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Section 5 - Cold Springs TMSA

5.1 STUDY AREA DESCRIPTION AND DEVELOPMENT CONSTRAINTS

The Cold Springs TMSA is shown on Figure 5-1 (see figures at end of section) and includes areas within the jurisdiction of both the City of Reno and Washoe County. The Cold Springs hydrobasin covers this area. Surface runoff within the basin drains to the White Lake playa. As mentioned in Section 1, the land use basis for facility planning was Traffic Analysis Zone (TAZ) data provided by both the City of Reno and Washoe County, with supplemental information derived from the City's Master Plan and Washoe County planned land uses. These data were modified with more detailed information provided by developer's representatives. TAZ identifications where more current information was incorporated are listed in Table 5.1 and shown in Figure 5-A1 (Appendix A).

Table 5.1 - TAZ Data Modification

TAZ	Modification
400	Modified dwelling units using Wallach IX planning data
412	Modified dwelling units and industrial acreage using Wallach IX planning data
809	Modified dwelling units and industrial acreage using Wallach IX planning data
810	Modified dwelling units and industrial acreage using Wallach IX planning data
850	Modified dwelling units using Wallach IX planning data

Areas that are limited or constrained for future development include White Lake playa, floodplains, and areas with slopes greater than thirty percent. These areas are shown on Figure 5-2.

5.2 CONCLUSIONS AND SUMMARY RECOMMENDATIONS

Insufficient water resources exist to serve the projected 2030 demands in Cold Springs when potential demands for Stead and Lemmon Valley area are taken into consideration. The projected increase in demand is approximately 18,580 AF, compared to the potentially available water resources of 11,909 AF. The demand for potable water supplies for these areas will significantly exceed the available supplies, including water from the Fish Springs and Intermountain projects.

Expanded use of reclaimed water, such as front and back yard residential landscape watering, should be implemented where reasonable to extend available water supplies and help fulfill the development potential within the Reno and County TMSA. Potentially 3,336 AF of residential irrigation demand in the Cold Springs area may be served by reclaimed water.

The proposed water facilities were not integrated with the existing Utilities Inc. water system. Potential infrastructure savings could be realized with a conjunctive use operation of the two water systems.

The 2030 total projected water reclamation facility capacity for the Cold Springs TMSA is approximately 4.5 MGD, including potential septic tank conversion flows. Regional water supply, water reclamation and wastewater disposal should be a coordinated effort for the Cold Springs, Stead and Lemmon Valley TMSA.

A summary of the estimated water and wastewater costs for the proposed infrastructure is listed in Table 5.2.

Table 5.2 - Infrastructure Costs (a)

Facility Description	Total Cost (\$M)
Water	\$98.1
Wastewater	\$102.7

(a) 20 Cities ENRCCI = 7,942 May 2007

5.3 DESCRIPTION OF SERVICE PROVIDERS

The water and wastewater service providers are described in the following sections.

5.3.1 Water

Utilities Inc. provides water service to existing customers within Cold Springs. Existing development in this area is also served by domestic wells. Figure 5-3 depicts the water purveyor service areas, Reno City limits, and locations of existing domestic wells.

5.3.2 Wastewater

Washoe County, through the Cold Springs Water Reclamation Facility (WRF) provides wastewater collection, treatment and disposal for the County's Cold Springs TMSA. COLD SPRINGS WRF is also anticipated to provide service to a significant portion of the City's TMSA, including the north and southwest portions of the TMSA. Some existing development within the County's TMSA is provided wastewater service with individual septic systems. Figure 5-4 depicts the location of the water reclamation facility, the areas anticipated to be served, and the locations of existing septic tanks.

5.4 STATUS OF INFRASTRUCTURE PLANNING

The Cold Springs TMSA is poised for development with the implementation of new water supply projects to the Stead area. Development within the area beyond existing commitment levels has been limited due to a lack of additional water supplies. However, Vidler Water Company is constructing the Fish Springs Water Supply Project and the Intermountain Water Supply project is also under development. Although this water will be supplied initially to the

Stead and Lemmon Valley area, with appropriate permitting approvals, this water could be made available to development in Cold Springs with additional transmission facility improvements.

Currently, Washoe County’s Cold Springs Water Reclamation Facility is designed to be expanded to a capacity of 1.2 MGD. With the recent addition of new areas to the City of Reno’s TMSA within Cold Springs, additional water reclamation facility and disposal capacity will be necessary. Because the Cold Springs area is a closed basin, disposal of the projected future quantities of treated wastewater will be a challenge. Presently, wastewater is disposed of through rapid infiltration basins. The potential disposal capacity of these basins is limited, and is not anticipated to be sufficient to meet the projected wastewater flows. As the need for additional wastewater disposal capacity increases, plans are under consideration to start reclaiming water for proposed landscape irrigation within new developments. Implementation of other disposal options such as discharge to White Lake or export to other basins such as Long Valley Creek is also under investigation. These other disposal options are necessary to manage the overall water resources of the area, taking into consideration water supply, wastewater treatment and disposal, and flood control.

Stormwater management and flood control are also very important considerations for the Cold Springs TMSA. Geographically, the areas lie within a closed basin, so precipitation and runoff stays within the basin. Presently, stormwater runoff is routed to White Lake. Since there is very little percolation from the playa lake, the water persists for several months or seasons until it evaporates. The lake has an established FEMA 100-year flood elevation. Stormwater management and flood control are discussed in Section 14.

The most recent facility plans for water and wastewater are listed in Table 5.3.

Table 5.3 - Recent Facility Plans

Plan Name	Date	Description
Water		
North Valley Water Supply Comparison Reference: ECO:LOGIC	Oct. 2002	Detailed analysis of water supply alternatives that will support the build-out land uses in the Stead, Lemmon Valley, and Cold Springs regions of Washoe County.
Fish Springs Ranch Facility Plan Reference: ECO:LOGIC	Sept. 2005	Construction of the Fish Springs Water Supply Project to meet future water demands for the Stead, Silver Lake and Lemmon Valley area (North Valleys) within the Truckee Meadows Services Area. The project consists of a new electrical substation off of the Alturas Transmission Line, groundwater production wells, a pump station, a transmission pipeline and terminal water storage tank to convey water from Fish Springs Ranch to the North Valleys. The facilities will be sized to supply 8,000 AF of water per year (AFA).
Utilities Inc. Water Master Plan Update	April 2004	This master plan addresses the Cold Springs water facilities operated by Utilities Inc.

Wastewater		
North Valley Effluent Disposal Options Reference: ECO:LOGIC	Sept. 2005	Evaluation of effluent disposal strategies in the North Valleys.
Cold Springs Wastewater Facility Plan Reference: Kennedy Jenks	2002	This facility plan addresses the required reclamation facility expansion and wastewater collection and septic tank conversion alternatives.
Preliminary Design Report Cold Springs Water Reclamation Facility Expansion Reference: Kennedy Jenks	October 2003	This preliminary design report addresses the design for the expansion of Washoe County's Cold Springs Water Reclamation Facility.
Draft Washoe County 208 Water Quality Plan Version 3 Reference: Truckee Meadows Regional Planning Agency	January 2007	Per section 208 of the Clean Water Act this report provides the planning and management of all sources of water pollution and defines the parameters for area-wide wastewater management plans.

5.5 WATER

The projected water demands and required infrastructure are developed in this section.

5.5.1 Assumptions, Planning Criteria, and Methodology

Water demand factors used to generate demand are based on TMWA design standards for both the Reno and County TMSA. The TMWA Rule 7 demand factors are relevant because new development is assumed to dedicate water resources in accordance with TMWA water rights dedication policies. It should be noted that the water rights dedication policy within the Utilities Inc. service area is different than the TMWA policy.

In the case of non-residential development, the demand factor used represents an average number for planning purposes only. When TMWA or Washoe County receives a request for water service on a non-residential property, the actual water rights dedication requirement would be based on a project-specific analysis of the number of fixture units and the specific landscaping plan. This level of detail is not available for this analysis.

5.5.2 Existing and Future Water Demand

Existing water demands for Reno and the County are listed in Table 5.4, and are based on data provided by Utilities Inc. The demand estimates are approximate and are representative of typical demands that could be expected without the influence of seasonally cool/wet or hot/dry periods that tend to skew the historical record.

Table 5.4 - Existing Water Demands

	Estimated Demand (AFA) (a)
Reno	0
Washoe County	1,417

(a) Data provided from Utilities Inc.

Based on the TAZ analysis, projected water demands for Reno and the County are listed in Table 5.5 and Table 5.6 respectively. The irrigation demand component is projected assuming that 6,000 gallons per month of water is consumed within a typical house, and the remainder is used for irrigation. The irrigation demand range is based on front yard only irrigation, or the combined front and back yard irrigation. Irrigation demand was not estimated for commercial or industrial use because there is no projection available for the amount of new commercial and industrial acreage that will be built by 2030. The total demands include both indoor and outdoor water use. The projected increase in demand is an approximation based upon the difference between the total demand minus the estimated demand reported in Table 5.4.

Table 5.5 - City of Reno Water Demands (a)

Condition	Irrigation Demand Component (AFA)	Total Demand Including Irrigation (AFA)	Projected Increase in Demand (AFA)
2030 (b)	1,668-3,336	6,729	6,729
2095 (c)		8,772	8,772

- (a) Based on TAZ analysis, minus estimated demands from Table 5.4.
- (b) Based on 7,193 dwelling units and 1,616 acres of commercial and industrial land use.
- (c) Based on 9,793 dwelling units and 1,616 acres of commercial and industrial land use.

Table 5.6 - Washoe County Water Demands

Condition	Irrigation Demand Range (AFA)	Total Demand Including Irrigation (AFA)	Projected Increase in Demand (AFA) (a)
2030 (b)	278-555	2,967	1,550

- (a) Based on TAZ analysis, minus estimated demands from Table 5.4.
- (b) Based on 4,782 dwelling units and 231 acres of commercial and industrial land use.

An estimate of water demands associated with domestic wells is listed in Table 5.7 for Reno and the County. In the TAZ analysis, existing houses were analyzed the same way whether the house has a domestic well, or not. The total demands projected in Tables 5.5 and 5.6 include demands from houses with an existing well.

Table 5.7 - Domestic Well Demands

	Number of Domestic Wells	Domestic Well Conversion Demands (AFA) (a)
Reno	1	1
County	213	238
Total	214	239

- (a) Domestic well conversion based on 1.12 AFA per well

5.5.3 Water Resources

Existing water resources available to the Cold Springs area include the Utilities Inc. groundwater supply wells. Utilities Inc. owns water rights in two separate hydrographic basins (Long Valley and Cold Springs Valley).

The Fish Springs Water Supply Project will provide 8,000 AF of new water per year for development. The water will be delivered to the northeast portion of Lemmon Valley, and will be available for use in early 2008 within both the City of Reno and Washoe County TMSA in Stead and Lemmon Valley. Additional water resources from the Intermountain Water Supply Project may also become available in the near future. The project has received permitting approvals from the BLM and Washoe County, and could be implemented within a one year time frame once all construction related approvals have been obtained. This water could be made available to development in Cold Springs with transmission facility improvements in the Stead area.

Substantial amounts of reclaimed water, up to 5,040 AFA, could also be made available with improvements to the Cold Springs WRF as new development generates additional wastewater flows. High quality reclaimed water is suitable for landscape irrigation, including residential areas, and could be used to extend the available potable water supplies. Landscape irrigation accounts for approximately half of the total water demand for a typical residential unit. Water demands could be further reduced by implementing water conserving landscaping practices and/or xeriscaping.

Existing and potentially available water resources to serve both Reno and Washoe County TMSA in Cold Springs are presented in Table 5.8.

Table 5.8 - Potentially Available Water Resources

Source Description	Supply (AFA)
Existing Resources	
Utilities Inc. Groundwater	1,417
Reclaimed Water	(a)
Total	1,417
Future Resources	
Utilities Inc. Groundwater	987 (b)
Fish Springs Water Supply Project	8,000 (c)
Intermountain Water Supply Project	2,000 (c)
Total	10,987

(a) Reclaimed water may be used to supplement water resources for non-potable uses.

(b) Committed to existing approved uses.

(c) Water resources potentially available to Stead, Lemmon Valley, Cold Springs and Spring Mountain.

A comparison of the existing and future resources, water demand for the existing conditions and the potential 2030 demand is shown in Table 5.9. The total demand estimate includes potential water requirements of 239 AF for domestic wells. The estimated need for additional water resources for the Reno and Washoe County TMSA is approximately 6,729 AFA and 1,550 AFA, respectively, for a total need of 8,279 AF. This compares favorably with the potentially available water resources of 10,987 AF. However, interest has been expressed in use of a portion of the 10,000 AF from the Fish Springs and Intermountain water resources in areas outside of Cold Springs, including the TMSA in Stead, Lemmon Valley and Spring Mountain. The demand for potable water supplies for these areas will significantly exceed the available supplies from the Fish Springs and Intermountain projects. Expanded uses for reclaimed water, such as front and back yard residential landscape watering, will be needed to help fulfill the development potential within the Reno and County TMSA.

Table 5.9 - Water Demand and Resources Comparison

Condition	Supply (AFA)	City of Reno Demand (AFA)	County Demand (AFA)	Total Demand (AFA)
Existing	1,417	-	1,417	1,417
2030	12,404	6,729	2,967	9,696
Net Increase	10,987 (a)	6,729	1,550	8,279

(a) 10,000 AF of water resources potentially available and shared between Stead, Lemmon Valley, Cold Springs and Spring Mountain TMSA.

5.5.4 Planned Water Facilities

Backbone distribution system facilities were developed to supply 2030 demands resulting from new growth in the Cold Springs area. These facilities appear in Figure 5-5. Although the Stead and Cold Springs areas are being reported separately, they have transmission facilities in common and rely on the same water resources. The currently available water resources are limited and insufficient to meet the projected 2030 Stead, Lemmon Valley and Cold Springs demand. However, the water facilities for the Cold Springs area are sized assuming sufficient water resources become available in the future. If this does not occur, facilities will need to be re-evaluated and potentially decreased in size based upon the available water supply.

The planned water system improvements lie within the Washoe County and Utilities Inc. service territories. The proposed facilities were not integrated with the existing Utilities Inc. water system. Potential infrastructure savings could be realized with a conjunctive use operation of the two water systems. This level of analysis was beyond the scope of this project. The recommended water facility infrastructure is summarized in Table 5.10.

Table 5.10 - Water Facility Totals

Facility	Qty
Total Length of proposed Transmission Mains	±73,000 Linear Feet
Total number of Pump Stations	3 Pump Stations
Total # of Tanks and Storage Volume	4 Tanks totaling 9.6 MG

5.5.5 Water Facility Cost Estimates

The estimated costs of the recommended water infrastructure are summarized in Table 5.11. A portion of the transmission system improvements in Stead are included in the cost estimates, based on a potentially available supply capacity of 3,900 GPM. If additional water resources become available in the future, supply facilities and costs will need to be re-evaluated and potentially increased in size. However, facilities within Cold Springs, including the proposed pump station located at the Stead / Cold Springs boundary, are sized to satisfy the 2030 maximum day demand of 12,500 GPM. These facilities may be oversized, and need to be re-evaluated based upon the available future water supply. (Appendix B provides more detail on cost estimates.) Costs of the proposed transmission mains, pump stations and storage tanks were included. Individual pressure reducing stations are not included in the cost estimates, as these facilities are generally considered development specific, on-site improvements. In addition, the costs of purchasing water rights were not included.

Table 5.11 - Water Infrastructure Costs (a)

Facility Description	Total Cost (\$M)	Reno Share of Facility (\$M)	County Share of Facility (\$M)
Supply (b)	\$40.0	Not available	Not available
Transmission (c)	\$44.7	\$38.8	\$5.9
Storage	\$13.4	\$11.7	\$1.7
Total	\$98.1	\$50.5	\$7.6

(a) 20 Cities ENRCCI = 7,942 May 2007

(b) Water rights costs are not included. Supply costs are based upon \$40M of the \$100M Fish Springs project, and \$22M for the Intermountain project with the remainder of the cost allocated to the Stead area. The exact allocation of supply and cost is unknown.

(c) A portion of the costs (\$10,730,000) of the transmission mains in Stead supply approximately 31% (3,900 GPM) of the total Cold Springs demand.

The allocation of cost between Reno and the County was proportional to flow (pipes and pump stations) or volume (tanks).

5.5.6 Water Planning Limitations

Specific limitations for the water planning in the Cold Springs area are listed below.

- Insufficient water resources are available to serve the projected 2030 demands in the Stead, Lemmon Valley and Cold Springs areas (projected increase in demand of

approximately 18,580 AF, compared to potentially available resources of 10,987 AF). Water supply improvements within the Stead system are sized to provide 3,900 GPM to Cold Springs. However, the water facilities within the Cold Springs area are sized to accommodate the 2030 demands assuming sufficient water resources become available in the future.

- The proposed facilities were not integrated with the existing Utilities Inc. water system. Potential infrastructure savings could be realized with a conjunctive use operation of the two water systems.
- The proposed facilities identified in this plan are for serving new growth and not intended to remediate any existing system deficiencies.
- Single backbone mains were used to supply water throughout the TMSA. As development occurs, it is likely that an equivalent transmission capacity will be conveyed by a distribution network rather than by a single backbone main.
- The allocation of cost between Reno and Washoe County is an approximation. Further analysis will be required to determine the appropriate cost allocation for specific facilities.

5.6 WASTEWATER

The projected wastewater flows and required infrastructure for conveyance, treatment, and disposal are developed in this section.

5.6.1 Assumptions, Planning Criteria, and Methodology

The wastewater flow factor for the Cold Springs area was assumed from the 2007 Washoe County 208 Water Quality Management Plan. The flow factor ranged from a low of 110 gallons per capita per day (gpcd) to 130 gpcd. An average of 120 gpcd was used for flow projection. All other wastewater planning assumptions are as stated in Appendix A.

5.6.2 Existing and Future Wastewater Flow

The 2006 annual average wastewater flows for Cold Springs WRF are listed in Table 5.12.

Table 5.12 - Existing Wastewater Flows

	2006 Annual Average Flows (MGD) (a)
Cold Springs WRF	0.26

(a) Based on 2006 facility flow records.

Using the TAZ data, flow was projected for the Reno and County TMSA. The water reclamation facility projections for Reno and the County are presented in Tables 5.13 and 5.14, respectively.

Wastewater treatment for the majority of new development within the Reno TMSA is anticipated to be provided by expansion of the Cold Springs WRF facility or a new treatment facility.

Table 5.13 - City of Reno Wastewater Projections (a)

Condition	Flows (MGD)
2030 (b)	3.10
2095 (c)	3.79

- (a) Based on TAZ analysis.
- (b) Based on 7,193 dwelling units and 1,616 acres of commercial and industrial land use.
- (c) Based on 9,793 dwelling units and 1,616 acres of commercial and industrial land use.

Table 5.14 - Washoe County Wastewater Projections

Condition	Flows (MGD)
2030 (b)	1.43

- (a) Based on TAZ analysis.
- (b) Based on 4,782 dwelling units and 231 acres of commercial and industrial land use.

The potential flow projection for parcels with existing septic tanks that could be connected to the municipal sewer system is listed in Table 5.15. In the TAZ analysis, existing houses were analyzed the same way whether the house has a septic tank, or not. The flows projected in Tables 5.13 and 5.14 include potential flows from houses with a septic tank.

Table 5.15 - Septic Tank Conversion Flow Projections

	Number of Septic Tanks	Septic Tank Conversion Flows (MGD) (a)
Reno	0	0
County	1,384	0.277
Total	1,384	0.277

(a) Septic tank conversion based on 200 gpd per septic

The 2030 total projected water reclamation facility capacity for the Cold Springs TMSA is approximately 4.5 MGD, including potential septic tank conversion flows. The 208 Water Quality Plan has a projected 2030 wastewater flow range of 1.6 MGD to 2.2 MGD for Cold Springs. For this analysis, it is assumed that the existing Cold Springs WRF would be expanded to provide the necessary capacity for both the Reno and Washoe County TMSA. Nothing in this document is intended to restrict the City of Reno from developing a new water reclamation facility in Cold Springs, if upon detailed analysis, that option proves to be advantageous.

5.6.3 Water Reclamation and Disposal

The Cold Springs WRF currently disposes all treated effluent to rapid infiltration basins, and does not reclaim water for irrigation purposes. To provide additional water resources to help fulfill the development potential within the Reno and County TMSA, and dispose of the large quantity of effluent that will be produced, water reclamation is recommended. A reclaimed water system could be constructed throughout the Cold Springs area for landscape irrigation where it is reasonable. A higher level of treatment would be required at the reclamation facility that would allow for unrestricted irrigation. Reclaimed water is under consideration for water features and landscape irrigation within several planned developments in the area. Residential reclaimed water irrigation would only be for new development due to the high cost of retrofitting existing residential developments.

Additional water reclamation facilities under investigation include an effluent reservoir for non-irrigation season storage in the Silver Knolls vicinity, land disposal in the White Lake playa, and export to other areas such as Long Valley Creek.

5.6.4 Planned Wastewater Facilities

Recommendations for future wastewater collection and treatment facilities were developed for 2030 and are shown on Figure 5-6. Potential sites for a second water reclamation facility are shown. More detailed study would be required to determine the appropriate location. For each sewer collection area, the projected 2030 flows were compared to the capacity of the existing gravity interceptors. The collection areas are shown on Figure 5-C1 (Appendix C). Existing lift stations and force mains were not analyzed in detail for remaining available capacity. If the existing interceptors or force mains do not have capacity for the 2030 flow, a parallel pipe/facility is recommended. Future detailed design studies should determine whether replacing the existing pipe or installing a parallel main is the appropriate improvement. Facility sizing methods and calculations are included in Appendix C.

The best available information and status of current planning for regional reclaimed water facilities is shown in Figure 5-7. The regional reclaimed water facilities would likely serve the Stead, Lemmon Valley and Cold Springs areas. Additional reclaimed water distribution facilities will be required that have not been evaluated in this facility plan.

Table 5.16 - Summary of Wastewater Infrastructure

Facility	Units
Total Length of New Interceptors	20,400 feet
Total Length of New Force Mains	44,200 feet
Total Length of New Reclaimed/Disposal Pipe	58,400 feet
Total New Waste Water Lift Stations	5 stations
Total New Reclaimed/Disposal Pump Stations	3 stations
2030 Treatment Capacity for Cold Springs	4.5 MGD

5.6.5 Wastewater Facility Cost Estimates

The wastewater infrastructure costs are summarized in Table 5.17, and are listed in more detail in Appendix C. The costs are based on wastewater flow being conveyed and treated at the existing Cold Springs WRF. If expansion at the existing site is not feasible, further study would be required to determine the appropriate location for a second water reclamation facility. These facilities are for serving new growth and not to remediate existing system deficiencies.

Table 5.17 - Wastewater Infrastructure Costs (a)

Facility Description	Total Cost (\$M)	Reno Share of Facility (\$M)	County Share of Facility (\$M)
Collection System	\$32.1	\$26.9	\$5.2
Treatment	\$52.3	\$42.7	\$9.6
Disposal/ Reclaimed Water	\$18.3	\$13.9	\$4.4
Total	\$102.7	\$83.5	\$19.2

(a) 20 Cities ENRCCI = 7,942 May 2007

The allocation of cost between Reno and Washoe County was developed from their respective share of the flow for the collection system and reclamation facilities. The reclaimed water / disposal cost includes a reclaimed water system expansion in Stead and shared regional facilities. A detailed breakdown of regional reclaimed water costs between Stead and Cold Springs is located in Appendix C.

5.6.6 Wastewater Planning Limitations

Specific limitations of the wastewater planning in the Cold Springs area are listed below.

- Wastewater flow projections are conservative because a mid-range wastewater flow factor is used. The TMWA Rule 7 water demand projections are representative of actual demands. Therefore, the percentage of wastewater flow compared to the total water demand is more than the “typical” fifty percent reported in previous planning studies.
- The feasibility of expanding the existing water reclamation facility at its present location is uncertain. Further study would be required to determine the appropriate location for a second water reclamation facility.
- Effluent disposal planning for the Cold Springs TMSA is conceptual. The best available information for regional reclaimed water facilities has been provided; however, additional facilities and costs will be required to provide disposal capacity for the projected 2030 wastewater flows.
- The allocation of cost between Reno and Washoe County is an approximation. Further analysis will be required to determine the appropriate cost allocation for specific facilities.

5.7 POLICY RECOMMENDATIONS (INCLUSIVE OF WATER, WASTEWATER)

Regional water reclamation and wastewater disposal should be a coordinated effort for the Stead, Lemmon Valley and Cold Springs TMSA.

Potentially available water resources have been identified to serve the projected 2030 demands in the Cold Springs TMSA. However, insufficient water resources are available to also satisfy the needs of Stead and Lemmon Valley, which are relying on the same water resources. Expanded use of reclaimed water, such as front and back yard residential landscape watering, should be implemented where reasonable to extend available water supplies and help fulfill the development potential within the Reno and County TMSA. Water demands could be reduced by implementing water conserving landscaping practices and/or xeriscaping. However, water conserving landscape practices should be balanced with the need for disposal of reclaimed water.

The proposed water facilities were not integrated with the existing Utilities Inc. water system. Potential infrastructure savings could be realized with a conjunctive use operation of the two water systems. The merits of a conjunctive use operating strategy with Utilities Inc. should be investigated.