, then water rights will be dedicated to Washoe County at a ratio of 43 percent of existing groundwater rights to one acre-foot of demand. This ratio is necessary to balance the existing, issued groundwater rights with the planning perennial yield of the basin.**
- D. **Water rights for all development in the Warm Springs planning area will be dedicated to Washoe County at the time of parcel map filing or project recordation. These water rights will be irrevocably tied to the Warm Springs Hydrographic Basin.**
- E. **The creation of parcels and lots in the Warm Springs Valley Hydrographic Basin shall require dedication of water rights to Washoe County in quantities that are consistent with the water use standards set by Washoe County Ordinance 586 and the policies adopted in this Area Plan.**
- F. **Residential, commercial, and industrial development must be based upon perennial yield groundwater resources without reliance upon groundwater mining or recharge from agricultural uses. The Washoe County Board of County Commissioners will not approve these types of development if the demands upon the proposed permanent source of water supply exceed the perennial yield of the hydrographic basin or exceed artificial recharge as authorized by the State Engineer under a recharge/recovery permit.**

**WS.3.2 Dedicate the perennial yield of groundwater in the Warm Springs Valley Hydrographic Basin to in-basin uses within the Warm Springs planning area and Hungry Valley.**

- WS.3.2.1 The Washoe County Department of Community Development, together with Washoe County Department of Water Resources shall not approve transfers of groundwater from the Warm Springs Valley Hydrographic Basin.
- WS.3.2.2 Proposals for use of surface water from the Warm Springs Valley Hydrographic Basin shall determine the quantity of perennial yield groundwater affected by the removal of the surface water. Transfer of surface water from the basin will be permitted only when a sufficient quantity of development rights based on the degradation of perennial yield groundwater is subtracted from the Warm Springs Valley water budget.

- WS.3.2.3 Washoe County shall coordinate with the U.S. Geological Survey and the Nevada Department of Conservation and Natural Resources in preparing detailed studies on the characteristics of the groundwater basin (including perennial yield, safe pumping rates, water quality, etc.) and to institute a monitoring program for groundwater in the basin.
- WS.3.3 Urge the State Engineer to issue no further new groundwater permits in the Warm Springs Valley Hydrographic Basin.**
- WS.3.3.1 The Washoe County Department of Water Resources will encourage the State Engineer to convert existing certificated and permitted agricultural groundwater rights to other types of water rights in order to support development in the planning area.
- WS.3.4 Develop a basinwide groundwater well network to support community water systems in the Warm Springs Hydrographic Basin.**
- WS.3.4.1 The Washoe County Department of Community Development, together with Washoe County Department of Water Resources, shall require plans for a basinwide groundwater well network to become part of the development review for developments requiring community water systems.
- WS.3.5 Investigate the possibility of importing water from the Winnemucca Ranch Water Project into the Warm Springs Valley Hydrographic Basin to supplement the water resources of the basin.**
- WS.3.5.1 Upon completion of the Winnemucca Ranch Water Project study, the Washoe County Department of Community Development, together with the Washoe County Department of Water Resources, shall investigate options to use surface water from the Winnemucca Ranch Water Project in the Warm Springs Valley Hydrographic Basin. The source of this surface water shall not be from the portion of the Winnemucca Ranch located in the Warm Springs Hydrographic Basin.
- WS.3.5.2 The Warm Springs Valley water budget shall be amended as needed to account for surface water imported into the basin from the Winnemucca Ranch Water Project.
- WS.3.6 Restrict the creation of surface water features using groundwater.**
- WS.3.6.1 The Washoe County Department of Community Development, together with the Washoe County Department of Water Resources will review all projects within the Warm Springs Specific Plan Area to ensure surface water features are not created using groundwater.
- WS.3.6.2 Surface water features may be created using recycled groundwater in the form of treated effluent provided applicable health regulations are followed.
- WS.3.7 Ensure that development proposed within the wetland areas of the Warm Springs planning area complies with county, state, and federal wetland regulations.**
- WS.3.7.1 During development review, Washoe County Department of Community Development staff will require documentary evidence of compliance with the requirements of the Federal Clean Water Act and other applicable County, state and federal regulations.
- WS.3.8 Require development in the 100-year floodplain, particularly within the Warm Springs Specific Plan Area, to follow County ordinances for development in floodplains or to modify the floodplain and consequently amend applicable FEMA maps.**

- WS.3.9**            **The County will request that development proposals, larger than a parcel map, for the portions of the Reno and Sparks Spheres of Influence that lie within the Warm Springs Area Plan demonstrate that they will not be detrimental to the perennial yield in the Warm Springs Hydrographic Basin.**
- WS.3.10**           **Delay update of the water budget and maintain the “status-quo” of the existing water budget, with its historical data, while developing and analyzing additional data, over a three-year period, on the state of water level decline in the Warm Springs Hydrographic Basin.**
- A.        Acknowledge the 3,000 acre-feet safe yield for the basin in accordance with the Nevada State Engineer.**
  - B.        Maintain the current water rights discount factor of 43 percent.**
  - C.        Maintain the current dedication factor of two and one-half acre-feet for new parcel creations.**
  - D.        Implement a three year ground water monitoring program to address the magnitude, intensity and geographic location of the ground water level declines in the valley.**
  - E.        Use the information gained from the further study in developing the final water resource management plan for Warm Springs Valley, amending Appendix A; Article 226, Warm Springs Area, of the Washoe County Development Code; and changes to the water budget for the Specific Plan Area.**



## WARM SPRINGS DEVELOPMENT SUITABILITY

- |   |  |   |
|---|--|---|
| INTERMITTENT LAKE / ISLANDS               | NATIONAL WILDLIFE REFUGE (SHELDON)             | 1% FEMA FLOOD HAZARD  |
| WATER BODY                                | AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACEC) | FLOODWAY (FEMA)   |
| UNCONSTRAINED                             | WILDERNESS AREAS (WA)                          | POTENTIAL WETLANDS  |
| PUBLIC LAND                               | WILDERNESS STUDY AREAS (WSA)                   | BOTH POTENTIAL FLOOD HAZARD AND POTENTIAL WETLANDS                                  |
| NATIONAL CONSERVATION AREA (NCA) BOUNDARY | SLOPES GREATER THAN 15%                        | U.S. ARMY CORPS OF ENGINEERS C.W.A. SECTION 404 WETLANDS (Known Coverage / Limited) |
| ROADS                                     | SLOPES GREATER THAN 30%                        |   |
| DITCHES                                   | RIDGE LINES TO BE PROTECTED                    |   |

SOURCE: COMMUNITY SERVICES

WCPC ADOPTION DATE: October 4, 2011  
BCC ADOPTION DATE: November 8, 2011  
RPC CONFORMANCE DATE: January 11, 2012

NOTE: THE SCALE AND CONFIGURATION OF ALL INFORMATION SHOWN HEREON ARE APPROXIMATE ONLY AND ARE NOT INTENDED AS A GUIDE FOR DESIGN OR SURVEY WORK. REPRODUCTION IS NOT PERMITTED WITHOUT PRIOR WRITTEN PERMISSION FROM THE WASHOE COUNTY COMMUNITY DEVELOPMENT DEPARTMENT.



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# Land Use and Transportation

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The Land Use and Transportation section of the Warm Springs Area Plan is intended to guide the location and use of the area's land resources. This section of the plan follows the organization of the Land Use and Transportation Element of the Washoe County Master Plan. Additional material pertaining to land use, transportation, and related issues discussed in this plan are described in detail in that Element of the Master Plan.

## Land Use

### Generalized Land Use

Current land use information is obtained by converting Washoe County Assessor land use designations for tax purposes into comparable designations as adopted in the Warm Springs Area Plan. Currently, there are 11,603 acres of developed land, primarily residential uses on large lots, in the Warm Springs planning area out of a total of 185,245 acres.

The Truckee Meadows Service Area (TMSA) is a Truckee Meadows Regional Plan designation that denotes areas in which higher density development can and should occur. The cities of Reno and Sparks both have higher densities available within their TMSAs than does the County. The TMSA designation is found in three locations within the boundaries of the Area Plan. The County TMSA includes 3,350 acres located within the Warm Springs Specific Plan which is a total of 3,990 acres. The Reno TMSA area consists of 4,321 acres located along both Winnemucca Ranch Road and the Winnemucca Ranch valley, a large portion of which is referred to as the approved-unbuilt "Spring Mountain" development. The Sparks TMSA consists of 1,118 acres in the southern portion of the Area Plan located northwest of Spanish Springs Peak.

### Public Land

Publicly-owned land comprises approximately 48 percent of the Warm Springs planning area. Public lands in the Warm Springs planning area are shown on the Development Suitability map. The BLM administers their public land in the planning area through the Carson City District. The Carson City District also administers the Hungry Valley Off-Road Vehicle Area, which encompasses portions of BLM land in the western part of the planning area. The planning area additionally contains the BLM's Palomino Valley Wild Horse and Burro Center. The ownership of this land (federal, state and local) provides a unique constraint to development. Consolidation of public land, as well as land exchanges, should be examined as a method to provide developable land in the Warm Springs planning area. In addition, when development is proposed adjacent to public land, its impact on the public land should be considered.

### Tribal Land

The Reno-Sparks Indian Colony Hungry Valley community is located on 1,960 acres of tribal land in the eastern half of Hungry Valley approximately 19 miles north of Reno on Eagle Canyon Drive. The Hungry Valley community presently consists of approximately 140 dwellings, a water distribution system, a sewage collection and treatment system, and a community/recreation center. Washoe County should work closely with the Indian Colony to ensure that any future development by the Indian Colony, particularly any anticipated acquisition of additional groundwater rights, adhere to the discount rate found in this plan and involve close cooperation and planning between the Reno-Sparks Indian Colony, the BLM, Washoe County, and the citizens of the planning area.

## **Development Constraints**

Numerous features influence the location and character of development in the planning area. These features were addressed in the Conservation section of this plan. In addition to water availability, the features having the greatest impact on development in the area are steep slopes, potential wetlands and floodplains. These features were used to produce the Development Suitability map that depicts areas with development constraints. The areas not shown as constrained on the Development Suitability map are considered to be those most suited for development.

## **Land Use Plan**

The Master Plan map was prepared using information from the Development Suitability map, population forecasts from the Washoe County population projections for the year 2030, water resource constraints from the Warm Springs water budget, and countywide service level standards adopted as part of the Washoe County Master Plan.

Using the amount of planning perennial groundwater yield available in the Warm Springs Hydrographic Basin as calculated in the Warm Springs water budget, the intensity of development possible without exceeding the planning perennial groundwater yield was determined. Policies and action programs contained in other parts of the Master Plan advocate regional economic diversification. These were translated into appropriate land use types. General trends of development type and land use intensity served as the basis for the land use designations on the Master Plan map. Finally, the transportation network needed to support the proposed land use was determined using adopted service level standards and designated land use. This network is designated on the Streets and Highways System Plan map. Each land use category is discussed in the following text.

### **Residential**

The estimated 2010 population in the Warm Springs planning area is 1,791. Analyses done in completing the Warm Springs Area Plan indicate the area can accommodate a population of 7,743 with a maximum of 3,097 dwelling units based on the Warm Springs water budget. This projected use is based on the assumption that agricultural use of water ceases during development of the planning area, allowing conversion of agricultural rights to residential use.

Single-family homes on large parcels (40 acres or larger) is currently the predominant development pattern in the Warm Springs planning area. This development pattern was established when much of the Warm Springs planning area was developed as the Palomino Valley subdivision. The Warm Springs Area Plan recognizes this land use pattern by stipulating that development in the General Rural (GR) classification will be permitted on parcels of 40 acres or larger. Additionally, the General Rural classification has been further refined to include a General Rural Agricultural (GRA) classification. This refined classification is explained in the General Rural section of this Area Plan.

There has been a desire by other landowners in the Warm Springs planning area to develop residential land uses on parcels less than 40 acres. To accommodate this, the Warm Springs Specific Plan Area has been designated as a location for a suburban type community in the Truckee Meadows Regional Plan. Increased densities of residential land use are permitted in the Specific Plan Area (SPA) shown on the Master Plan map. The overall average residential density in the Warm Springs SPA will not exceed one dwelling unit per two and one-half acres. The Specific Plan land use designation is discussed in greater detail in that section of this Area Plan.

The desired residential use in the Specific Plan Area is single-family homes with design, building materials, colors, and site development which blend with the overall rural character of the planning area. Cluster development at a density greater than three dwelling units per acre should be permitted in the SPA, where possible, to maintain open space. Buffering is encouraged to screen residential land uses from adjacent incompatible land uses. Residential developments should minimize direct access to Pyramid Lake Highway for public safety reasons.

## **Parks and Recreation**

Washoe County owns and operates the Regional Shooting Facility on the Pyramid Lake Highway. The total site consists of 650 acres, of which only about 60 acres are currently being used. An increase in community and neighborhood park facilities will be necessary to meet the needs of the area's growing population. These parks are addressed in the Public Services and Facilities section of this plan. It should be noted that both public and private recreational uses are included in this land use designation.

## **Public and Semi-Public Facilities**

An increase in public facilities such as utilities, community buildings, schools, and fire and police protection will be required to meet the needs of new population in the Warm Springs planning area. This land use designation includes the BLM's Palomino Valley Wild Horse and Burro Center as shown on Master Plan map. These services and facilities are addressed in the Specific Plan section and the Public Services and Facilities section of this plan.

## **Industrial**

Current industrial land use in the Warm Springs planning area is in the former H. B. Chapman, Jr. and Company light manufacturing operation located on Whiskey Springs Road near Pyramid Lake Highway. Operation of the Chapman facility was halted by Washoe County in mid-1990 to permit clean-up of the site. It is not certain whether operations will continue after the cleanup is complete. Additionally, there are several abandoned building sites throughout the planning area that were owned by Rockwell International and Rocketdyne as part of its discontinued rocket testing facilities. The rural character of the area makes large-scale, heavy industrial uses inappropriate. Future industrial uses should be limited to existing, designated land use areas. Small-scale, limited manufacturing or assembly, warehousing, or research and development companies are encouraged to use these areas. Future industrial land use is further discussed in the Warm Springs Specific Plan.

## **General Commercial**

General Commercial zoning is confined to the Warm Springs Specific Plan Area as identified in that adopted document.

## **Neighborhood Commercial/Office**

There are currently no neighborhood commercial/office uses in the Warm Springs planning area. Future Neighborhood Commercial/Office zoning (i.e. small professional offices, medical offices, banking, etc.) should be located within the Warm Springs Specific Plan Area.

## **Tourist Commercial**

There are currently no Tourist Commercial uses in the Warm Springs planning area. Due to the impact of such activities on the rural/agricultural character of the planning area, no Tourist Commercial zoning is recommended within the planning area.

## **Specific Plan Areas in General**

The Specific Plan designation is intended to define areas for mixed-uses or to identify other unique circumstances that may necessitate special plan approval. The Area Plan furnishes general guidelines for development and sets the character of the area. Specific Plans are more detailed than Area Plans and can provide recommendations on the total scope of development including land uses, building locations, water and sewerage system improvements, and transportation improvements. They can also provide information and standards concerning public safety, natural areas and recreational facilities and guidelines for exterior design elements such as architectural types, building materials, signage, lighting,

streets, utilities, parking, lot and building lines, landscaping, site grading and storm water management consistent with policies contained within the Area Plan.

### **Warm Springs Specific Plan Area**

The Warm Springs Specific Plan is considered a part of the Warm Springs Area Plan but is approved and maintained as a separate document. The Warm Springs Specific Plan will be used to guide and monitor development within the Specific Plan Area boundaries. The Warm Springs Specific Plan is more detailed than this Area Plan and provides recommendations on the total scope of development including land uses, building locations, water and sewerage system improvements, and transportation improvements. The Specific Plan Area designation in the Warm Springs planning area is shown on the Master Plan map. The Warm Springs Specific Plan Area is defined on the north by a line parallel to and roughly 0.6 of a mile north of Whiskey Springs Road, on the east by Whiskey Springs Road and Amy Road, on the south by parcels including Paiute and Cottonwood Creeks, and on the west by parcels to the east of Ironwood Road and by Pyramid Lake Highway. The area contains a mix of large acreage residential lots, agricultural land, the old Chapman light manufacturing facility, and the Palomino Valley Volunteer Fire Station. The SPA is approximately 3,990 acres in size.

The Truckee Meadows Service Area (TMSA) is a Regional Plan term that designates areas in which higher density development can and should occur. The Warm Springs Specific Plan Area includes 3,350 acres within the County TMSA and 640 acres outside of the TMSA, for a total of 3,990 acres. The Warm Springs Specific Plan was adopted by the Washoe County Commission on September 22, 1992. All development proposed within the Specific Plan Area must follow the policies and guidelines contained within the Warm Springs Specific Plan.

### **General Rural**

The predominant existing land uses within the General Rural classification as shown on the Master Plan map is large lot (40 acres and greater) residential, open space and agriculture. The General Rural classification preserves land with development constraints, land that should be preserved for conservation reasons, or land that is not planned to receive the services and facilities needed for urban or suburban development.

In the Warm Springs planning area, the General Rural (GR) classification is further refined into a General Rural Agricultural (GRA) classification. The extent of GRA in the planning area is shown on the Master Plan map. The rural character of the area will be enhanced by allowing agricultural uses consistent with the residential character of the area. The environment, ecology, scenic beauty, wildlife and the water resources of the GRA area shall be protected to ensure that future generations will have the opportunity to enjoy a rural lifestyle into the foreseeable future. Development in the GRA area will conform to the development standards listed in Table 1.

The primary land use permitted in the General Rural Agricultural (GRA) classification will be single-family, detached dwelling units on parcels of 40 acres or larger. Any parcel in the GRA portion of the Warm Springs planning area which was legally recorded with Washoe County prior to May 21, 1991, and which may be less than 40 acres in size, is considered to be a developable residential lot. These developable residential lots must also comply with the development standards listed in Table 1. Existing development in the GRA area will be encouraged to comply, to the extent possible, with the development standards listed in Table 1.

Residential development in any General Rural (GR) area will be permitted on any parcel legally recorded with Washoe County prior to December 11, 1990, or on new parcels of 40 acres or larger. Based on safe perennial groundwater yield as outlined in the Warm Springs water budget, no more than 1,604 GR and GRA parcels will be created in the Warm Springs Hydrographic Basin. The creation of parcels and lots in GR and GRA classifications will satisfy the water resource requirements of the Water Resources section of this Area Plan. Access to parcels will be approved by the Washoe County Engineering Division and by the Palomino Valley General Improvement District, when appropriate. County adopted standards for General Rural will be followed for development in the General Rural classification within the planning area.

Table 1  
**Warm Springs**  
**General Rural Agricultural (GRA) Development Standards**

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**Development Standards**

- a. New permanent single-family, dwellings within the Warm Springs Area with a land use designation of GRA will not require a garage or carport.
- b. One (1) accessory dwelling unit (guest building) per parcel is allowed, not limited by size so the property owner can construct a starter home for later conversion to the accessory dwelling.
- c. Recreational vehicle(s) may be used temporarily by guests visiting the occupants of the single-family, detached residential dwelling unit consistent with Washoe County Codes.
- d. Business vehicle parking is allowed for four (4) or fewer motorized vehicles owned by and registered to the occupants of the single-family, detached residential dwelling unit and used for commercial activities conducted away from the residence, may be parked on the property, provided they are operable and registered under the provisions of the Nevada Vehicle Code for street travel. All commercial vehicles shall be parked within an enclosed garage or behind a screened enclosure.
- e. Business vehicle parking is permitted with a Special Use Permit for five (5) or more motorized vehicles owned by and registered to the occupants of the single-family, detached residential dwelling unit, and used for commercial activities conducted away from the residence, may be parked on the property, provided they are operable and registered under the provisions of the Nevada Vehicle Code for street travel. All commercial vehicles shall be parked within an enclosed garage or behind a screened enclosure.
- f. Access for equestrian, vehicular and pedestrian traffic shall be limited to appropriate, dedicated easements.

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Source: Washoe County Department of Community Development

Note: Due to the County's change to a two-map system of land use and zoning in 2010, all of the uses specific to GRA zoning have been relocated to *Article 226, Warm Springs Area*, and *Article 302, Allowed Uses*, in the Washoe County Development Code. Table 1 retains the items that are the pure "Development Standards" connected with GRA zoning.

## Transportation

The transportation system for the Warm Springs planning area is based on the adopted Street and Highway Element of the Regional Transportation Plan (RTP)<sup>3</sup> and the local access needs of the planning area. Current and proposed streets and highways in the planning area are shown on the Streets and Highways System Plan map. A full description of level of service and roadway functional classifications is contained in the Land Use and Transportation Element of the Master Plan.

A number of road improvements have been anticipated to meet future demand. The existing density of development anticipated for the planning area may not support all of these improvements. Improvements will be programmed only when supported by projected traffic count thresholds or traffic studies. These improvements will then be included in future Washoe County Capital Improvement Programs for possible funding. The cost of these improvements, which will serve future residential development, will be primarily funded through impact fees.

The Regional Transportation Plan lists the widening of Pyramid Lake Highway from Calle de la Plata to Winnemucca Ranch Road in a post-ten year timeframe. The timeframe could be extended based upon the timing of the Spring Mountain development or any other development which would be the primary source of increased traffic volumes on the highway north of Calle de la Plata. Specific inquiries on the Highway System Plan should be directed to the Regional Transportation Commission. This Area Plan supports the state's plan to widen the Pyramid Lake Highway when traffic counts warrant it. The County

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<sup>3</sup> Regional Transportation Commission, 2030 Regional Transportation Plan (August 21, 2001).

also encourages the state to minimize new accesses to the highway and utilize existing accesses through using collector roads. As Washoe County grows, the Washoe County Department of Community Development, together with the Regional Transportation Commission and the Washoe County Roads Division, should investigate the necessity and feasibility of developing new routes to connect Pyramid Lake Highway with both U.S. Highway 395 through the North Valleys and Interstate Highway 80 through the Pah Rah Range.

The anticipated additions and improvements to the existing street network in the planning area are: construct a collector to connect Sharrock Road to Pyramid Lake Highway; construct a collector to connect Amy Road to Pyramid Lake Highway; and, based on projected deficiencies, upgrade Axe Handle Road, Winnemucca Ranch Road, Wilcox Ranch Road, Whiskey Springs Road (outside of the Specific Plan Area), Ironwood Road, and Amy Road to collector road standards. None of these road improvements are anticipated to occur until funding is available and a need is documented.

It is important for the streets and highways system to enhance the visual qualities of the planning area. Roads which are constructed or improved on hillsides or steeply sloped (in excess of 15 percent slope) areas should minimize both grading and cut-and-fill operations consistent with the natural character of the hillside area. Grading and design will conform to the natural landforms and will minimize visual scarring. To the maximum extent possible, the natural topographic features of the planning area (e.g. hill crests, natural rock outcroppings, drainage swells, ridge lines, natural plant formations and trees, etc.) will be retained.

The planning area is not a part of the Regional Transportation Commission's current public transportation service area. Due to low current and planned densities in the planning area, and public transportation funding shortfalls the Regional Transportation Commission has determined that fixed-route transit service to the planning area is not feasible at this time. There are no current plans to extend fixed-route service to the planning area.

## **Policies and Action Programs**

### **Land Use**

**WS.4.1 Limit future industrial uses to light manufacturing and end part assembly operations and only in areas currently under industrial land use as of December 11, 1990, and located within the Specific Plan.**

WS.4.1.1 Industrial land uses are incompatible with the rural/agricultural character of the planning area. Future industrial land uses will be kept inside of structures (as much as possible). All industrial land uses are to be screened and buffered.

**WS.4.2 Ensure that new development designs, building materials, colors, finishes and total site development blend with the surrounding rural/agricultural character of the Warm Springs planning area.**

WS.4.2.1 The Washoe County Department of Community Development shall encourage future development to maintain and enhance the rural lifestyle of the planning area.

WS.4.2.2 The Washoe County Department of Community Development shall discourage any billboards in the planning area as this will negatively impact the rural atmosphere of the area.

**WS.4.3 Encourage the consolidation of the Palomino Valley General Improvement District within the Warm Springs planning area.**

WS.4.3.1 The Washoe County Department of Community Development, together with the Washoe County Manager's Office, shall work with the Palomino Valley General Improvement District to consolidate their boundaries to correspond with the planning area boundary.

**WS.4.4** Ensure that land in the Warm Springs planning area shown as Rural on the Master Plan map is developed with the following additional conditions:

- A.** Parcels will be permitted to be created for 40 acres or larger. No more than 1,604 residential parcels, on individual wells, will be created in the Warm Springs Hydrographic Basin. This development of parcels is based on the planning perennial yield of groundwater in the basin.
- B.** Requirements for water resources as detailed in the water resources policies and action programs of this Area Plan will be followed for all parcels and lots created.
- C.** Access will be approved by the Washoe County Road Division and by the Palomino Valley General Improvement District.
- D.** The General Rural Agricultural zoning designation refines the General Rural classification. Development in the General Rural Agricultural area will conform to the development standards listed in Table 1 and Article 226, Warm Springs Area, of the Washoe County Development Code.
  - 1.** Existing development as of December 22, 1992, in the General Rural Agricultural area will be encouraged to comply, to the extent possible, with the development standards listed in Table 1 and Article 226, of the Washoe County Development Code.
  - 2.** The General Rural Agricultural classification is considered part of the General Rural classification in determining total residential development allowed in the planning area. General Rural Agricultural parcels and lots will adhere to the same water resource requirements as specified for General Rural.

**WS.4.5** Develop the Warm Springs Specific Plan Area with no more than 1,571 residential units on individual domestic wells. This level of residential development will protect the groundwater available for existing and future residential development outside the Specific Plan Area.

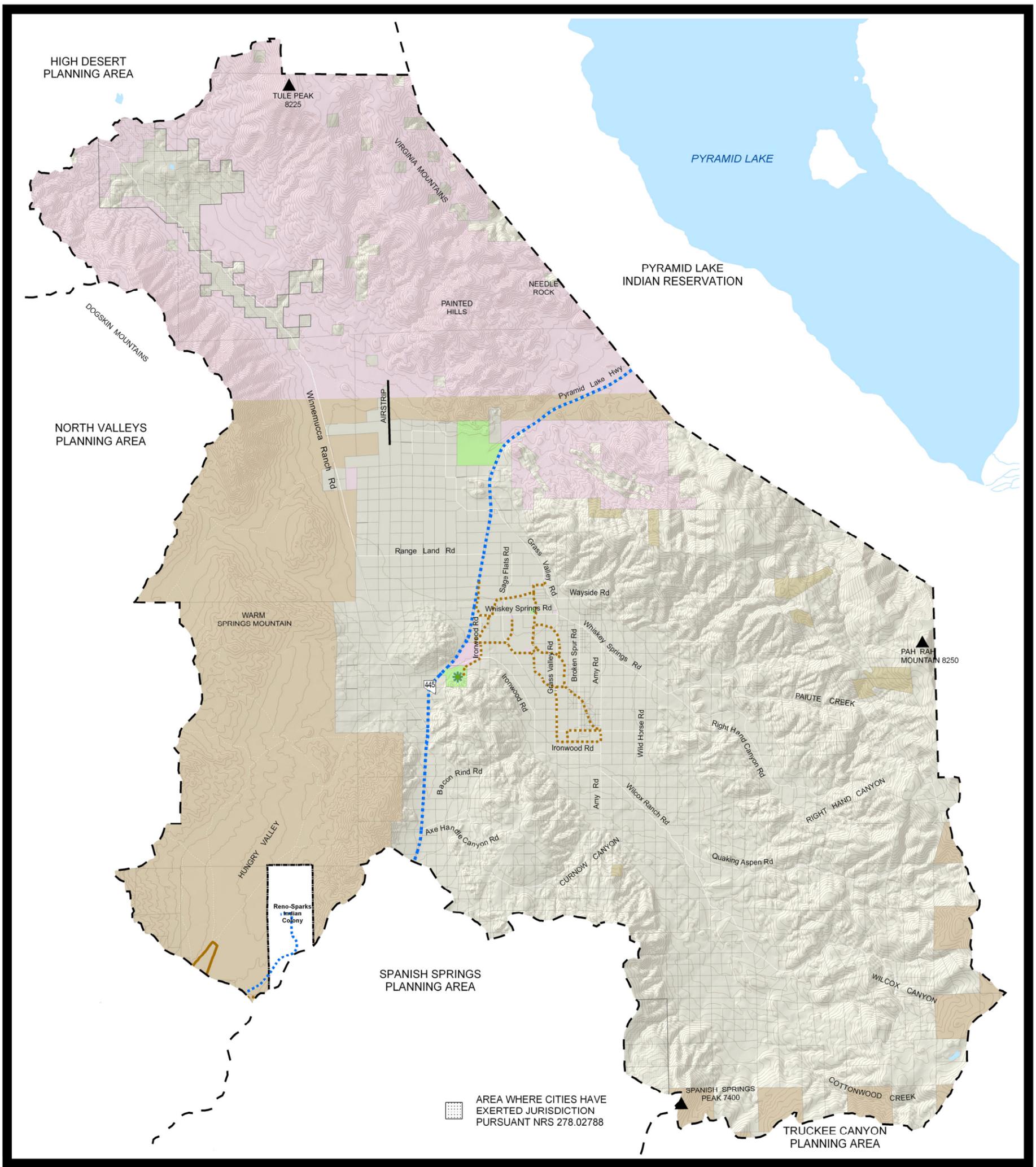
**WS.4.5.1** Residential density in the Specific Plan Area may be increased by mandatory utilization of a community water system(s), by mandatory installation of water meters, and by ensuring decreased average annual residential water demand. The decreased residential water demand will utilize accepted water conservation measures and be proven to the satisfaction of the Washoe County Board of County Commissioners. Water resource policies contained in this Area Plan, to include determination of the amount of water rights to be dedicated to Washoe County, will be followed. This method of increasing residential development density will not exceed the total water rights which would have been dedicated for the development of 1,571 residential dwelling units on individual domestic wells in the Specific Plan Area.

**WS.4.6** The following Regulatory Zones are permitted within the Warm Springs planning area.

- **Public/Semi-Public Facilities (PSP)**
- **Parks and Recreation (PR)**
- **Open Space (OS)**
- **Specific Plan (SP)**
- **General Rural (GR)**
- **General Rural Agricultural (GRA)**

## **Transportation**

- WS.5.1 Encourage the widening of Pyramid Highway when traffic volume warrants it.**
- WS.5.1.1 As abutting lands are developed, dedication of the necessary right-of-way should be required.
- WS.5.1.2 Construction funds should be accumulated to address future traffic demand by instituting a traffic impact fee to be paid by new suburban density development. The fee will be in addition to normal site-related improvements needed to mitigate the direct impacts of new development.
- WS.5.2 Restrict access to Pyramid Lake Highway.**
- WS.5.2.1 The Washoe County Department of Community Development shall work together with the Washoe County Public Works Department and the Nevada Department of Transportation to restrict access to Pyramid Lake Highway to existing roads and those roads as shown on the Streets and Highways System Plan map.
- WS.5.3 Construct a road to serve as a collector to connect Sharrock Road to Pyramid Lake Highway through Rattlesnake Canyon and along Bacon Rind Road to Axe Handle Road.**
- WS.5.4 Construct a road to serve as a collector to connect Amy Road to Pyramid Lake Highway through Curnow Canyon and along Curnow Canyon Road to Axe Handle Road.**
- WS.5.5 Upgrade Axe Handle Road to a collector as needed to service other future collectors.**
- WS.5.6 Upgrade Winnemucca Ranch Road, Wilcox Ranch Road, Whiskey Springs Road (outside of the Warm Springs Specific Plan Area), Ironwood Road, and Amy Road to collectors.**
- WS.5.7 Investigate the necessity and feasibility of routes to connect the southeast portion of Warm Springs Valley through the Pah Rah Range to the Tracy Interchange on Interstate 80.**
- WS.5.8 Investigate the necessity and feasibility of routes to connect Pyramid Lake Highway in the planning area with the northern portion of U.S. Highway 395.**
- WS.5.9 Enhance the visual qualities of the Warm Springs planning area during construction or improvement of roads in the area. Grading and cut-and-fill operations on hillsides or steeply sloped areas (in excess of 15 percent) will be consistent with the natural character of the area. Grading and design will conform to the natural landforms and will minimize visual scarring. The natural topographic features of the area will be retained to the maximum extent possible.**
- WS.5.10 Washoe County will request that future development proposals for the portions of the Reno and Sparks Spheres of Influence (SOI) that lie within the Warm Springs planning area include a thorough traffic analysis that will detail impacts to the existing Warm Springs road network and list mitigation measures needed to maintain acceptable levels of service on area roadways such as Winnemucca Ranch Road and the Pyramid Lake Highway (SR 445).**



## WARM SPRINGS RECREATIONAL OPPORTUNITIES

- |   |                                |   |          |   |          |   |   |  |
|---|--------------------------------|---|----------|---|----------|---|---|--|
|  | RECREATIONAL AREAS             |  | Existing |  | Proposed |  | TRAIL HEAD  |  |
|  | OPEN SPACE, PUBLIC             |  |          |  |          |  | SCHOOL<br>(E-Elementary, M-Middle, H-High)              |  |
|  | PUBLIC LANDS                   |  |          |  |          |  | ROUTES<br>Bike / Pedestrian                             |  |
|  | WATER BODY                     |  |          |  |          |  | TRAIL<br>Multipurpose                                   |  |
|  | PLAYA                          |   |          |   |          |   | Please refer to the adopted Park District Master Plans. |  |
|  | CONTOUR LINES, 100 FT INTERVAL |   |          |   |          |   |   |  |

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Scale in Miles



**WASHOE COUNTY  
NEVADA**

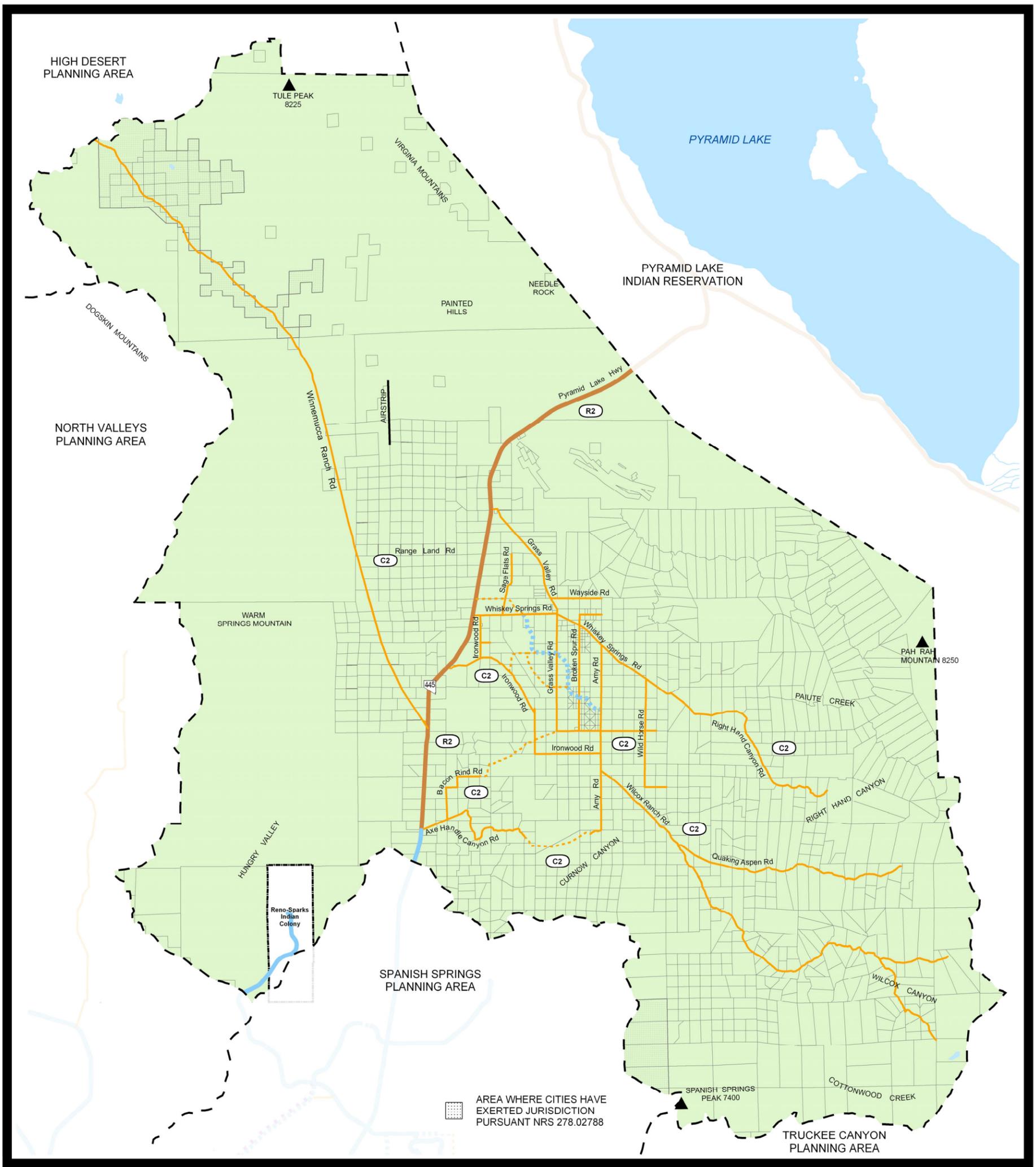
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## WARM SPRINGS STREETS AND HIGHWAYS SYSTEM PLAN

EXISTING	PROPOSED	
		FREEWAY
		ARTERIAL
		RURAL HIGHWAY
		COLLECTOR
		GRADE SEPARATED INTERCHANGE
		SIGNALIZED INTERSECTION

**PLANNED GEOMETRIC DESIGN**

	DEGREE OF ACCESS CONTROL
H	HIGH CONTROL
M	MODERATE CONTROL
L	LOW CONTROL
U	ULTRA LOW CONTROL
	NUMBER OF TRAFFIC LANES
	FUNCTIONAL CLASSIFICATION
F	FREEWAY
A	ARTERIAL
C	COLLECTOR
R	RURAL
L	PRIVATE/LIMITED ACCESS
E	EMERGENCY

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Scale in Miles



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YEAR 2020 ROADWAY NETWORK PROVIDED BY THE REGIONAL TRANSPORTATION COMMISSION, EXCEPT FOR MOST COLLECTORS. ADDITIONAL RIGHT OF WAY MAY BE NEEDED TO ACCOMMODATE FULL MASTER PLAN DEVELOPMENT IN THE REGION

WCPC ADOPTION DATE: October 4, 2011  
BCC ADOPTION DATE: November 8, 2011  
RPC CONFORMANCE DATE: January 11, 2012

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# Public Services and Facilities

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As the Warm Springs planning area grows, so will the demand for public services and facilities. The intent of this section of the Warm Springs Area Plan is to provide a guide for the orderly and planned extension of the public services and facilities needed to serve the present and future inhabitants of the area.

This section includes information on the existing General Improvement District, water service, sanitary sewer service, other utilities, fire and police protection, libraries, schools, and parks and recreation facilities. Countywide service standards described in the Master Plan Land Use and Transportation Element are used to determine future needs for each of these services and facilities. Existing and proposed land uses, existing services and facilities, and service standards are used to determine future services and facilities needs in the planning area.

Public services and facilities policies and action programs specific to the Warm Springs planning area are presented at the end of this section. These policies and action programs, along with those contained in other parts of the Master Plan, serve as guidelines for providing the Warm Springs planning area with the public services and facilities necessary to accommodate the growth anticipated in the Land Use and Transportation section.

## General Improvement District

The Palomino Valley General Improvement District (PVGID) was created in 1973 to maintain the road system in the Palomino Valley subdivision. The PVGID should be included as part of the planning process for future development in the Warm Springs planning area. The PVGID should also be encouraged to consolidate their district boundaries to correspond with the Warm Springs planning area boundary. PVGID, like other public agencies, is required to obtain appropriate permits from other government entities. Whenever possible these other government entities should be encouraged to waive the fees associated with those permits.

## Water Service

Water service in the planning area is currently provided through individual wells. Development in the planning area requires a reliable water supply that will serve the needs of the residents and businesses in the area. The water supply for the Warm Springs planning area is discussed in the Water Resources section of this Area Plan. It is possible that a community water system(s) may be required to support development in the Warm Springs Specific Plan Area. This system(s) should ultimately be operated and managed by Washoe County. The Public Services and Facilities Plan map shows the planned land uses that may require a community water system(s) in the SPA.

## Sanitary Sewer Service

Sanitary sewer service in the Warm Springs planning area presently is in the form of individual septic disposal systems. Residential development in the area must meet the County standards requiring either an individual or community sanitary sewage system capable of handling a minimum of 325 gallons per day per dwelling unit. The development of the Warm Springs Specific Plan Area may require a community sanitary sewer system(s). This system(s) should ultimately be operated and managed by Washoe County. The Public Services and Facilities Plan map shows the planned land uses that may require a community sewer system(s) in the SPA.

Warm Springs Valley has been identified in the past as a possible location for treated sludge applications. The groundwater in the hydrographic basin must be protected from contamination by sludge and sewage treatment by-products. The disposal of sludge and other sewage treatment by-products as land fill is not permitted in the planning area.

## **Fire Protection**

The Truckee Meadows Fire Protection District provides fire protection services for the Warm Springs planning area with one volunteer station on Ironwood Road. The BLM built and seasonally staffs a fire station on Whiskey Springs Road. Mutual aid agreements between the BLM and the Truckee Meadows Fire Protection District augment the fire protection services available to the Warm Springs planning area. As development increases in the area, additional firefighters and equipment will be needed. The Warm Springs Specific Plan should provide for either the expansion of the existing fire station or the location for a larger station. The location of the existing fire stations is shown on the Public Services and Facilities Plan map.

## **Law Enforcement**

Law enforcement in the Warm Springs planning area is provided by the Washoe County Sheriff's Office. There is currently one patrol unit regularly assigned to the area, with an average response time of 23 minutes. This response time may vary depending upon distance and patrol availability. As development occurs in the planning area, a Sheriff's substation may be needed in the Warm Springs Specific Plan Area to serve the increased number of residents of the area.

## **Libraries**

There are no libraries or branch libraries located within the Warm Springs planning area. The area is served by the Washoe County Main Library in downtown Reno and its branch library in Spanish Springs. As development occurs in the planning area, the library system may either contract with the Washoe County School District to provide a school/community library from schools built in the area or construct a branch library.

## **Schools**

There are no schools currently in the Warm Springs planning area. School age children in the area attend the Spanish Springs Elementary School, Shaw Middle School, and Spanish Springs High School. The County minimum service standard for schools in rural areas recommends the school be located with a 40-minute one-way travel time for students of elementary schools, 55-minute one-way for middle schools, and 75-minute one-way for high schools.

The real need for schools will be revealed as the population of the planning area grows. The Warm Springs Specific Plan should provide for the location of school sites sufficient to serve the population of the planning area. Currently adopted Washoe County School District standards would warrant the construction of a single elementary school, but neither a middle nor a high school, to support the projected population of the planning area. The Washoe County School District Master Plan uses ten acres as a planning guide for an elementary school site.

## **Parks and Recreation Facilities**

There currently are no existing neighborhood or community park facilities in the Warm Springs planning area. Washoe County operates a 650-acre regional shooting facility located in the northern part of the planning area off Pyramid Lake Highway of which, approximately 60 acres are currently being used for target practice ranges. Washoe County has expanded and diversified this facility. The BLM administers the Hungry Valley Off-Road Vehicle Area that extends into the western part of the planning area.

It is important to plan community parks in close proximity to suburban density areas. As new residential development occurs, land or money to develop community parks should be set aside for that area. The Warm Springs Specific Plan should recognize the need for community parks and locate potential park sites near future residential development within the SPA. A site for a future trail-head has been shown on the Recreational Opportunities map. The Washoe County Regional Parks and Open Space Department should work with the residents of the planning area to designate potential community park sites to coincide with planned residential development. Once a site has been chosen, the Area Plan should be amended to show its location.

Many opportunities for recreational trails exist in the Warm Springs planning area. Recreational uses in the Warm Springs Specific Plan Area should include a pedestrian and equestrian trail system. Roads that are constructed or improved in the planning area should be integrated with equestrian trail systems. Trails in the area could also be coordinated with the regional trail system concept and provide access to BLM managed land. These trails could also provide access to the scenic areas in the Virginia Mountains described in the scenic areas section of this Area Plan.

Recreational uses in the Warm Springs planning area should include privately and publicly-owned facilities. Potential recreational uses could include community park elements consistent with uses found in the planning area. It is important that all recreational uses minimize impact on the groundwater aquifer of the Warm Springs Hydrographic Basin. The use of treated effluent for irrigation of recreational facilities is strongly encouraged.

## **Policies and Action Programs**

**WS.6.1 Prohibit the disposal of sludge and other sewage treatment by-products as land fill in the Warm Springs planning area.**

**WS.6.2 Designate future park sites in the Warm Springs planning area.**

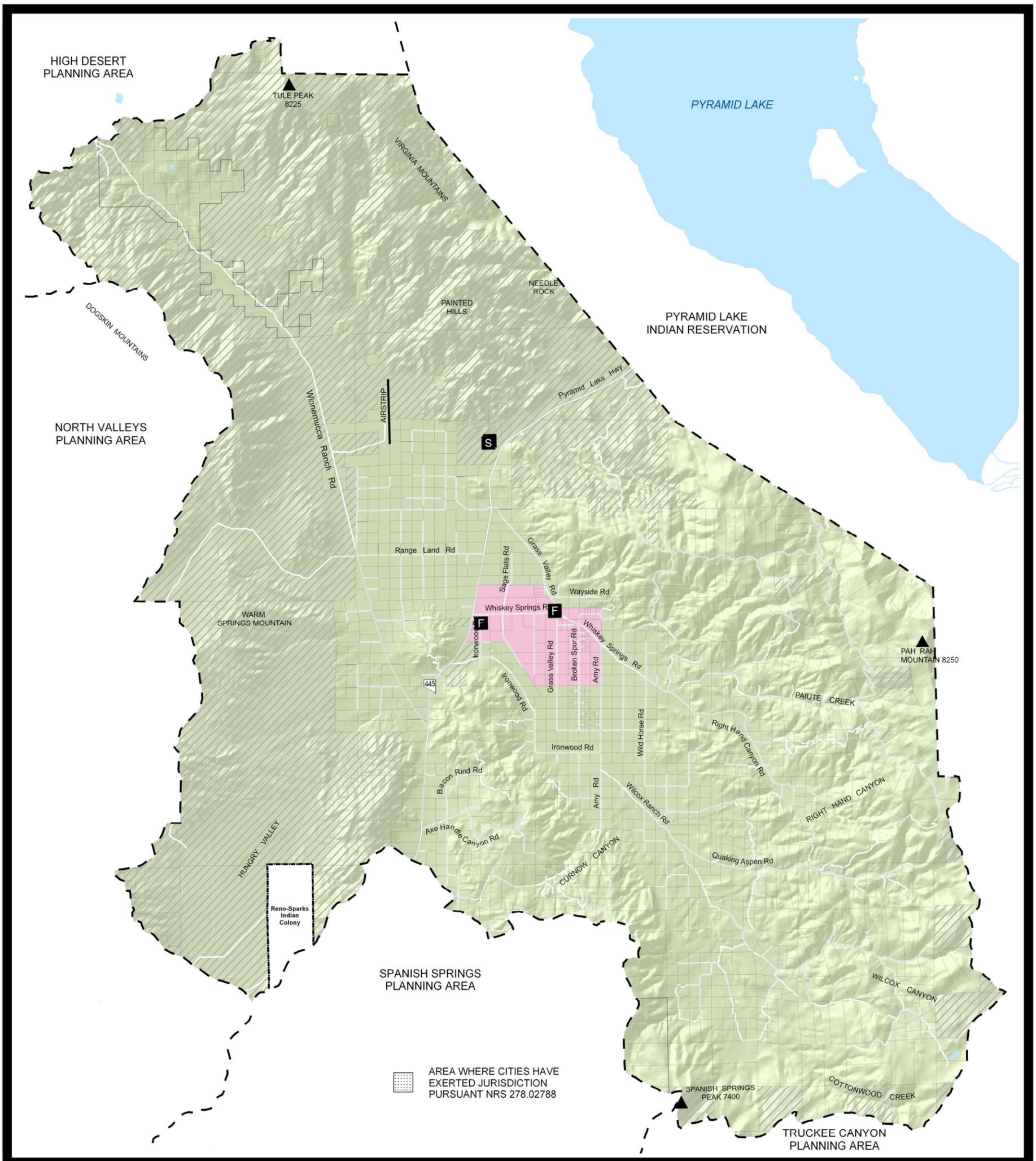
WS.6.2.1 The Washoe County Regional Parks and Open Space Department, together with the Washoe County Department of Community Development, shall work with property owners of the planning area to designate potential park sites. These park sites should be approved by the Washoe County Board of County Commissioners and added to the Area Plan.

**WS.6.3 Integrate the streets and highways system of the Warm Springs Specific Plan Area with a multi-use, non-motorized trail system.**

WS.6.3.1 The Washoe County Regional Parks and Open Space Department shall develop a multi-use, non-motorized trail system for the Warm Springs Specific Plan Area. This trail system should provide connectivity with roads which are constructed or improved in the planning area.

W.S. 6.3.2 Require dedication of non-motorized, public access trail easements as development occurs in the Warm Springs Specific Plan Area.

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## WARM SPRINGS PUBLIC SERVICES & FACILITIES PLAN

### PUBLIC SERVICES

- SUBURBAN COMMUNITY WATER AND SANITARY SEWER SERVICE AREA
- RURAL SERVICE AREA (NOT PLANNED FOR COMMUNITY WATER AND SANITARY SEWER)
- COMMUNITY WATER LINES
- COMMUNITY SANITARY SEWER LINES
- PUBLIC LAND

### PUBLIC FACILITIES (Existing)

- F FIRE STATION
- E SCHOOL (E-Elementary, M-Middle, H-High)
- G GOVERNMENT BUILDING (Libraries, Administration Buildings, etc.)
- C PARK (C-Community, R-Regional, N-Neighborhood, S-Special Use)

Please also refer to the adopted Park District Master Plans.

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**Department of  
Community Development**

**WASHOE COUNTY  
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HORIZON YEAR 2020

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# Conclusion

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The Warm Springs Area Plan is intended to serve as a guide for the Washoe County Board of County Commissioners, the Washoe County Planning Commission, and citizens on matters of growth and development within the Warm Springs planning area and maintaining the agricultural and rural character of the area. The Master Plan map, the Streets and Highways System Plan map, and the Public Services and Facilities Plan map, show the land use types and the location of facilities called for in the Area Plan. The various plan maps, together with policies and action programs contained in this plan and other parts of the County Master Plan, will be used in the preparation of the Capital Improvements Program and in the development review process.

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# Appendix A - Water Budget for the Warm Springs Area Plan

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Policy WS.3.10 has been included in the Area Plan update and details an approach for revising the current Warm Springs Water Budget (Appendix A of the Area Plan). The approach is to delay update of the water budget and maintain the “status-quo” of the existing water budget, with its historical data, while developing and analyzing additional data, over a three-year period, on the state of water level decline in the Warm Springs Hydrographic Basin. The information gained from this further study will assist in developing the final water resource management plan for Warm Springs Valley and any needed amendments to this Water Resources section of the Area Plan; changes to Appendix A; Article 226, Warm Springs Area, of the Washoe County Development Code; and changes to the water budget for the Specific Plan Area. An appropriate course of action will then be recommended to the community and the County Commission for their consideration.

## Introduction

The Warm Springs Valley Hydrologic Basin No. 84 is located approximately 20 miles northeast of Reno in Washoe County. The valley is bisected by State Highway 445 and encompasses approximately 247 square miles. Elevations range from 4,200 feet on the valley floor to approximately 8,700 feet in the adjacent Dogskin Mountains. The average annual precipitation in the basin is 9.76 inches (6). There are no perennial streams in the basin, but intermittent external drainage to Pyramid Lake does exist (5). The Nevada State Engineer has designated the Warm Springs Valley Basin as an area requiring additional water resource supervision. Various reconnaissance level studies have been conducted to estimate the potential amount of groundwater resources in the basin. These studies have all reached similar conclusions about the probable quantity of groundwater and all recommend further investigation to both quantify the resource and determine the safe yield for additional groundwater development.

The purpose of this report is to summarize the existing information on water resources in the Warm Springs Valley in order to establish a preliminary water budget for land use planning purposes. This report is not intended to resolve any of the questions raised in the previous studies or to be used as the basis to establish or eliminate any valid groundwater rights granted by the State of Nevada. No effort has been made to field verify any of the information contained in this report and computer modeling has not been employed as a method to establish the safe yield of the groundwater resources. This report, however, should be useful for preparing a reasonable range of land use development alternatives for the Warm Springs Area Plan based on accepted planning practices.

In general, an estimate of the available water resource and the current consumption patterns will be used to identify the total number of residential dwelling units and commercial or quasi-public uses that can be served from the available supply. The available water resources will be cross-referenced to the expected population increase that can be accommodated in the area based on the regional plan growth projections. Land areas can then be identified based on the maximum number of residential dwelling units and desired development densities. The total number of acres assigned to each land use category, with appropriate allowance factors, should provide an adequate base to develop the projected number of residential units within a 20-year planning horizon.

It is important to recognize that new techniques are being developed to improve in the prediction of safe groundwater yields. The estimates used in this report will probably be superseded with new information during the 20-year planning horizon, resulting in the need for refined land use allocations. This water budget, therefore, is a useful tool for generating an Area Plan for Warm Springs Valley, but it should not be considered as the final water budget for the basin.

## Water Budget

### Existing Water Use

Warm Springs Valley is rural area with predominant land uses consisting of potato, alfalfa and turf grass farms, and large lot single family residences. The Nevada State Engineer estimated that there are approximately 205 existing residences using private domestic wells in 1989, and a number of permitted and certificated wells for agricultural, stockwatering, recreation, quasi-municipal, and industrial uses in the basin. There are no public or private M&I water delivery systems currently serving the residences in the basin. The Washoe County Department of Community Development has identified 1,128 existing residential lots as of July 31, 1990, inclusive of the 205 dwellings, that are zoned for single family residential uses, which may be allowed to install a domestic well with a maximum capacity of 1,800 gallons per day (2.02 acre feet/year) based on the statutory exemption (NRS 534.180) for obtaining a certificated or permitted water right. In addition, 24 new parcels will be created with the approval of five divisions of large parcel maps submitted through September 4, 1990 to the Washoe County Department of Community Development. This would result in a total of 1,152 residential lots. The Nevada State Engineer Office estimated the following groundwater quantities being withdrawn from the basin in 1989 (1).

The domestic water usage is based on an estimated 205 occupied residences using approximately 1,000 gallons per day (1.12 acre feet/year). The demand value of 1.12 acre feet/year is similar to the value estimated for residences in the Lemmon Valley Basin (8).

Table A-1  
1989 Existing Groundwater Pumpage (Acre Feet/Year)

Existing Use	Quantity
Irrigation	4,905
Domestic usage	230
Stockwatering	10
Recreation	10
<b>Total</b>	<b>5,190</b>

Source: Nevada Department of Conservation and Natural Resources, Division of Water Resources and Water Planning

### Potential Water Usage

The existing pumping totals do not equal the certificated and permitted groundwater rights issued by the Nevada State Engineer. As of July 31, 1990, the State Engineer has approved the following groundwater rights in the Warm Springs Valley Basin.

Table A-2  
**Approved Warm Springs Groundwater Rights - 1990 (Acre Feet/Year)**

Use	Certificated	Permitted	Total
Irrigation	3,480	1,970	5,450
Stockwatering	76	30	106
Industrial	117	(1,089)	117
Domestic		2	2
Recreation	8	20	28
Quasi-municipal		198	198
<b>Total</b>	<b>3,681</b>	<b>2,220</b>	<b>5,901</b>

Note: Industrial use for permitted water is non-consumptive.

Source: Nevada Department of Conservation and Natural Resources, Division of Water Resources and Water Planning

The net total groundwater use approved by the State Engineer is 5,901 acre feet.

If residential structures are constructed on all of the existing parcels in the basin, with similar water pumping patterns (i.e. 1.12 acre feet/year), and the proposed Reno/Sparks Indian Colony is established, the probable groundwater pumpage would be as shown in Table A-3.

In addition to the in-basin potential water demand, various proposals have been made to develop aquifer recharge and groundwater pumping systems to supply municipal and industrial (M&I) for the Reno/Sparks area. To date, none of these proposals have been approved by the State Engineer's Office.

One example of a groundwater development scenario in the Warm Spring Valley Basin is presented in the Guyton Associates report to the Sierra Pacific Power Company (4). This report presents the following conceptual information:

Ground water can be developed in the valley by intercepting natural discharge and by withdrawing water from storage. To intercept natural discharge, which represents a perennial source of water, the water level in the aquifer has to be lowered in the area of natural discharge to reduce evaporation and transpiration.

Water developed from storage does not constitute a perennial supply, but represents a finite supply. It is believed that it should be planned that a majority of the water to be withdrawn from Warm Springs Valley in the future probably will come from storage in the unconsolidated sediments. If 3,500 acre feet per year are withdrawn from storage in the valley by Sierra Pacific Power company, and 60 percent of the 270,000 acre feet estimated to be in storage in part of the valley is recovered, then it would require about 45 years of pumping to deplete the supply. It is probable that some additional water of acceptable quality is stored in the valley and could be removed by properly spaced wells, thus increasing the finite supply on a onetime basis. Also, any water intercepted from natural discharge would provide a safety factor and lengthen the life of the water supply (Guyton, pp 48).

Table A-3  
**Potential Warm Springs Groundwater Pumpage - 1990**  
**(Acre Feet/Year)**

Current Potential Use	Quantity
Irrigation	5,450
Domestic usage	1,290
Stockwatering	105
Recreation	20
Industrial	117
Quasi-municipal	198
<b>Total</b>	<b>7,180</b>

Notes: Domestic usage is computed by multiplying 1,152 dwelling units by 1.12 acre feet/year. Quasi-municipal includes Reno/Sparks Indian Colony.

Source: Washoe County Department of Community Development

### Groundwater Supply

The Warm Springs Valley Basin is approximately 247 square miles with a principal alluvial area of 52,000 acres (81 square miles). Elevations range from 4,200 to 5,000 feet on the valley floor and 6,000 to 8,700 feet in the adjoining mountain range. Average annual precipitation for the basin is 9.76 inches and the growing season is approximately 140 days. The data, which are available for the basin, are shown in the table below.

The Guyton Associates report (4) does not dispute the basic values for runoff, recharge, evapotranspiration, etc. Instead, the Guyton Associates report focuses on the geology and hydraulic conditions of the groundwater basin in order to establish the amount of water held in long-term storage. The value of (270,000 + 100,000 =) 370,000 acre feet represents their best estimate stored water with low total dissolved solids and low nitrate concentrations that might be suitable for domestic and M&I purposes. Use of this resource would represent a "one-time" supply that would be depleted for an interim water supply until a long-term supply is developed.

Table A-4  
**Warm Springs Groundwater Characteristics**  
**(Acre Feet/Year)**

	USGS	Guyton
Surface-water runoff from mountains	14,000	No change
Direct evaporation	8,000	
Groundwater recharge from precipitation	6,000	No change
Groundwater discharge (evapotranspiration)	1,500	
Mullen Creek outflow	70	
Spring discharge	300	
Subsurface outflow	200	
Perennial yield (estimated)	3,000	No change
Transitional storage reserve:		
East of Highway 445	110,000	270,000
West of Highway 445		100,000
High nitrate		90,000

Sources: Sierra Pacific Power Company [NV Energy] and U.S. Geological Survey

## Safe Groundwater Yield

There are two basic approaches to groundwater usage and development based on the gross and net inflow values into a basin. One approach is to assume that only the perennial yield from infiltration is available on a long term basis as a secure water supply. This approach is fairly conservative and places a high value on maintaining the existing water balance and environmental features of the basin. In the case of Warm Springs Valley, this approach can be divided into three variations:

1. Use the USGS published perennial yield estimate of 3,000 acre feet (4)(5)(6) which is recognized by the Division of Water Resources, or
2. Use the USGS identified outflow of approximately 2,000 acre feet (1,500 + 200 + 300 + 70) since these values represent the "true" perennial yield if, by definition, basin inflow should equal basin outflow.
3. Add in the average difference between the 6,000 acre feet of recharge and the USGS estimated outflow of 2,000 acre feet, resulting in a "planning groundwater yield" of  $(6,000 - 2,000)/2 + 2,000 = 4,000$  acre feet. This value can be partially supported by the calculations contained in the Sharp, Krater, Engstrom & Associates report (7) which listed basin evapotranspiration at 3,079 to 3,591 acre feet/year, estimated outflow at 120 acre feet/year, and perennial yield at 3,199 to 3,711 acre feet/year. Additional field research would be necessary to resolve the differences for the perennial yield of the basin.

The second approach to groundwater development is to assume that a portion of the transitional storage reserve is available for use. This approach places a higher value on "development" of a water supply so that "non-beneficial" use of the water does not occur, but it is considered to be "mining" of the resource. Proper design and placement of wells in the basin can minimize environmental change in the basin for a short period of time, but some negative impacts will eventually occur due to lower water tables and lower evapotranspiration rates. Severe impacts such as land subsidence and major vegetation changes can occur if rapid withdrawal of the water resource occurs. A basic problem with relying on transitional storage is establishing the withdrawal rate (i.e. 50 years, 100 years, 300 years, etc.) and the rate of transmissivity for groundwater to reach the well during pumping activities. The use of water held in long-term storage is not supported by any current policies in the Washoe County Comprehensive Regional Plan, or by Nevada Water Law. The reference in the Nevada Revised Statutes to a method of determining groundwater withdrawal and depletion rates is found in Section 534.110 (6) which states:

**534.110 Rules and regulations of state engineer; statements and pumping tests; conditions of appropriation, restrictions.**

6. The state engineer shall conduct investigations in any basin or portion thereof where it appears that the average annual replenishment to the groundwater supply may not be adequate for the needs of all permittees and all vested-right claimants, and if his findings so indicate the state engineer may order that withdrawals be restricted to conform to priority rights.

The relevant policy (of the Washoe County Master Plan) is found in the Water Management section of the Public Services and Facilities Element. This policy states:

**PSF.1.9 Prohibit long-term groundwater mining as a method of water management. Short-term groundwater mining is an unavoidable and acceptable aspect of all groundwater development schemes.**

In a 1972 ruling by the Nevada State Engineer to establish a water budget for Smith Valley, the following groundwater development guidelines were established:

During a multi-year period, most natural hydrologic systems approach dynamic equilibrium; that is inflow equals outflow.

This means that although no single year will have a perfect balance, over the long term the inflow and outflow will approximately balance. If a large change is made in any of the flow elements, considerable time, perhaps as long as several decades, would be

needed to again balance the system. If the system is out of balance, the amount of groundwater in storage would be changing and the equation would be:

$$\text{Inflow} = \text{outflow} \pm \text{storage change.}$$

The yield of the hydrologic system is the maximum amount of water that could be consumed each year in the valley without continually removing groundwater from storage or reducing outflow to downstream users.

Natural discharge could be captured to a limited extent. In the groundwater budget, the elements of natural discharge that remain to be captured are phreatophyte transpiration and bare soil evaporation. Most of the phreatophyte and playa (bare soil) discharge might be captured by lowering the water level from the shallow native equilibrium level to a new equilibrium level having a minimum depth to water of about 50 feet below land surface--the depth considered necessary to kill the deep-rooted phreatophytes.

In reducing phreatophyte and shallow groundwater discharge, a large volume of water would have to be removed from the groundwater system in order to lower water levels at least 50 feet below land surface. This volume of water is called the transitional storage reserve.

Transitional storage reserve has been defined as the quantity of water in storage in the groundwater reservoir that can be extracted and beneficially used during the transition period between native equilibrium conditions and new equilibrium conditions under perennial yield water development. In the arid environment of the Great Basin, the transitional storage reserve of such a reservoir is the amount of stored groundwater available for withdrawal by pumping during the non-equilibrium period of development--the period of lowering water levels. Therefore, transitional storage reserve is a specific part of the total groundwater resource that can be taken from storage; it is water that is available in addition to the perennial yield supply, but on a once-only basis.

No groundwater source can be developed without causing storage depletion. The magnitude of depletion varies directly with distance of development from any recharge and discharge boundaries in the groundwater system.

To compute the transitional storage reserve of the groundwater basin, several assumptions are made:

1. Wells would be strategically situated in and around areas of natural discharge in the main alluvial area of the basin, so that natural losses could be reduced or stopped with a minimum of water level drawdown in pumped wells;
2. An average water level about 50 feet below land surface would curtail virtually all evapotranspiration losses;
3. Over the long term, pumping would cause a moderately uniform depletion of storage throughout most of the valley fill;
4. Specific yield of the valley fill [can be identified];
5. Water levels are within the range of economic pumping lift for the intended use;
6. Development would have little or no effect on water in adjacent parts of the valley; and
7. Water is of suitable chemical quality for the intended use.

At the end of the estimated time, the transitional storage reserve would be exhausted, subject to the assumptions given. In the first year, virtually all the pumpage would be derived from storage, and very little, if any, would be derived by salvage of natural discharge. In contrast, during the last year of the period, nearly all the pumpage would be derived from salvage of natural discharge, and virtually none from the storage reserve (Nevada State Engineer, Smith Valley Water Budget, 1972, pp 69-75).

The State Engineer has applied these principles for all subsequent groundwater basin water budgets in order to identify the safe yield for municipal and industrial (M&I) and domestic water commitments.

Based on the information presented in the various water resource reports prepared for Warm Springs Valley, and the amount of additional research necessary to accurately quantify the planning yield of the aquifers in the basin, the Washoe County Department of Community Development is recommending that 4,000 acre feet/year be selected for land use allocation purposes. This value is a compromise between the need to accommodate long-range planned development through full use of the groundwater resources and the need to ensure a safe and adequate water for existing approved domestic use. This value is approximately 1,000 acre feet above the quantity recognized by the Nevada State Engineer. Using the higher value will require a commitment by the County to continually monitor groundwater levels in the basin and modify the water budget as additional studies are conducted.

## **Development Capacity**

The estimated "planning yield" of 4,000 acre feet of available groundwater to can be converted into "development capacity" values to accommodate existing and future land uses in the Warm Spring Valley basin. Utilizing the potential use values presented in Table A-5, the groundwater reserves that would be available for future development are shown in Table A-6.

The future potential use assumes that stockwatering and current agricultural irrigation would be the source of "conversion" water for new development in the Warm Springs Basin. There is also an assumption that the existing certificated and permitted groundwater rights for industrial, recreation and quasi-municipal and industrial uses will be fully utilized during the 20-year planning horizon. The net difference of 2,365 acre feet/year represents the ability to irrigate approximately 591 acres at an application rate (duty) of 4.0 acre feet/acre. If the 2,420 acre feet is converted entirely to domestic and M&I uses, the commercial, quasi-municipal and residential uses that could be accommodated are shown in Table A-6.

The potential number of residential dwelling units is based on the 1.12 acre feet/dwelling unit conversion value. The total number of residential units in Warm Springs Valley would be the total of the existing parcels plus the new units, or  $(1,152 + 1,945 =) 3,097$  residential units. This number of units will be used to prepare the Area Plan for Warm Springs Valley. The water allocated for commercial uses would accommodate restaurants, markets, service providers (i.e. medical & dental), small retail and package goods outlets, etc., plus all outside landscaping for the commercial uses. The water allocated for quasi-M&I uses would accommodate parks and playgrounds, fire suppression needs, churches, etc. Golf courses, equestrian centers and other recreational uses will be included within the commercial or quasi M&I category depending upon the type of application submitted to the State Engineer's Office. The percentages allocated to commercial and quasi M&I uses are low since there is already a significant amount of groundwater certificated and permitted to quasi M&I uses. The water demand allocations between commercial and quasi-M&I are intended to be flexible to accommodate the desired land uses in the Warm Springs Area Plan. For planning purposes, it is not advisable to convert the commercial and quasi-M&I allocation to residential uses since some community facilities will eventually be developed in the area.

Table A-5  
**Future Warm Springs Groundwater Pumpage  
(Acre Feet/Year)**

Future Potential Development Use	Quantity (Acre Feet/Year)
Yield	4,000
Domestic usage	1,292
Industrial	117
Recreation	28
Quasi-municipal	198
Subtotal	1,635
Net difference	2,365

Notes: Domestic usage is computed by multiplying 1,152 dwelling units by 1.12 acre feet/year plus 2 as previously approved by the State Engineer. Quasi-municipal includes Reno/Sparks Indian Colony.

Source: Washoe County Department of Community Development

Table A-6  
**Warm Springs Groundwater Development Potential**

New Development Potential	Water Demand (Acre Feet/Year)	New Dwelling Units
Available/uncommitted	2,365	
Commercial	40	
Community Facilities	35	
Community Park/Open Space	112	
Residential	2,178	1,945

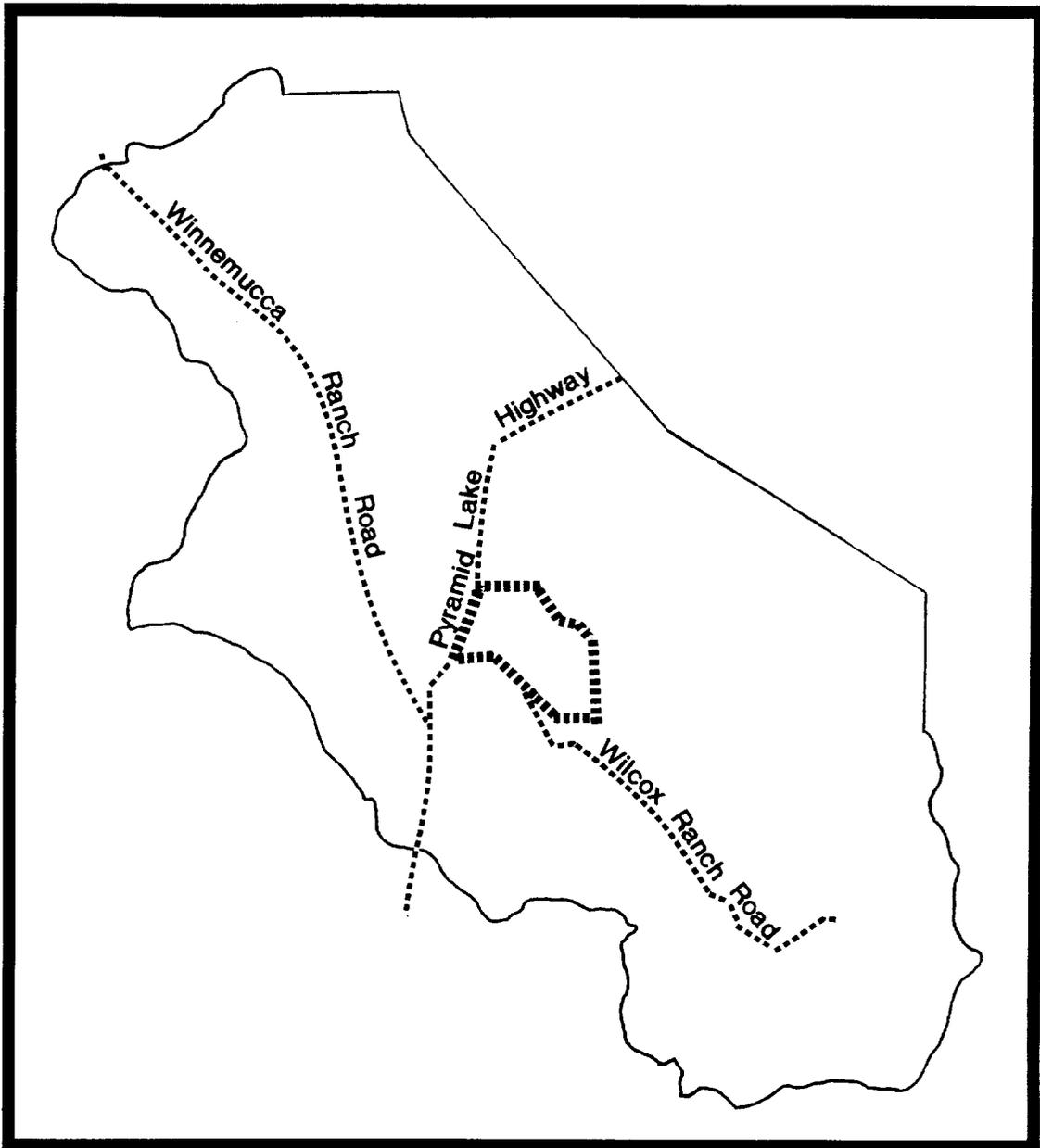
Notes: Community Facilities include an Elementary School with a Playground plus one County Service Center. Agricultural groundwater rights (260 AFY) will be used initially for open space irrigation; when converted to Quasi-M&I for permanent open space irrigation, then the discount value of 43% established by the water budget will apply (112 AFY).

Source: Washoe County Department of Community Development

### **Potential Land Use Allocation Based on Warm Springs Valley Water Budget**

Various planning concepts for land use allocations and appropriate residential densities have been discussed with the residents and property owners in Warm Spring Valley. An independent planning questionnaire was distributed by the Palomino Valley Homeowners Association to identify the type of development that was desired for the area. While the results of the survey require separate evaluation and interpretation, a predominate theme of the responses indicate two general desires for the valley. These include: (1) allow for continued use and parceling to 40 acre minimum lots throughout the valley; and (2) plan for a limited commercial area at a central location in the valley to be surrounded with rural parcels (2.5 acres and 5.0 acres) which would transition to larger parcels. This central area is designated as a "Specific Plan Area" (SPA) to ensure development standards are adopted to control ultimate land uses. The map on the following page shows the boundaries of the Warm Springs Area Plan and the proposed boundary of the SPA.

Map A-1  
 Warm Springs Area Plan Specific Plan Boundary



**WARM SPRINGS PLANNING AREA**

- PLANNING AREA BOUNDARY LINES
- PROPOSED SPECIFIC PLAN AREA BOUNDARY LINE

SOURCE: WASHOE COUNTY DEPARTMENT OF COMPREHENSIVE PLANNING.

NOTE: THE SCALE AND CONFIGURATION OF ALL INFORMATION SHOWN HEREON ARE APPROXIMATE ONLY AND ARE NOT INTENDED AS A GUIDE FOR DESIGN OR SURVEY WORK. REPRODUCTION IS NOT PERMITTED WITHOUT WRITTEN PERMISSION FROM THE WASHOE COUNTY DEPARTMENT OF COMPREHENSIVE PLANNING.

NOT TO SCALE



**WASHOE COUNTY  
 DEPARTMENT OF  
 COMPREHENSIVE  
 PLANNING**

POST OFFICE BOX 11130  
 RENO, NEVADA 89520  
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The following values are relevant for developing the Warm Spring Area Plan:

Total private ownership acreage equals 95,503 acres.

Potential Specific Plan acreage equals 3,876 acres.

Potential 40 acre parcel "general rural" (GR) acreage (less SPA) equals 91,627 acres.

Maximum number of residential units based on planning perennial yield equals 3,059 dwellings.

Using these, the following land use intensities can be proposed for the Area Plan:

1. Potential number of total GR - 40 acre parcels (excludes "Specific Plan" and BLM lands):

91,627	acres (privately owned) "GR" designated in draft Warm Springs Area Plan
x 70	percent (30% of the total area for roads, slopes, parcels that cannot divide to 40 acres, etc.)
<hr/>	
64,139	acres

64,139 ac/40 ac/lot = 1,604 possible GR - 40 ac lots (privately owned)

2. Potential number of new GR - 40 ac parcels:

- a. Existing parcels in the SPA area = 78 lots.

- b. Existing GR parcels (as of September 4, 1990) that can be split into 40 acre parcels = 1,152 - 78 = 1,074 lots

- c. New potential GR parcels = 1,604 - 1,074 = 530 parcels.

3. Potential number of SPA residential dwellings:

3,097	Equivalent dwelling units
- 1,074	Existing GR parcels
- 530	Potential GR parcels
<hr/>	
1,493	Maximum new SPA residential dwelling units
+ 78	existing SPA parcels
<hr/>	
1,571	Maximum SPA equivalent dwelling units

For planning purposes, it is appropriate to anticipate up to 1,571 residential units on individual domestic wells for "targeted" 20-year development potential in the Specific Plan Area for the Warm Springs Area Plan. This would represent a gross development density of one (1) residential lot on individual domestic well per 2.5 acres in the proposed 3,777 acres of residential use in the Specific Plan.

## Water Rights

In order to develop the additional residential, commercial and Quasi-M&I land uses in the basin, some conversion of agricultural and stockwatering use would have to occur. The Nevada State Engineer reported 1,284 acres being irrigated during September 1989, with a total irrigation pumpage of 4,905 acre feet (1). This irrigation usage represents an average application rate (duty) of 3.82 acre feet per acre. The State Engineer currently assigns a duty of 3.5 acre feet/acre for potatoes grown in the basin, and 4.0 acre feet/acre for alfalfa and grass crops grown in the basin. As previously described in this report, the State Engineer has certificated a total of 3,681 acre feet of groundwater rights for all uses in the Warm Springs Valley Basin and permitted an additional 2,220 acre feet of rights. The net total consumptive groundwater use approved by the State Engineer is 5,901 acre feet. Of this total, 5,556 acre feet are certificated and permitted irrigation and stockwatering water rights. Historically, the Nevada State Engineer has issued permits for irrigation and stockwatering uses in excess of safe perennial yield values where as uses requiring a secure water supply (i.e. domestic, quasi-municipal or municipal-industrial) have been limited to the available perennial yield. Water allocations for recreation and industrial uses typically require a secure groundwater supply unless specifically identified as an intermittent use. The State Engineer has required that totalizing meters be installed on certificated and permitted groundwater pumps to verify the actual demand and pumping pattern for each type of use.

Assuming that the State Engineer grants certificates to all the permitted irrigation and stockwatering groundwater rights, and Washoe County limits commercial, residential, and Quasi-M&I development in the basin based on the remaining uncommitted planning groundwater yield of  $(4,000 - 1,635) = 2,365$  acre feet, then a pro-rata value for groundwater rights would occur. Using a simple ratio for planning yield versus irrigation and stockwatering permitted and certificated rights, the following values would be generated:

$$\frac{2,365 \text{ AF}}{5,556 \text{ AF}} = 0.43 = \text{approx. } 43 \%$$

This calculation establishes that the acre foot "face value" of irrigation and stockwatering permitted and certificated groundwater rights in the basin can be discounted at approximately 43 percent of "face value" when purchased and converted for developed land uses. Three examples are relevant to demonstrate the water right dedication requirement:

1. If a 160 acre parcel is subdivided by a parcel map to create four new parcels, the applicant would have to dedicate  $(1.12 \text{ acre feet}/0.43 \text{ and rounded down})$  2.5 acre feet for each new parcel created using individual domestic wells, resulting in a total water right dedication of  $(2.5 \text{ acre feet}/\text{lot} \times 3 \text{ lots})$  7.5 acre feet of irrigation and stockwatering groundwater rights.
2. If a dentist's office is proposed within a commercial center in the SPA, and the fixture count results in a water demand of 2.5 acre feet, the applicant would have to provide  $(2.5 \text{ acre feet}/0.43)$  5.81 acre feet of irrigation and stockwatering groundwater rights.
3. If either of the two projects described above can dedicate certificated or permitted groundwater rights issued prior to July 31, 1990 by the Nevada State Engineer for industrial, domestic, recreation, quasi-municipal or municipal-industrial (M&I) uses then the water right dedication would be equal to the water right demand. Residential developments that rely on a community water system would be required to dedicate 1.12 acre feet for every dwelling unit constructed. Parcels with individual wells are required to dedicate 2.02 acre feet of existing certificated or permitted, non-irrigation or stockwatering rights based on NRS 534.180.

For any development requests in the Warm Springs Area Plan, Washoe County will accept offers of dedication for water rights consistent with County Ordinance 586, or any subsequent ordinance or policy adopted by the County.

## Alternatives

There are various alternatives that can be considered to modify the calculations and alter the assumptions presented in this report. Below is a partial listing of some alternatives and the reasons why the Washoe County Department of Community Development has not pursued these options.

1. The domestic water consumption value could reflect the statutory right to pump up to 1,800 gallons per day (2.02 acre feet/year) rather than the 1,000 gallons per day (1.12 acre feet/year) average used in the demand calculations for parcels using individual domestic wells. This alternative would result in a more conservative allocation of available water to serve new development, but it does not reflect the true usage pattern. Pump power costs and maintenance requirements, along with an increasing conservation ethic have helped to limit water usage. Furthermore, water use is seasonal, with lower values occurring in the winter months when outside watering is unnecessary. Typical indoor water demand values are reported to be approximately 325 gallons per day per residence (5). Outside water demand is dependent upon amount of area in ornamental landscaping, frequency of water application, and application efficiency rates.
2. The domestic water consumption value could reflect a "mandatory" water conservation program that required only "Xeriscape" landscaping and ultra-low water demand fixtures so that average annual residential water demand approached 500 gallons per day per residence (0.56 acre feet/year). This alternative would result in a more liberal allocation of available water to serve new development, but it does not reflect the current usage pattern. This alternative may be feasible to implement in future updates to the Area Plan, but it must be demonstrated that property owners are willing to

accept and implement these measures. Otherwise, a regulatory program could be created that is not fully implemented or eventually ignored by property owner, eventually resulting in an over-allocation of the available water resources. Certainly, the Area Plans and Elements comprising the County Master Plan should provide visionary leadership in the best methods to conserve natural resources, but land use allocations must also represent a practical recognition of what can be accomplished within the 20 horizon of the plan.

3. In contrast to the use of perennial yield values, current water right holders and pump users may argue that current pumping rates (5,190 acre feet in 1989) have not adversely affected groundwater levels (1). Since the USGS estimates for primary recharge (6,000 acre feet), perennial yield (3,000 acre feet), and evapotranspiration (1,500 acre feet) are all "calculated" versus "observed" values, an alternative could be structured around the current pumping quantities. There are, however, several potential problems with using the current pumping quantities as a basis for future land use allocations. A primary concern is that the current pumping rates have not been sustained for a long period of time. The U.S. Geological Survey estimated groundwater pumpage at 400 acre feet in 1966 for the basin (4). Guyton Associates estimated total pumping values ranging between 800 acre feet and 3,200 acre feet in the 1967 to 1978 period. Groundwater pumpage east of Highway 445 was estimated to be 3,700 acre feet in 1985 and 4,400 acre feet in 1986. Groundwater pumpage west of Highway 445 has not exceeded 400 acre feet (2). These withdrawal rates do not represent a long-term pattern that would significantly alter the groundwater elevations throughout the basin. Guyton Associates do report groundwater levels declining between 40 feet to 65 feet in the principal irrigation area.

An additional concern for using current pumping quantities for determining available water resources for land use allocations is the lack of precise groundwater level information throughout the basin. The Guyton Associates report highlights the problem by stating:

The static water-level measurements were made at such infrequent intervals that it is not possible to tell whether the water level declined and stabilized each time pumpage increased or whether the static water level has continued to decline through the years irrespective of the amount of pumpage. If the static water level is declining but then stabilizing after each pumpage increase, this would indicate that natural discharge is being intercepted (Guyton Associates, pp 40).

Without more precise groundwater level data, it is not possible to state whether or not the current pumping quantities are mining the resources.

Finally, most of the current usage of groundwater in the basin is dedicated to agricultural irrigation. Agricultural crops can tolerate application of water with lower quality than water supply committed for M&I and domestic uses. Guyton Associates reports water quality data that suggests isolated water quality problems may exist for dissolved solids, arsenic, fluoride, nitrate, sulfate, iron and other trace metals. Without further testing and appropriate wellfield design, it may not be possible to sustain the current pumping rates while providing water suitable for human consumption.

## References

1. Division of Water Resources and Water Planning, 1990, Warm Springs Valley Groundwater Pumpage, 1989, Nevada Department of Conservation and Natural Resources, Carson City, NV.
2. Division of Water Resources, 1973, A Brief Water Resources Appraisal of the Truckee River Basin, Western Nevada, Water Resources Reconnaissance Series Report 57, Nevada department of Conservation and Natural Resources, Carson City, NV.
3. Division of Water Resources and Water Planning, 1972, "Smith Valley Water Budget, 1972 (excerpts)", Nevada Department of Conservation and Natural Resources, Carson City, NV.
4. Guyton, William F. and Associates, Inc., 1987, Study of Ground-Water availability in Warm Springs Valley, Washoe County, Nevada, prepared for Sierra Pacific Power Company, Reno, NV.

5. Regional Water Resources Planning Committee, March 9, 1990, Draft Water Resources Plan for the Planning Area of the Regional Water Planning and Advisory Board of Washoe County, RWPABWC, Reno, NV.
6. Rush, F. E. & P. A. Glancy, 1967, Water-Resources Appraisal of the Warm Springs - Lemmon Valley Area, Washoe County, Nevada, Water Resources Reconnaissance Series Report 43, prepared for U.S. Geological Survey, Carson City, NV.
7. Sharp, Krater, Engstrom & Associates, 1973, A Water Resources Analysis for Palomino Valley.
8. Washoe County Department of Community Development, 1989, Recharge Estimate and Model of the Lemmon Valley Hydrographic Basin, North of Reno, Nevada, WCDCD, Reno, NV.

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# Attachment A

BOB MILLER  
Governor

STATE OF NEVADA

PETER G. MORROS  
Director

R. MICHAEL TURNIPSEED, P.E.  
State Engineer



**DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES**  
**DIVISION OF WATER RESOURCES**

Capitol Complex  
123 W. Nye Lane  
Carson City, Nevada 89710  
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August 30, 1990

W. Dean Deiderich, AICP  
Washoe County  
Department of Comprehensive Planning  
P. O. Box 11130  
Reno, Nevada 89520

Dear Mr. Deiderich:

The Division of Water Resources has reviewed the "Proposed Water Budget for the Warm Springs Valley Area Plan". The following are comments of the Division of Water Resources on the plan.

The table on page 3 showing amount of water by use and whether it is certificated or permitted has been redone by this office. You should be aware that of the permitted irrigation amount of 1970 acre feet, most have been previously certificated. This permitted right figure represents changes of those certificated rights. The total amount of appropriated rights are as follows: irrigation; certificated 3,480 acre-feet annually and permitted 1,970 acre-feet annually; stockwatering; certificated 76 acre-feet annually, permitted 30 acre-feet annually; industrial certificated 117 acre-feet annually, permitted 1,089 acre-feet annually; domestic permitted 2 acre-feet annually; recreation certificated 8 acre-feet annually, permitted 20 acre-feet annually; and quasi-municipal permitted 198 acre-feet annually. The total of all appropriated rights is: Certificated 3,681 acre-feet annually and permitted 3,309 acre-feet annually.

The amount shown under permitted industrial use is for a consumptive use of 1089 acre feet annually from two separate wells. This amount was for incidental losses for this project of up to the 1089 acre feet during the withdrawal and subsequent reinjection of geothermal water withdrawn.

The perennial yield should be that amount identified in "Water Resources Appraisal of the Warm Springs - Lemmon Valley Area, Washoe County, Nevada," Water Resources Reconnaissance Series Report No. 43, by F. Eugene Rush and Patrick A. Glancy, that

being 3000 acre feet annually. This figure has been published as the perennial yield of Warm Springs Valley in the Division of Water Resources and Water Planning "Hydrographic Basin Statistical Summary." If the County wishes to use the 3,930 acre feet as perennial yield additional hydrologic studies would need to be made to verify that amount.

It must be noted that under NRS 534.180 a domestic well has the right to use up to 1800 gallons per day. That number expands to 2.02 acre-feet annually. While in some instances the withdrawal and consumptive use from a domestic well may be less than 1,800 gallons per day, the State Engineer is not able to endorse a less figure.

The remaining portion of the plan is strictly a function of the local governing body. The State Engineer must work within the framework of the Nevada Revised Statutes as it relates to water resource issues and take action at the appropriate time when a decision is necessary to render.

The decisions would be made in the following instances, applications to appropriate; applications to change an existing right; applications for extensions of time for filing certain proofs; cancellations of a permit for failure to file certain proofs; cancellations of a permit for failure to show due diligence in placing the water to use; denying an application to change or application to appropriate for failing to meet one of the statutory criteria as established in NRS 533; determination of forfeiture on a groundwater right; and various orders pertaining to water resource matters in Warm Springs Valley. Therefore, the amount stated above for the certificated and permitted water rights will change based on the various actions by the State Engineer.

The Division of Water Resources will continue to take water level measurements in the area and will most likely expand the well monitoring network in the future. Also the Division of Water Resources will continue to take the water use inventory in the area.

The Division of Water Resources commends the County Planning staff for the work involved in the preparation of this budget. With Washoe County and the Division of Water Resources working together, the Warm Springs Valley will have a safe and manageable water source for the future.

Sincerely,



HUGH RICCI, P.E., Chief  
Groundwater Section

HR:vjw