



**Western Nevada County
Treated and Raw Water Services
Second Round Municipal Service Review**

Nevada Local Agency Formation Commission

February 19, 2015

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**Resolution 15-01 of the
Local Agency Formation Commission
of
Nevada County, California**

Approving a Municipal Service Review of Water Services in Western Nevada County and Adjacent Portions of Placer County and Adopting Written Determinations Thereon

WHEREAS, California Government Code Section 56425 requires that a Local Agency Formation Commission (“LAFCo”) adopt and periodically review Sphere of Influence Plans for all agencies in its jurisdiction; and,

WHEREAS, California Government Code Section 56430 requires that a LAFCo conduct a review of the municipal services provided by an agency prior to adopting or updating its Sphere of Influence Plan; and,

WHEREAS, the Sphere of Influence Plan is the primary planning tool for LAFCo and defines the probable physical boundaries and service area of a local agency as determined by LAFCo; and,

WHEREAS, on December 17, 2014, the Commission held a workshop on the preliminary draft of the West County Water MSR and directed staff to circulate the draft to the public and affected agencies for comment; and,

WHEREAS, at the time and in the manner provided by law, the Executive Officer gave notice of the date, time, and place of a public hearing by the Commission upon the West County Water Municipal Service Review, including approval of the report and adoption of the written determinations contained therein; and,

WHEREAS, the Commission hereby determines that the final draft of the West County Water Municipal Service Review and written determinations contained therein will provide information for updating the spheres of influence of the various cities and districts involved in the study (including Nevada Irrigation District, Cities of Nevada City and Grass Valley, the San Juan Ridge County Water District and the Washington County Water Districts) and are otherwise consistent with the purposes and responsibility of the Commission for planning the logical and orderly development and coordination of local governmental agencies so as to advantageously provide for the present and future needs of the county and its communities; and,

WHEREAS, in making this determination, the Commission has considered the documentation on file in this matter prepared by the consultant and submitted by other interested agencies and individuals; and,

WHEREAS, the Commission has heard all interested parties desiring to be heard and has considered the proposal and report by the Executive Officer and all other relevant evidence and information presented at said hearing;

NOW, THEREFORE, the Local Agency Formation Commission of Nevada County hereby resolves, orders and determines the following:

- 1) The Municipal Service Review of Water Services in Western Nevada County, attached hereto as Exhibit A, is approved and the written determinations presented in the Executive Summary of the report are hereby adopted.

- 2) The Commission finds that this project qualifies for a Categorical Exemption to the California Environmental Quality Act under Article 19, Class 6 (Section 15306) of the Guidelines for Implementation of CEQA, Information Collection (which does not result in disturbance of an environmental resource).
- 3) LAFCo staff is ordered to proceed with updates to the Sphere of Influence Plans for the Nevada Irrigation District, the San Juan County Water District and the Washington County Water District immediately, and with the updates to the sphere plans for the Cities of Nevada City and Grass Valley as soon as practicable.
- 4) LAFCo staff is further ordered to forward copies of the adopted Municipal Service Review to all appropriate agencies, including each service provider, Placer LAFCo, and the County of Nevada.

The foregoing resolution was duly passed by the Local Agency Formation Commission of Nevada County at a special meeting held on February 19, 2015, by the following roll call vote:

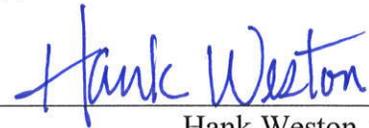
Ayes: Anderson, Flora, Grundel, Levine, Susman, Wilcox, Weston

Noes: none

Absentions: none

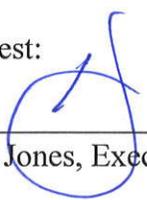
Absent: Norsell

Signed and approved by me after its passage this 19th day of February, 2015.



Hank Weston, Chair
Nevada LAFCo

Attest:



SR Jones, Executive Officer

ACRONYMS

AF	acre-feet
AFY	acre-feet per year
ACWA	Association of California Water Agencies
CABY	Cosumnes American Bear Yuba watersheds
CABY-RWVG	CABY Regional Water Management Group
CEQA	California Environmental Quality Act
cfs	cubic feet per second
CIP	capital improvement plan
CKH	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
DAC	Disadvantaged Community (DWR)
DUC	disadvantaged unincorporated community
DWR	Department of Water Resources
FY	fiscal year
IRWMP	Integrated Regional Water Management Plan
LAFCo	Local Agency Formation Commission
MG	million gallons
MGD	million gallons per day
MHI	median household income
MSR	Municipal Service Review
NID	Nevada Irrigation District
PCWA	Placer County Water Authority
RAP	DWR Region Acceptance Process
RCAC	Rural Community Assistance Corporation
SCADA	supervisory control and data acquisition
SJRCWD	San Juan Ridge County Water District
SOI	sphere of influence
USFS	U. S. Forest Service
UWMP	urban water management plan
WCWD	Washington County Water District
WTP	water treatment plant

CHAPTER 1: INTRODUCTION

1.1 – Role and Responsibility of LAFCo

The fundamental role of a Local Agency Formation Commission (LAFCo) is to implement the Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000 (Government Code Section 56000, et seq.), providing for the logical, efficient, and most appropriate formation of local municipalities, service areas, and special districts. The CKH requires all LAFCos, including Nevada County LAFCo, to conduct a Municipal Service Review (MSR) prior to updating the spheres of influence (SOIs) of the various cities and special districts in the County (Government Code Section 56430). CKH requires an MSR and SOI update every 5 years.

1.2 – Purpose of the Municipal Service Review

This MSR will provide Nevada LAFCo with an informational document and make determinations for each of the seven elements prescribed by CKH. This MSR evaluates the structure and operation of each agency and discusses possible areas for improvement, coordination, or changes to the SOI as appropriate. The purpose of the MSR is to collect data in order to provide a comprehensive analysis of service provision by the Nevada County water agencies (Table 1-1). Key sources for this study included agency-specific information gathered through a questionnaire, strategic plans, general plans, websites, financial reports, agency audits, research, personal communication, and the Municipal Service Review Guidelines published by the Governor’s Office of Planning and Research.

The report contains one section for each of the following seven elements as prescribed by CKH:

Growth and Population Projections for the Affected Area. This section reviews projected growth within the existing service boundaries of the district and analyzes the district’s plans to accommodate future growth.

The Location and Characteristics of any Disadvantaged Unincorporated Communities within or Contiguous to the Sphere of Influence. A disadvantaged community is defined as a community of 12 or more registered voters with a median household income of 80 percent or less of the statewide median income.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services Including Infrastructure Needs or Deficiencies. This section discusses the services provided including the quality and the ability of the agency to provide those services, and it will include a discussion of capital improvement projects currently underway and projects planned for the future where applicable.

Financial Ability of Agencies to Provide Services. This section reviews the agency’s fiscal data and rate structure to determine viability and ability to meet service demands. It also addresses funding for capital improvement projects.

Status of and Opportunities for Shared Facilities. This section examines efficiencies in service delivery that could include sharing facilities with other agencies to reduce costs by avoiding duplication.

Accountability for Community Service Needs, including Government Structure and Operational Efficiencies. This section examines the agency's current government structure, and considers the overall managerial practices. It also examines how well the each agency makes its processes transparent to the public and invites and encourages public participation.

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy. This section includes a discussion of any Nevada LAFCo policies that may affect the ability of each agency to provide efficient services.

1.3 – Uses of the MSR

The MSR is used to shed light on the operations of a local agency, identify agencies unable to perform their mandated services, or identify ways to provide more effective, efficient services. Government Code Section 56375 allows LAFCo to take action on recommendations found in the MSR, such as initiating studies for changes of organization, updating the SOI, or originating a change of organization.

Studies in anticipation of a change of organization are useful to identify potential issues that may arise during the process. Issues can range from legal barriers to fiscal constraints to concerns of residents and landowners. A study would allow more focused analysis and the opportunity to resolve issues or options before beginning the process.

The MSR also provides the necessary information to help LAFCo make decisions on the proposed SOI update. In evaluating the proposed SOI, the MSR provides the information necessary to determine if the agency has the capability to serve a larger area. The MSR discusses the financial condition of each district, source of revenues, and projected expenses. It also includes a discussion of the projected infrastructure needs that would allow for expansion of those services. The MSR, however, does not address California Environmental Quality Act (CEQA) requirements for the SOI update. That requires a separate analysis.

Alternatively, the MSR can recommend changes of organization: consolidation, dissolution, merger, establishment of a subsidiary district, or the creation of a new agency that typically involves a consolidation of agencies. Those changes of organization may also require an environmental review, a property tax sharing agreement, and an election.

1.4 – California Environmental Quality Act

Public Resources Code Section 21000, et seq., also known as the California Environmental Quality Act, requires public agencies to evaluate the potential environmental effects of their actions. This MSR is exempt from CEQA under Class 6 categorical exemption. CEQA Guidelines Section 15306

states that “Class 6 consists of basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource.”

1.5 – Disadvantaged Unincorporated Communities in Nevada County

In 2012, Senate Bill 244 (Wolk), pertaining to Disadvantaged Unincorporated Communities (DUCs) went into effect. The legislation was designed to promote infrastructure improvement investments in these areas. It established new requirements for LAFCOs and for land use agencies (cities and counties), requiring them to identify Disadvantaged Unincorporated Communities and to consider the provision of water, wastewater and structural fire protection services to these areas. It also promotes annexation of these neighborhoods to cities by requiring, under most circumstances, that a city annexation proposal involving more than ten acres to include any adjacent area that has been identified as a DUC.

The term “Disadvantaged Unincorporated Community” was broadly defined by the legislation as *inhabited territory, as defined by § 56046, or as determined by commission policy, that constitutes all or a portion of a “disadvantaged community” as defined by § 79505.5 of the Water Code.* The cited section of the Water Code defines “disadvantaged community” as one in which the median annual household income (MHI) is less than 80% of the statewide average. In 2010, the statewide annual MHI was \$60,883; 80% of that is \$48,706). As indicated by the emphasized text, LAFCOs were provided a great deal of discretion in developing standards for identifying DUCs.

Nevada LAFCo’s policies include defining characteristics of Disadvantaged Unincorporated Communities, recognizing any that have been so identified by the County or a city, as set forth in Section II (P) (3) of the Commission’s Policies:

Definition of Disadvantaged Unincorporated Community: A developed area that has been identified as a DUC by LAFCo, the County or applicable city, or one that meets all the following standards:

- a) Substantially developed with primarily residential uses*
- b) Contains at least 25 parcels in close proximity to each other that do not exceed 1.5 acres in size*
- c) Does not have reliable public water, sewer or structural fire protection service available*
- d) Contains at least 12 registered voters*
- e) Has a median household income level of 80% or less than the statewide median household income*

In addition, Nevada LAFCo has established a process for residents or property owners to request that LAFCo designate their community as a DUC.

Disadvantaged Unincorporated Communities Recognized by Nevada County

The following five areas have been identified by the County as Disadvantaged Unincorporated Communities (i.e., Legacy Communities which have existed for more than 50 years in the unincorporated area):

- Penn Valley in Nevada Irrigation District
- Rough and Ready in Nevada Irrigation District
- North San Juan near San Juan Ridge County Water District
- Washington in the Washington County Water District
- Soda Springs in Eastern Nevada County

This Municipal Service Review presents the characteristics and service needs of the Penn Valley and Rough and Ready communities within the section on the Nevada Irrigation District (these two areas being entirely within the district's boundaries and service area). The Washington community's characteristics and needs are addressed in the section on the Washington County Water District (which entirely contains the area).

The North San Juan area is located to the north and east of San Juan Ridge (Exhibit 1-1). North San Juan has a median household income of \$28,500 or 46% to the statewide median household income. The community relies on local well water since it is not near any other municipal source of potable water. North San Juan receives sewer service from Nevada County Sanitation District 1 as it is in Zone 4. Fire protection is provided by North San Juan Fire Protection District, a volunteer fire district, operating from three stations with a paid chief and 27 volunteer firefighters, battalion chiefs and captains.

Fire flow is an issue for future development in North San Juan because there is no public water service within the Rural Center. The 2009 Fire Protection Plan prepared for the fire district identified the need for a community system. The fire district maintains a 4,000 gallon water tender and a 10,000 gallon storage tank at Station 1 on Reservoir St. An additional storage tank is needed and a site for a 60,000 gallon tank was identified by the fire protection plan. The fire district is searching for grants to fund the new storage tank.

The Soda Springs community, located outside of the geographic area considered by this Municipal Service Review. It will be addressed by LAFCo in a subsequent MSR.

One other DUC was identified by the City of Grass Valley when updating its Land Use Element this past year. The City identified a neighborhood in the vicinity of the Alta Hill area as a Fringe Disadvantaged Unincorporated Community. This area is located outside city boundaries within the City's sphere of influence as shown in Exhibit 3.2. Services to this area are described in more detail in the Grass Valley section of this MSR.

1.6 – Western Nevada County Water Agencies

This service review covers five service providers in western Nevada County, two cities, and three special districts. The cities of Nevada City and Grass Valley are full-service cities, yet the scope of this study will only cover the provision and distribution of water. Similarly Washington County Water District (WCWD) provides potable water and fire protection, but only the water service will be covered in this MSR. As for the other special districts San Juan Ridge County Water District (SJRCWD) only provides irrigation water while Nevada Irrigation District (NID) provides raw water to cities for treatment, irrigation water, and potable water. Groundwater in this area is an inconsistent source because of flows that are less than 1 gallon per minute or water that is of poor quality. Therefore, each agency relies on surface water as its source. Table 1-1 summarizes the key characteristics of the agencies.

Table 1-1: Western Nevada County Water Agency Profiles

AGENCY	AREA (acres)	WATER SERVICES	CONNECTIONS
City of Grass Valley	2,539	Water treatment and distribution	2,600
City of Nevada City	1,406	Water treatment and distribution	1,350
Nevada Irrigation District	287,000	Irrigation, treated water, distribution	24,500
San Juan Ridge CWD	1,000	Irrigation water	24
Washington CWD	1,200*	Irrigation and treated water	122
Note: * Estimated as the size of the CDP Source: Sauers Engineering, 2004; Nevada County, 2014.			

City of Grass Valley

The City of Grass Valley is a full-service city that provides water through its public works department. Water services are funded through a water enterprise fund by charging fees for services, similar to an enterprise district. The City of Grass Valley treats surface water purchased from NID's Grass Valley Canal and provides the treated water to its service area of approximately 2,600 customers. NID also provides potable water to sections of Grass Valley. Exhibit 1-1 shows the service area for the City and NID.

City of Nevada City

Nevada City is a full-service city that covers approximately 1,400 acres. The City provides water through its public works department, funded by charging fees for services. Nevada City provides treated water to approximately 1,350 customers. Sources include Deer Creek and NID's D.S and Cascade canals. NID also serves portions of Nevada City as shown in Exhibit 1-1.

Nevada Irrigation District

NID was formed in 1921 and covers approximately 287,000 acres primarily in Nevada and Placer Counties. NID provides agricultural, raw, and treated water to approximately 24,500 customers. The District provides treated water to the areas adjacent to Grass Valley and Nevada City, as well as the unincorporated communities of Lake of the Pines, Alta Sierra, Lake Wildwood and Penn Valley in Nevada County, and the North Auburn area in Placer County. The District also sells raw water to the cities of Grass Valley and Nevada City, which in turn gets treated and distributed to their customers. In addition the District provides irrigation water outside its service area to 2,330 acres in the Smartsville area of Yuba County by way of a 1926 Railroad Commission Order. Finally, the District provides raw water for irrigation of agricultural lands. Exhibit 1-1 shows the NID boundary that includes not only its service area in western Nevada County but also to its source areas to the east. The District has 47 water rights of all forms: appropriative, riparian, prescriptive, and pre-1914.

San Juan Ridge County Water District

The SJRCWD delivers irrigation water to 24 customers near the community of French Corral in rural northwestern Nevada County. The water system consists of a small diversion dam, a storage reservoir, and seven miles of ditch. The boundary of SJRCWD is shown in Exhibit 1-1.

Washington County Water District

The WCWD serves the unincorporated community of Washington with potable water and water for fire protection. In all, the WCWD serves approximately 122 customers. In addition, the WCWD provides fire services since the area is so isolated. However, fire services are not the subject of this review. The boundaries of the WCWD are shown in Exhibit 1-1.

1.7 – Integrated Regional Water Management Planning Act of 2002

Water agencies are typically separate entities with clearly defined service areas within which they have exclusive authority to deliver water. However, most water agencies receive their water supplies from a source that is shared with other water agencies. Projects and plans developed by one water agency may conflict with projects or plans of another agency that shares the same source of water. Until 2002 water law did not provide a mechanism for regional planning to reduce potential conflicts.

In 2002 the legislature passed SB 1672 that established regional water management groups to facilitate regional coordination among water agencies. The purpose of the group was to prepare and adopt a regional plan to coordinate water supply, water quality, flood protection or related programs that a participant in the group has the authority to initiate. The law defined a group as three or more local public agencies, at least two of which have statutory authority over water supply. The group could be structured through a joint powers agreement, memorandum of agreement, or other written agreement approved by the governing bodies of the agencies.

Under SB 1672 the regional water management group is authorized to address matters related to water management planning and adopt regional plans to address qualified projects, programs, reports or studies. Qualified projects include regional projects to improve source water quality, drinking water quality, flood protection, levee stability, water supply reliability, increase water supply, improve groundwater, protect watersheds, and environmental mitigation and enhancement.

In November 2002 voters approved Proposition 50 which provided \$500 million for projects developed by the regional water management groups. In 2006 voters approved Proposition 84 which provided \$1 billion for developing integrated regional water management plans (IRWMP) and implementation. Proposition 1E also approved in 2006 sets aside \$300 million for disaster preparedness and flood prevention. The regional water management groups then prepared plans and became the conduit for funding projects identified by member agencies under Propositions 50, 84 and 1E administered by Department of Water Resources (DWR).

In Nevada County the regional water management group includes agencies in the Cosumnes, American, Bear, and Yuba River watersheds. The group takes its name from the acronym for these watersheds, CABY.

CABY comprises more than 45 organizations, representing water supply, conservation, recreation, agriculture, and community interests, as well as federal and local government. Each agency that signs on to the IRWMP is represented on the Planning Committee. Four of the five agencies included in this service review are members of CABY. They are the Nevada Irrigation District, the Washington County Water District, and the cities of Grass Valley and Nevada City.

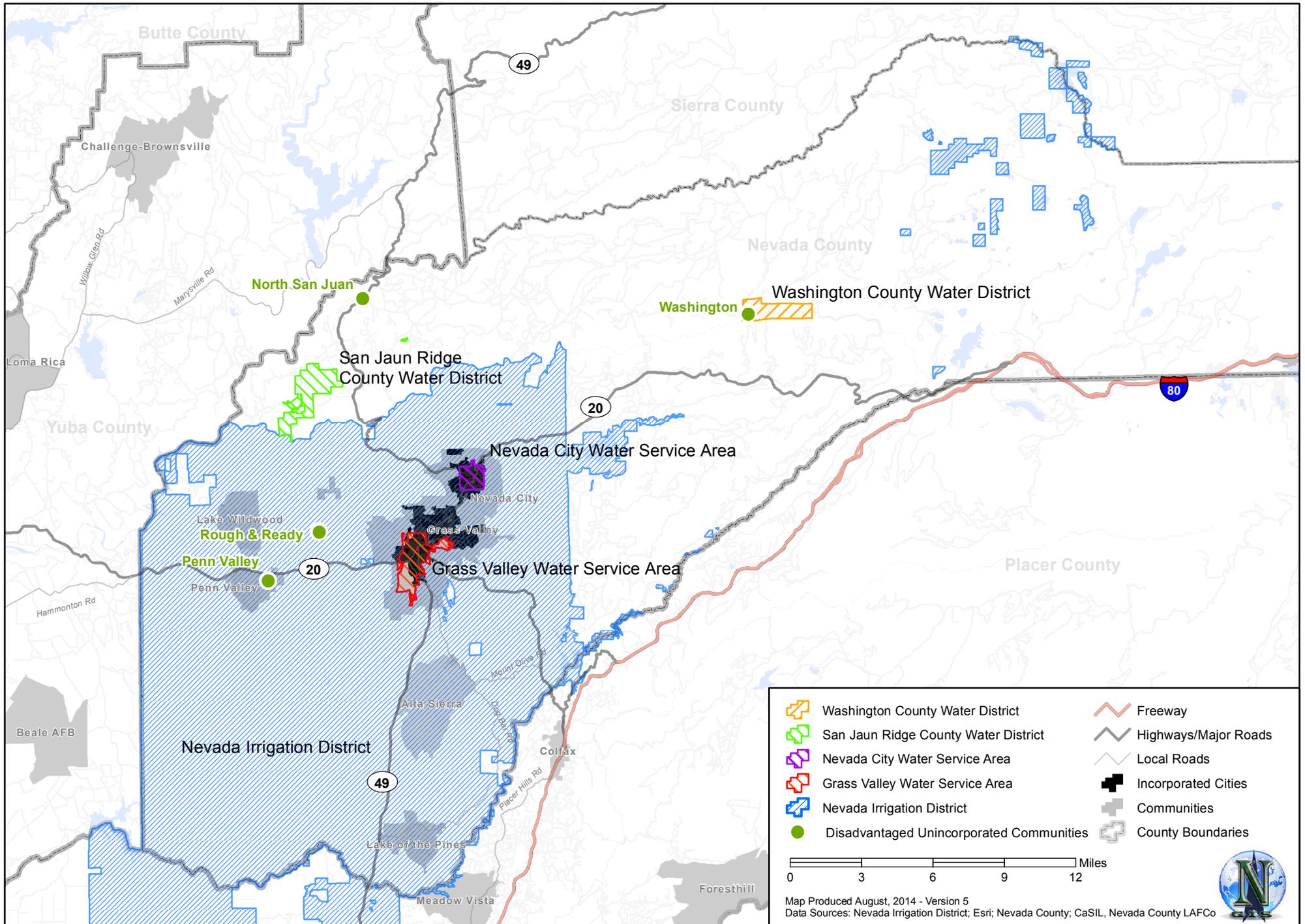
As noted, CABY functions as a vehicle to bring funding from Proposition 50, 84 and 1E into the region. It also serves to bring diverse stakeholders together to discuss and problem-solve long term water management for the region. Priorities are water quality (maintaining and restoring), water quantity (for both people and the environment, in CABY and statewide), and environmental quality (restoration and preservation).

While the MOU-based governance proved to be effective and durable, the long-term sustainability of the organization required a more diverse and flexible funding mechanism. The CABY organization required the ability to manage project implementation, enter into contracts, minimize personal and organizational liability, provide fiscal sponsorship in a fundraising context, and provide a vehicle to pursue funding from a variety of sources.

As a result of these discussions, the Planning Committee determined that it would form a non-profit corporation, based on the CABY Charter, as the central fundraising and contract administration entity. In 2009 CABY founded a non-profit, tax-exempt corporation, the CABY Regional Water Management Group (CABY-RWVG). The CABY-RWVG structure and purpose is consistent with DWR guidelines for the implementation of Proposition 84. Consequently, the 2007 IRWMP was updated to comply with DWR guidelines and CABY's new governance structure that include CABY-RWVG. The CABY-RWVG has received grant funds that have been used to implement the updated IRWMP.

Succeeding sections of this document show how grant funds are used to upgrade infrastructure and improve management of the water resources of the region. In some cases, these grants are essential parts of the capital improvement plans (CIP) for four of the five agencies included in this MSR. Details can be found in succeeding sections of the MSR.

Exhibit 1-1: Water Service Providers in Western Nevada County



CHAPTER 2: EXECUTIVE SUMMARY

2.1 – Role and Responsibility of LAFCo

The fundamental role of a Local Agency Formation Commission (LAFCo) is to implement the Cortese-Knox-Hertzberg (CKH) Local Government Reorganization Act of 2000 (Government Code Section 56000, et seq.), providing for the logical, efficient, and most appropriate formation of local municipalities, service areas, and special districts. The CKH requires all LAFCOs, including Nevada LAFCo, to conduct a Municipal Service Review (MSR) prior to updating the spheres of influence (SOIs) of the various cities and special districts in the County (Government Code Section 56430). CKH requires an MSR and SOI update every 5 years.

The focus of this MSR is to provide Nevada County LAFCo with all necessary and relevant information related to water service providers in western Nevada County, including the cities of Grass Valley and Nevada City, Nevada Irrigation District (NID), San Juan Ridge County Water District, and Washington County Water District.

This Municipal Service Review (MSR) will make determinations in each of the seven areas prescribed by CKH. This MSR evaluates the structure and operation of each of the agencies and discusses possible areas for improvement and coordination. The report contains one section for each of the following seven elements as prescribed by CKH:

1. Growth and Population Projections for the Affected Area
2. The Location and Characteristics of Any Disadvantaged Unincorporated Communities Within or Contiguous to the Sphere of Influence
3. Present and Planned Capacity of Public Facilities and Adequacy of Public Services Including Infrastructure Needs or Deficiencies
4. Financial Ability of Agencies to Provide Services
5. Status of and Opportunities for Shared Facilities
6. Accountability for Community Service Needs, Including Government Structure and Operational Efficiencies
7. Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

The MSR is used to shed light on the operations of each local agency, identify agencies unable to perform their mandated services, or identify ways to provide more effective, efficient services. Government Code Section 56375 allows LAFCo to take action on recommendations found in the MSR, such as initiating studies for changes of organization, updating the SOI, or initiating a change in organization.

2.2 – City of Grass Valley

The City of Grass Valley was incorporated in 1893 and includes approximately 4.74 square miles of territory. Water service is shared with NID, which serves the outlying portions of the City, but the City itself serves 2,600 water connections. According to the 2010 Census, there are 12,860 residents. Table 2-1 provides an overview of the agency. The table provides general information, characteristics of the service area, infrastructure and capacity, budget and governance.

Growth and Population Projections

Between 1990 and 2010, the population grew at a steady pace. Current population is estimated at 12,668. More recently, between 2010 and 2014, there was a slight decrease in population of about 1.5 percent. The California Department of Finance projects very slow growth for Nevada County between 2010 and 2020. The projection is for 0.5 percent over a ten-year period or 0.05 percent per year. Based on the County growth projections and assuming growth in Grass Valley is comparable, the projected population in Grass Valley in 2020 would range from 12,732 to 12,924. The newly updated housing element of the General Plan covers the planning area, which contains the City's sphere of influence. Approximately 5,000 residents currently live in the sphere. If the sphere is annexed by 2020 there could be 23,395 within the city limits.

Disadvantaged Unincorporated Communities

A complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo's policy definition is found in Section 1.5 above.

Based on the median household income reported by the 2010 Census, Grass Valley would qualify as disadvantaged community but it is incorporated and does have water, sewer, and fire protection services. There are no island communities or legacy communities adjacent to the City of Grass Valley boundaries. However the City's Land Use Element has identified a fringe community, Alta Hill, along Alta Street and Ridge Road that qualifies as a DUC.

The Alta Hill neighborhood is entirely within the boundaries of the Nevada Irrigation District. All parcels except a few undeveloped properties receive treated water from NID. Alta Hill lies within the boundaries of the Nevada County Consolidated Fire District for fire and emergency response service. The area does not have public sewer service available at this time. Given its proximity to Grass Valley's sewer system, the logical provider would be the City, once the area has been annexed. There are currently no indications of large scale septic issues within the neighborhood.

Present and Planned Capacity of Public Facilities

With a service area of 2,539 acres, the City's water system serves approximately 60 percent, or 2,600 customers, of the incorporated City. NID directly serves the remaining 40 percent of Grass Valley,

The City's water system facilities and infrastructure include a water treatment plant, two treated water storage structures, and a distribution system consisting of approximately 45 miles of pipeline. The City's water treatment plant has a maximum capacity rated at 5 million gallons per day (mgd).

Peak demand for 2,600 customers is 2.4 mgd with a potential expansion of up to 7.5 mgd. The water treatment plant has sufficient capacity to serve current and anticipated city residents.

Table 2-1: Agency Profile - City of Grass Valley

CATEGORY		FACT	
GENERAL INFORMATION			
Agency Type	Municipal		
Principal Act	Charter City		
Date Formed	City of Grass Valley incorporated in 1893		
Services	Water treatment and distribution services		
SERVICE AREA			
Location	Service area includes approximately 60 percent of the City's corporate boundaries, and some parcels adjacent to the City including the Nevada County Fair Grounds		
Acres	2,539 acres served (3.9 square miles)		
Land Uses	Residential, commercial, industrial, and open space/landscaped		
Dwelling Units	1,800 (2010 Census)		
Water Connections	2,600		
Population Served	Total City population is 12,808; water service population is approximately 6,100		
Last SOI Update	April 2011		
INFRASTRUCTURE/CAPACITY			
Facilities	45 miles of pipeline, Alta Vista Water Treatment Plant (capacity of 5 mgd)		
Storage Capacity	3 storage distribution reservoirs – 4.5 MG		
Primary Source of Supply	Nevada irrigation District (purchase) via Lower Scotts Flat Lake		
AUDIT/BUDGET INFORMATION—FY2013-2014 (WATER FUND)			
	REVENUES	EXPENDITURES	NET SURPLUS/(DEFICIT)
Water Fund	\$2,831,703	\$2,727,656	\$104,048
	FY 2013-2014	Long Term Planned Expenditures	
Capital Expenditures	\$942,500	Not available	
Fund Balance	\$2,267,455	Estimated for June 30, 2014	
City Net Assets	\$1,746,877	June 30, 2012 Financial Statement- Unrestricted	
GOVERNANCE			
Governing Body	City Council (5 members)		
Agency Contacts	Thomas Last, 530-274-4711; Timothy Kiser, P. E. 530 274-4399		
Note: Service population (6,100) from NID 2010 Urban Water Management Plan (UWMP) and 2011 SOI document.			

Financial Ability to Provide Services

The City operates the Water Fund as an enterprise fund. The vast majority of revenues are derived from water sales and system access charges. The water fund revenues average approximately \$2.2

million annually. Most revenues (84 percent in 2013-14) are from charges for services. Expenses have been less than revenues so that the fund balance has increased in the last five years.

The City's water rates are structured so that customers pay a base rate dependent on the size of the water meter and a separate charge based on usage. The average single-family domestic customer with a 5/8-inch meter will have a base fee of \$26.00 every month. Water usage is billed at a residential rate of \$3.75 per thousand gallons. Over the years, the City has borrowed approximately \$3 million from the State for funds to upgrade its water treatment plant.

The City has a Water Systems Master Plan. Each year, the City adopts its capital improvement (CIP) budget. The recent Capital Improvement Plan (CIP) projects included valve replacements, line replacements, and funding for new storage tanks. In FY 2013-14, it included \$10,000 for an alarm system at the water treatment plant to prevent theft and secure the site for public safety.

Status and Opportunities for Shared Facilities

The City works with NID to reduce costs for providing water to the community. The City collaborates with other groups such as the Wolf Creek Alliance to obtain DWR grants. In addition, the City is working with Op Terra Energy Services on a solar energy project at the water treatment plant to help offset costs.

Government Structure and Accountability

The City of Grass Valley was incorporated in 1893 as a charter city with a council-city manager form of government. Council members are elected at large to four year staggered terms. The City Council meets every two weeks on the second and fourth Tuesday at 7 p.m. at City Hall, located at 125 East Main St. Meetings are noticed according to the Brown Act.

The City communicates with residents through its website and newsletters that are included with water bills. In addition, the City has five boards and commissions that are made up of citizen volunteers.

Staffing for the water and wastewater department has remained constant over the last four years. In FY13-14, there were 16 full-time employees.

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

There are no LAFCo policies that would affect water service delivery by the City of Grass Valley since NID surrounds the City's water service area. Any new service would be in NID service area.

2.3 – City of Nevada City

The City of Nevada City was incorporated in 1856. Public water service within the City of Nevada City is provided via two different service providers, the City and NID. The City of Nevada City provides treated water service to the majority of the original City town site. NID provides treated water service to areas annexed in the last 30 years. Table 2-2 gives an overview of the agency. The table

shows general information, characteristics of the service area, infrastructure and capacity, budget and governance.

Growth and Population Projections

The City of Nevada City's population in 2014 was estimated as 3,016 by the California Department of Finance. The population in Nevada City has shown little change in the last 25 years with an average annual growth rate of 0.2 percent. In fact, the population has decreased this past year. Using the historic growth rate, the population can be expected to grow by 1 percent in the next five years, which translates to 30 additional residents for an anticipated population of 3,046.

Disadvantaged Unincorporated Communities

A complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo's policy definition is found in Section 1.5 above. The City has identified no disadvantaged unincorporated communities adjacent to its boundaries or within its sphere of influence.

Present and Planned Capacity of Public Facilities

The City's water system was first installed in the 1850s. The City relies on two raw water sources, Little Deer Creek and Nevada Irrigation District's D.S. Canal.

Water service is provided by the City and NID within the city limits in four service areas. The NID service area includes 600 connections to the west and south of the city center. NID also serves the lands within the Nevada City Sphere of Influence (SOI).

The Nevada City portion includes 1,350 connections. Water is treated at the Nevada City treatment plant with a capacity of 2.0 mgd. Since current maximum daily demand is 1.54 mgd the treatment plant has sufficient capacity.

The upper elevations of the City have limited fire flow because of reduced pressures. However, the City and NID have formal agreements for two interties to augment the system to insure adequate fire flow throughout the City. These interties have been employed in emergency situations and have proven adequate for demands of up to one million gallons in 12 hours.

Financial Ability to Provide Services

In FY 2012-13, revenues exceeded expenses \$856,807 to \$518,759. Analysis of revenues and costs shows that 3 percent of the revenue comes from property tax, while 97 percent comes directly from water rates. Revenues had not always exceeded expenses. In 2010, the City conducted a rate study that showed the need to increase rates. The new rates became effective in 2011. Since then, rates have been sufficient to cover costs.

Significant infrastructure improvements are needed, as well as replacement of aging and undersized distribution lines. Nevada City has received DWR grants to upgrade its treatment plant and distribution system.

Status and Opportunities for Shared Facilities

The City works cooperatively with many local agencies. Some examples are agreements for interties with NID to insure adequate fire flow capabilities and with WCWD on the DWR grant.

Table 2-2: Agency Profile – City of Nevada City

CATEGORY	FACT		
GENERAL INFORMATION			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	Incorporated in 1856		
Services	Water treatment and distribution services		
SERVICE AREA			
Location	Service area includes the City's corporate boundaries of 2.192 square miles center of Nevada County.		
Acres	1,406 acres (2.192 square miles)		
Land Uses	Residential, commercial and institutional		
Dwelling Units	1,400		
Water Connections	1,395 (2008 data), 1,217 (2012 data from audit)		
Population Served	3,016		
Last SOI Update	2008		
INFRASTRUCTURE/CAPACITY			
Facilities	17 miles of pipeline, Potable Water Treatment Plant (capacity of 2.0 mgd), 1 Pump Station		
Storage Capacity	3 distribution reservoirs – 3 MG		
Primary Source of Supply	Diversion from Little Deer Creek with supplement from Nevada Irrigation District (purchase) in summer months, 3 interties with NID		
BUDGET INFORMATION- FY 2012-13 AUDITED DATA (WATER FUND)			
Water Fund	REVENUES	EXPENDITURES	NET SURPLUS/(DEFICIT)
	\$856,807	\$518,759	\$338,048
	FY 2013-2014	Long Term Planned Expenditures	
Capital Expenditures	Water Fund - \$20,000/ Grant - \$568,000	Annual Allocation as needed for repairs Replacing several mains per year as funds are available to improve system flow capacity.	
Fund Balance	(\$377,000)	Estimated for June 30, 2014	
City Net Assets	\$2,041,132	June 30, 2013 Financial Statement- Unrestricted	
GOVERNANCE			
Governing Body	City Council (5 members)		
Agency Contact	William J. Falconi, City Engineer; Verne Taylor, DPW, 530.265-2496		
Note: No UWMP required due to size of agency system; several areas served by NID.			

Government Structure and Accountability

The City of Nevada City is governed by a five member city council elected at large to four year staggered terms. City Council meetings are held on the 2nd and 4th Wednesdays of each month, starting at 6:30 PM, in the City Council Chambers at City Hall, 317 Broad Street in Nevada City. Meetings are noticed according to the Brown Act.

The City maintains a website that includes contact information for city council members. Agendas and minutes will also be posted on the Archive page along with the video from each meeting. The City's small population ensures that city officials are easily recognized so that residents can easily communicate with them.

The water system is maintained by the Public Works Department. The Public Works Department is also responsible for repair and maintenance of city streets, buildings and grounds maintenance for all city facilities. The Public Works Division consists of seven full-time employees.

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

There are no LAFCO policies that would affect water service delivery by the City of Nevada City since NID surrounds the City's water service area. Any new service would be in NID service area.

2.4 – Nevada Irrigation District

The Nevada Irrigation District (NID) is an independent special district established in 1921 under the Irrigation District Law (California Water Code Section 20500, et seq.). NID supplies water services within a 287,000-acre area. Services consist of treated water, irrigation water for agricultural, landscape and recreational uses as well as raw water for treatment and delivery to urban/rural areas in the cities of Grass Valley and Nevada City. Serving a majority of the area of Nevada County, the District also serves a portion Placer County including portions of the City of Lincoln. In addition it provides irrigation water to part of Yuba County outside its service area through a Railroad Commission Order dating back to 1926. In total NID serves 24,500 customers in three counties. **Error! Reference source not found.** provides an overview of the agency.

Growth and Population Projections

The estimated population of potable water service areas was 44,761 in 2010. By 2020, the population is expected to range between 52,813 and 56,799. The larger estimate represents an annual growth rate of 2.5 percent.

Disadvantaged Unincorporated Communities

There are three communities that have been identified as Disadvantaged Unincorporated Communities in NID territory: Penn Valley, Rough and Ready, and Alta Hill. The Alta Hill community is adjacent to the City of Grass Valley. All are within the Nevada Irrigation District. Rough and Ready and Penn Valley have their own fire district that provides fire protection, while Alta Hill is

Table 2-3: Agency Profile – Nevada Irrigation District

CATEGORY		FACT	
GENERAL INFORMATION			
Agency Type	Independent Special District		
Principal Act	Irrigation District Law (California Water Code Section 20500 et. seq.)		
Date Formed	1921		
Services	Supplies irrigation water for agricultural, landscape and recreational uses and raw water for treatment and delivery to areas including cities of Grass Valley & Nevada City; treats water for designated areas; 18,504 Treated water connections serving 9,300 AF; 5,700 Irrigation connections serving 160,000 AF; projected 2030 Treated connections 29,570 serving 12,720 AF		
SERVICE AREA			
Location	Major portion of western Nevada County, portions of Cities of Grass Valley and City of Nevada City, and portions of Placer County (including much of the City of Lincoln) and Yuba County		
Sq. Miles/Acres	448 square miles/287,000 acres		
Land Uses	Designated land uses in Nevada County include residential, commercial, industrial, agricultural, recreational and open space uses. In Placer County, the land uses are similar: residential, rural residential, agricultural, recreational, and open space.		
Customers Served	24,500 accounts totaling population of 48,000		
Last SOI Update	June 2006		
INFRASTRUCTURE/CAPACITY			
Facilities	10 Reservoirs; 400 miles of ditches & canals; 300 miles of pipeline; 37 tanks/reservoirs; 7 Potable water treatment plants; 7 Hydro-generation facilities		
Storage Capacity & Supply	280,380 Acre-Feet; Supply average 358,100 Acre-feet		
Primary Source of Supply	District collects snow and rain runoff (Pre and post 1914 surface water rights)		
BUDGET INFORMATION- FY 2013-14 (FISCAL YEAR IS CALENDAR YEAR, REV.1/22/2014)			
	REVENUES	EXPENDITURES	NET SURPLUS/(DEFICIT)
Operating/Water Fund	\$42,458,722	\$42,458,722	(\$0)
Combined Other Funds	\$19,160,000	\$19,100,000	(\$0)
All Funds	\$61,619,722	\$61,619,722	(\$0)
Capital Expenditures	FY 2013-2014	Long Term Planned Expenditures	
	\$14,158,722	Three Year Projection in Ten Year Master Plan	
Net Assets (Reserves)	\$38,388,330	Dec 31, 2012 Financial Statement- Restricted & Unrestricted	
GOVERNANCE			
Governing Body	Board of Directors (5 members) Elected by division		
Agency Contact	Timothy A. Crough, P. E., (530) 271-6838		
Note: District's sphere of influence (SOI) last updated by LAFCO in 2006.			

served by the Nevada County Consolidated Fire District. Penn Valley receives sewer services from Nevada County Sanitation District 1, while residents of Rough and Ready and Alta Hill rely on septic systems.

Present and Planned Capacity of Public Facilities

NID receives water from rain runoff and snowmelt that it catches at 10 reservoirs. In addition, it has a contract for raw water with PG&E for the potential purchase of up to 54,000 acre-feet per year (AFY) of raw water. The reservoirs have a total capacity in excess of 280,000 acre-feet (AF). NID takes advantage of opportunities to augment its supply with recycled water. Typically, effluent discharge from wastewater facilities in Auburn, Grass Valley, and Nevada City provides an additional 2,550 AFY for agricultural uses.

In 2011, water uses totaled 157,077 AF, of which approximately 10,000 AF was attributed to potable water. The conclusion is that NID has sufficient capacity to meet demand in the current year and through 2020. Water supply reliability, the percent of a normal year's supply, exceeds 45 percent even in extended dry years.

Financial Ability to Provide Services

NID operates on a budget of approximately \$60 million that funds three divisions, water, hydroelectric, and recreation. The water division budget includes about \$42 million or two thirds of the annual budget.

The main sources of revenues for the Water Division are sales and property tax. The Hydro division also is a source of significant revenues to the District, but is not the subject of this MSR. Sales represent approximately 90 percent of operating revenues and property taxes average \$10 million of the \$12 million non-operating revenues. NID has been putting the property tax revenue in an operating reserve and drawing on the reserve to offset operating expenses.

The District's rate structure is complex because of the diversity of customers. NID has recently conducted rate studies and capacity charge studies to help match revenues with expenses.

NID has a long-range capital improvement program that upgrades and increases capacity of its water treatment and distribution facilities. In addition, the District has applied for DWR grants to increase water availability.

NID has approximately \$43 million in long-term debt obligations. In 2014, the budget called for debt service payments of approximately \$4 million, which is 15 percent of the budget.

Status and Opportunities for Shared Facilities

NID works with the Placer County Water Agency (PCWA) to supply water to portions of Lincoln within the district's boundaries. The agencies also collaborate on operations through a series of intertie that include redundancy to act as a backup system in case of failure in the infrastructure. NID works with PCWA to supply water to Auburn and Lincoln through a series of interties that include a certain amount of redundancy to act as a backup system in case of failure in the

infrastructure. NID is also working with PCWA to develop a Source Water Protection Plan for their 16 system wide treatment plants. NID is a member of the Mountain Counties Water Resources Association and CABY Integrated Regional Water Management Planning Group.

NID works with PG&E and contracts for additional water supplies. NID also works with PG&E to coordinate the operations of its network of reservoirs and canals.

Management efficiency can be measured by how the agency uses the planning process. In addition to the UWMP, NID has master plans for agricultural water and raw water, as well as a comprehensive strategic plan.

Government Structure and Accountability

The NID board consists of five members elected by division to serve four-year staggered terms. Directors receive \$15,000 per year plus standard employee benefits for their service on the Board. The Board meets on the second and fourth Wednesdays at 9 a.m. at the District offices. Meetings are posted according to the Brown Act.

The District operates an Ambassador program consisting of employees who will go out to schools or other civic gatherings to provide information about the District, its history, operations, and role in the community.

The District communicates through its website where it posts all agendas. The District often conducts “town hall” style meetings to inform the public on key issues. One example is the recent water summit, which discussed issues related to the drought. In addition to providing information NID also encouraged comments from its ratepayers on measures to deal with the drought. In addition, the District publishes press releases on relevant issues.

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

As NID is sometimes requested to supply water outside its service area, LAFCo’s out of area service policy may affect provision of water services by the District to certain properties.

2.5 – San Juan Ridge County Water District

The San Juan Ridge County Water District (SJRCD) was formed under Division 12 of the Water Code in 1958. Originally formed as the French Corral County Water District, it was consolidated with the San Juan Ridge County Water District in 1971, with the newly consolidated district retaining the San Juan Ridge name. Later, the District abandoned any plans to serve the San Juan Ridge area, and so all San Juan Ridge properties were detached from the District in 1975. The District serves untreated irrigation water to approximately 24 customers in the historic community of French Corral. The District receives water from Shady Creek that is stored in the 155 acre-foot Pine Grove Reservoir. The District encompasses approximately 1,000 acres in northern Nevada County. Table 2-4 provides an overview of the agency.

Growth and Population Projections

The population of the SJRCWD is 40. Very little growth is expected in the next five years. The population of the District in 2020 is expected to be the same. There are no anticipated changes in the service area, as the District's water supply is fully subscribed.

Disadvantaged Unincorporated Communities

No island communities or legacy communities or fringe communities have been identified within or adjacent to the SJRCWD boundaries or the SOI.

Present and Planned Capacity of Public Facilities

The District's water source is fully subscribed. The District receives water from Shady Creek that is diverted to Pine Grove Reservoir. Capacity is approximately 155 AF. Water deliveries begin in mid-May and continue until all the water is gone. On average approximately 155 to 200 AF are delivered each year.

Financial Ability to Provide Services

The District operates with an annual budget of approximately \$20,000. Key revenue sources are property taxes and water sales, which account for 95 percent of all revenues. Expenses are split between water fees, professional services, maintenance, and insurance.

Over the last five years, the District has experienced a shortfall and relied on undesignated reserves to fill the void. The District typically maintains a fund balance of nearly \$20,000, sufficient to fund one year of operations.

Status and Opportunities for Shared Facilities

The District works with a number of local agencies to reduce costs, however, the District's remote location limits sharing opportunities. An example is piggybacking on NID's pipe order. In addition, the Sheriff's Department typically supports non-profits such as SJRCWD and board members assist the District with maintenance.

Government Structure and Accountability

The District is governed by a five-member board elected at large to four-year staggered terms.

Board members are allowed compensation of \$90 per month. The one vacancy on the Board has been difficult to fill.

The District has no paid staff but contracts for bookkeeping and other professional services. Often, Board members will volunteer time to assist with maintenance. The District has no website but communicates with ratepayers through letters included in the water bills. Work details are organized by phone.

Table 2-4: Agency Profile – San Juan Ridge County Water District

CATEGORY		FACT	
GENERAL INFORMATION			
Agency Type	Independent Special District		
Principal Act	Division 12 of the Water Code		
Date Formed	1958		
Services	Provides untreated water to rural residential area for agricultural and landscape irrigation		
SERVICE AREA			
Location	Unincorporated community of French Corral, located approximately 10 miles northwest of city of Nevada City		
Square Miles/Acres	1,000 acres (approximately)		
Land Uses	Large parcels for grazing and annual crops		
Dwelling Units	DNA		
Water Connections	24 (estimate to verify)		
Population Served	40 (approximately)		
Last SOI Update	2006		
INFRASTRUCTURE/CAPACITY			
Facilities	Diversion dam, Ponderosa Reservoir (150 AF), Pine Grove Reservoir (155 AF)		
Storage Capacity	155 AF		
Primary Source of Supply	Diversion of water from Shady Creek at Bowman Reservoir Diversion Point		
BUDGET INFORMATION- FY 2012-13			
	REVENUES	EXPENDITURES	NET SURPLUS/(DEFICIT)
Operating/General Fund	\$22,086	\$25,053	(\$2,967)
Combined Other Funds	Included Above	Included Above	N/A
All Funds	\$22,086	\$25,053	(\$2,967)
	FY 2013-2014	Long Term Planned Expenditures	
Capital Expenditures	\$0	Done as needed	
Net Assets	\$17,145	June 30, 2013 Financial Statement- Restricted & Unrestricted	
GOVERNANCE			
Governing Body	Board of Directors (5 members)		
Agency Contact	Cynthia Nulph 530-477-7831		

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

There are no LAFCo policies that would affect service delivery.

2.6 – Washington County Water District

Washington was initially settled as an active gold mining community in the 1850s. The Washington County Water District (WCWD) is the only water agency serving the community. It was formed under Section 30000 of the Water Code on November 29, 1962. The District provides water through 122 hook-ups that serve residents and businesses, including a campground and a bar/hotel. The Washington area is also a popular recreation destination, which results in considerable spikes in summertime water use. Table 2-5 provides an overview of the agency.

Growth and Population Projections

The 2010 census found the population of Washington was 185. There is very little growth expected to occur in the community. The Department of Finance estimated the population of Nevada County grew by 0.1 percent between 2013 and 2014. That translates to 0.5 percent over the five-year time horizon of this document. In terms of the community of Washington, that translates to one additional resident over the next five years. No changes in service area or demand are projected, as the District is “landlocked” by US Forrest Service lands. No more than ten new connections are possible within the existing service area.

Disadvantaged Unincorporated Communities

The entire community of Washington is designated a Disadvantaged Community (DAC) under the definition provided in support of the Department of Water Resources (DWR) Integrated Regional Water Management (IRWM) program. The median household income in the 2010 Census was \$19,000. Washington qualifies as a Severe DAC by DWR standards. In terms of CKH a DAC and a disadvantaged unincorporated community (DUC) are one and the same.

One of the concerns for a DUC is the provision of backbone services such as water, wastewater, and fire protection. In the Washington community the WCWD provides water and fire protection. Funding for upgrades to the water system was secured through a DWR grant, which will begin shortly. Funding for fire protection is very limited. Owing to its location there are no municipal wastewater services available. Residents and businesses are on septic systems. There are no disadvantaged unincorporated communities adjacent to the boundaries the Washington County Water District.

Present and Planned Capacity of Public Facilities

The infrastructure that serves the District is aging and was installed prior to development of modern conservation standards. As a disadvantaged community, Washington has not had the resources to map its infrastructure system, conduct systematic leak detection and repair activities on its aging pipelines, upgrade water storage and distribution systems, engage in community level water conservation, or meter any portion of its system. The District has almost no capacity to adapt to low-flow scenarios. Additionally, residents are not financially able to retrofit aging plumbing.

The treatment plant has a design capacity of 288,000 gallons per day at 100 percent capacity. Currently, the system is operating at capacity.

The main distribution system for Washington relies totally on a single, rapidly deteriorating, eight-inch distribution line. Replacement of this line has been a high priority for the District.

Financial Ability to Provide Services

The District's water budget is approximately \$100,000 annually. The major sources of revenue are water sales and property taxes. Water sales account for two-thirds of revenues, while property taxes average 29 percent of total revenues. Expenses are primarily water treatment and administration which includes operations. Water treatment accounts for 10 percent of expenditures on average while administration accounts for 85 percent of expenses.

The District charges a flat rate of \$45 per month. Rates were raised two years ago by \$10. The rate increase did not provide all of the anticipated revenue as the District experienced a higher delinquency rate. The District has worked diligently to reduce delinquent accounts by 80%. The District is currently preparing a Cost of Service Study with the help of the Rural Community Assistance Corporation (RCAC). The RCAC provides technical assistance, training, and financing to rural communities such as Washington.

The District was awarded a \$1.3 million DWR grant in 2010 for capital improvements including installing water meters and upgrades to its treatment facility as well as developing a water conservation plan. The grant will provide funding for the installation of water meters that will allow the District to monitor actual water use and help determine the location of leaks. There will also be sufficient resources to resolve many of the problems of the water system that have been encountered in the past.

Status and Opportunities for Shared Facilities

The District works with a number of local agencies to improve services. The District worked with the City of Nevada City to complete the DWR grant application. The District also works with the RCAC for training and financial assistance. In addition the District is working with DWR on its CIP and drought plan.

At present, the District has no strategic plan, but it is in the process of conducting a Cost of Services Study to allow for planning future revenue needs.

Government Structure and Accountability

The District is governed by a five-member board of directors elected at large to four-year staggered terms. Meetings are posted locally according to the Brown Act. The District does not have the resources to provide a web site, newsletter, or other regular formal outreach. Workshops are scheduled on an as-needed basis and generally experience low attendance. Because of the size of the District, residents can communicate directly with board members, as board members are often recognized in town.

Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

There are no LAFCo policies that would affect service delivery.

Table 2-5: Agency Profile – Washington County Water District

CATEGORY		FACT	
GENERAL INFORMATION			
Agency Type	Independent Special District		
Principal Act	Division 12 of the Water Code		
Date Formed	1962		
Services	Provides treated water to rural residential area for domestic use, landscape irrigation, and fire protection		
SERVICE AREA			
Location	Unincorporated area of Town of Washington		
Square Miles/Acres	1.5 square miles 1000 acres (approximately)		
Land Uses	Large and small lot residential and recreational area		
Dwelling Units	122 customers and a campground		
Water Connections	125		
Population Served	185		
Last SOI Update	2004		
INFRASTRUCTURE/CAPACITY			
Facilities	1 holding tank (200,000 gallon capacity); treatment plant sand filter 288,000 GPD capacity; 6 miles of 2 to 12-inch pipe		
Storage Capacity	200,000 gallons		
Primary Source of Supply	Diversion from Canyon Creek near Bowman Lake Reservoir		
BUDGET INFORMATION- FY 2012-13			
	REVENUES	EXPENDITURES	NET SURPLUS/(DEFICIT)
Operating/General Fund	\$107,697	\$64,339	\$34,240
Combined Other Funds	Included Above	Included Above	N/A
All Funds	\$107,697	\$64,339	\$34,240
	FY 2012-2013	Long Term Planned Expenditures	
Capital Expenditures	\$0	Grant Approved to Upgrade System -Administered by City of Nevada City	
Net Assets	—	June 30, 2012 Financial Statement- Restricted & Unrestricted	
GOVERNANCE			
Governing Body	Board of Directors (5 members)		
Agency Contact	Paul Rose, (775) 530-7266		

2.7 – Recommendations

The forecast in Nevada County is for limited growth of 0.5% over the next ten years. With limited growth the question is whether the five agencies have adequate supply to meet demand and the financial resources to provide services.

NID is the major service provider in the region, supplying treated and untreated water to the western portions of Nevada County, portions of Placer County and a small area of Yuba County. The NID Raw Water Master Plan indicates NID has capacity through 2032. Nevertheless NID has encouraged conservation during the recent drought that yielded a savings of 16%. NID continues to plan for additional capacity and has recently filed an application with the state for the right to store 110,000 acre-feet of water from the Bear River upstream from Combie Reservoir, and to divert another 112,000 acre-feet of water from the river at the same location for use in the NID system.

Owing in part to its influence in the region, NID falls under the scrutiny of the Grand Jury. At their urging NID has recently simplified its rate structure and completed a rate study. One of the outcomes of that study is a model that assists the District in determining the need and the effect of rate increases. Review of NID's financial statements has shown that operating revenues derived from water rates and non-operating revenues from property taxes are sufficient to cover expenses. The new rate structure will allow NID to reduce dependence on property taxes to cover expenses.

The cities of Grass Valley and Nevada City have service agreements with Nevada Irrigation District that establish service areas for each agency. In general, the service agreements provide that lands annexed to the two cities will remain in Nevada Irrigation District boundaries and service area. The two cities continue to provide service to the residents of their core areas. As noted in the MSR the cities have the capacity and the financial ability to provide water to their respective service areas.

The smaller districts of San Juan Ridge and Washington face several challenges. In San Juan Ridge there has been a vacant seat on the board that has been difficult to fill. This situation is not uncommon for small districts. However the residents of the area like their district. They routinely volunteer their time for work details to maintain the system. Even with limited resources the district continues to function. The district's southern border is adjacent to NID, however, there does not appear to be any interest by either district in pursuing any type of reorganization. Based on San Juan Ridge's capacity and financial and economic circumstances, there is little opportunity for expansion of the District's service. In terms of the SOI we would recommend a coterminous sphere.

Similarly the Washington CWD is rather isolated. It would be difficult for NID to provide service due to the condition of the infrastructure and the costs to bring it up to standards. The Washington CWD is supported by Nevada City who assisted in obtaining a DWR grant to upgrade the infrastructure and assist in long term planning. Given limitations on capacity, infrastructure and anticipated limited or no growth we would also recommend a coterminous sphere for Washington County Water District.

CHAPTER 3: CITY OF GRASS VALLEY

The City of Grass Valley was incorporated in 1893 and includes approximately 4.74 square miles of territory. Grass Valley serves as a regional economic hub. Water service is shared with NID, which serves the outlying portions of the City, but the City itself serves 2,600 water connections. According to the 2010 Census, there are 12,860 residents. The City's water service area is shown in Exhibit 3-1.

3.1 – Growth and Population Projections

Table 3-1 shows population for Nevada County and its three cities for three census periods—1990, 2000, and 2010—along with the most recent 2014 estimates. Grass Valley's current population is estimated at 12,668. Between 1990 and 2010, the population grew at a steady pace. More recently, between 2010 and 2014, there was a slight decrease by about 1.5 percent. The California Department of Finance projects very slow growth for Nevada County between 2010 and 2020. The projection is for 0.5 percent over a ten-year period or 0.05 percent per year. Based on the County growth projections and assuming growth in Grass Valley is comparable, the projected population in Grass Valley in 2020 ranges from 12,732 to 12,924. The newly updated housing element of the General Plan covers the planning area, which includes the City's sphere of influence. Approximately 5,000 residents currently live in the sphere. If the sphere is annexed by 2020 there could be 23,395 within the city limits.

Table 3-1: Population Growth (1990 and 2014) in Nevada County

JURISDICTION	1990	2000	2010	2014 (ESTIMATE)	RECENT CHANGE
Grass Valley	9,048	10,922	12,860	12,668	-1.5%
Nevada City	2,855	3,001	3,068	3,016	-1.7%
Truckee	3,484	13,864	16,180	15,981	-1.2%
Nevada County	78,510	92,033	98,764	97,225	-1.6%
Source: City of Grass Valley 2014c; CDOF 2014.					

Grass Valley provides approximately 55 percent of Nevada County's multi-family housing units, although the City has only 12 percent of the County's total housing stock. Nearly 60 percent of City residents are renters.

Table 3-2 lists annexations to Grass Valley in the last 10 years that may require water service. The table shows all the annexation areas would receive water from NID, not Grass Valley, even though they may be within city limits. While there are several parcels that were added there was essentially no increase in City connections since they all were connected to NID.

Exhibit 3-1: Water Service Providers in Grass Valley

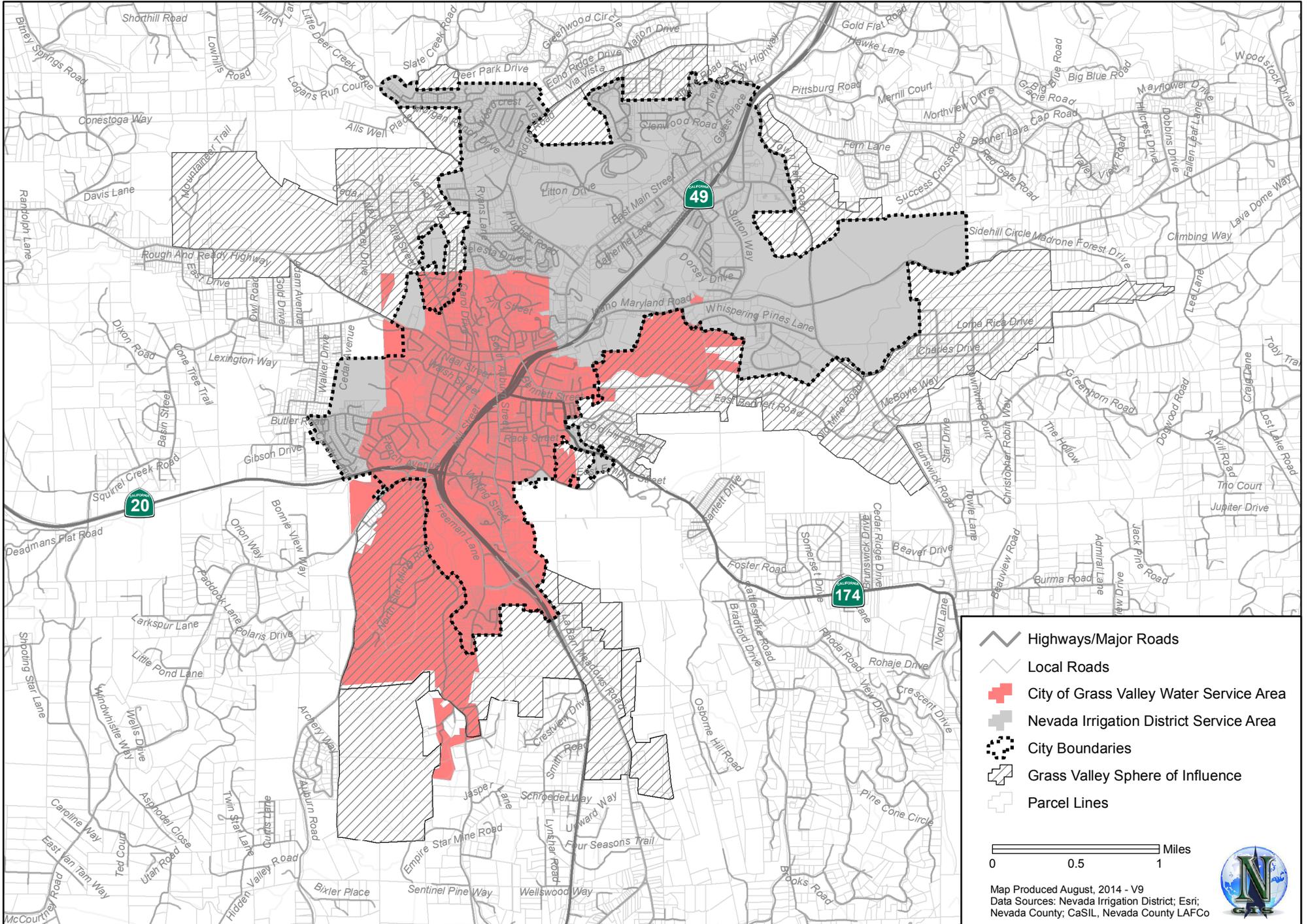


Table 3-2: Recent Annexations to the City of Grass Valley

AGENCY	TITLE	LOCATION	EFFECTIVE DATE	# OF PARCELS	ACREAGE	DEVELOPMENT	WATER PROVIDER
2004	Glenbrook West C, East B	Glenbrook	6-08-2004	54	94	Mostly developed (no new service)	NID
	Glenbrook West A	Glenbrook	8-16-2004	70	45	Mostly developed (no new service)	NID
	Partridge		9-15-2004	1	0.17	developed (no new service)	NID
	Morgan Ranch West	Morgan Ranch	9-15-2004	26	18	Undeveloped(25new residential units)	NID
2006	Makiah Woods	East of Glenbrook	2-27-2006	2	13	Undeveloped (51 new residential units)	NID
	Di Martini	Idaho Maryland Rd.	6-22-2006	4	13	Undeveloped (4-9new units)	NID
	Glenbrook West EFG	Glenbrook	7-20-2006	70	45	Mostly developed (no new service)	NID
	Hastert-Jones		9-22-2006	1	2	Developed (no new service)	NID
2011	Milco	Idaho Maryland Rd.	10-27-2011	3	8	Undeveloped(6new units)	NID
2012	Loma Rica	East Grass Valley	12-11-2012	9	455	Undeveloped(700new residential units)	NID
Source: Nevada LAFCO, 2014b.							

Determinations:

3.1.1: In 2014, the population of Grass Valley was estimated at 12,668, which was actually a decrease of about 1.5 percent since the 2010 census. It is anticipated Nevada County will grow at rate of 0.5 percent over the next ten years. Based on that growth rate, it is anticipated the population of Grass Valley may reach 12,924 in 2020. If the City annexed all of its sphere area the population in 2020 would be approximately 23,395.

3.2 – Disadvantaged Unincorporated Communities

Please see Section 1.5 for complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo's policy definition.

Table 3-3 compares median household income for the three Nevada County cities with the County and California. As shown, Grass Valley would qualify as a disadvantaged community, but it is incorporated and does have water, sewer, and fire protection services.

Table 3-3: Nevada County Median Incomes (2012)

JURISDICTION	MEDIAN HOUSEHOLD INCOME
Grass Valley	\$36,612
Nevada City	\$60,144
Truckee	\$65,397
Nevada County	\$57,382
California	\$61,400
Source: US Census, 2010.	

There are no island communities or legacy communities adjacent to the City of Grass Valley boundaries. However the City has identified a fringe community, Alta Hill, along Ridge Road and Alta Road that borders on the city limits that qualifies as a DUC as shown in Exhibit 3-2.

Alta Hill is entirely within the boundaries of Nevada Irrigation District. All parcels save a few undeveloped properties receive treated water from NID. The area lies within the boundaries of the Nevada County Consolidated Fire District for fire and emergency response service. Public sewer service is currently not available. However, given its proximity to Grass Valley's sewer system, the logical provider would be the City, once the area has been annexed. The City's wastewater services are provided by a separate city department and are not subject of this service review. At present there are no indications of large scale septic issues within the neighborhood.

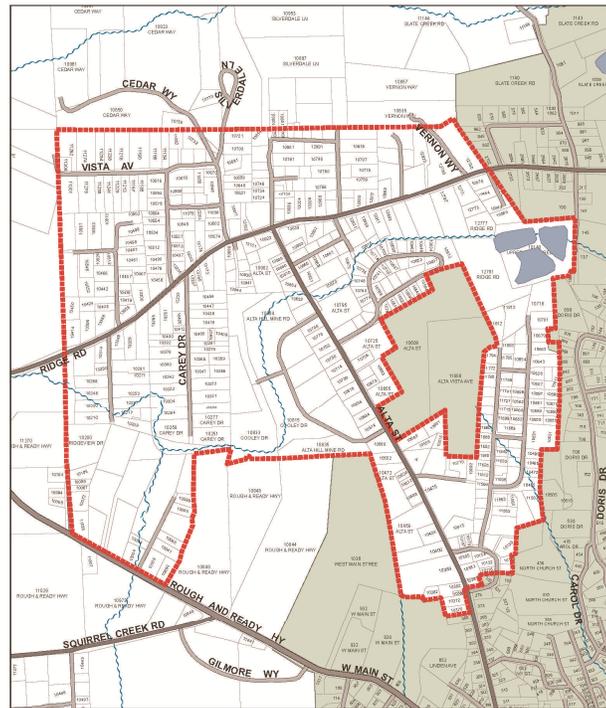
Determinations:

3.2.1: The City of Grass Valley recognizes a fringe community, Alta Hill, along Ridge Road and Alta Road that qualifies as a DUC. The DUC area receives treated water from NID, fire services from the Nevada County Consolidated Fire District, but currently has no public sewer service.

3.3 – Present and Planned Capacity of Public Facilities

The City's water system dates back to the turn of the 20th century. Substantial expansions to the system were constructed in the 1930s and the 1960s–70s. Chlorination was added to the system in the 1950s. Growth to the City's water distribution system slowed through the 1980s and 1990s as the city water service area neared build out and was surrounded by the NID service area. While the City boundary has expanded in that timeframe, the City's distribution system has not, due, in large part, to the fact that NID's service area immediately surrounds the City's service area. For that reason, there is currently a sizeable portion of Grass Valley that is served by NID (Exhibit 3-1).

Exhibit 3-2: City of Grass Valley Alta Hill Fringe Community Map



City of Grass Valley ~ Fringe Community Map
Qualifies as Disadvantaged Unincorporated Community
July, 2014



With a service area of 2,539 acres, the City's water system serves approximately 60 percent of the incorporated City, which includes a population of approximately 6,000. The most likely expansion for the City's water service seems to be build out within the current service area. A number of properties located outside the City also receive City water services, such as the Nevada County Fairgrounds.

The City's water system facilities and infrastructure include a water treatment plant, two treated water storage structures, and a distribution system consisting of approximately 45 miles of pipeline. All of Grass Valley's water is supplied by NID via the District's Lower Grass Valley Ditch. NID directly serves approximately 40 percent of Grass Valley.

Supply and Reliability

The City has no water rights of its own and it provides water services through a purchase agreement with NID. City water service rates at present are less than NID treated water rates.

The raw water purchase agreement between the City and NID was adopted by both parties in 1983. The agreement specifies that NID agrees to sell and deliver surplus raw water to the City in an amount not to exceed 5 million gallons per day (mgd) and limited to use within the boundaries of

the City's service area. Sales are subject to the availability of surplus raw water and capacity in NID's existing pipes. Both parties also agree that modifications to their respective service areas must be agreed upon by NID and the City. Such revisions in service area have taken place from time to time. In addition, NID and the City agreed not to encroach on each other's territory without permission. A new extension of the water supply agreement was approved in April 2013 and provides for the sale of surplus water to the City for the next thirty years.

NID's Elizabeth George and Loma Rica Water Treatment Plants serve the greater Grass Valley area, consisting of approximately 40 percent of the City's territory. These plants have source water limitations due to the capacity of the Lower Cascade Canal, which must be increased in order to satisfy future water demands. The Banner Cascade Pipeline Project addressed those needs and was completed in November 2011.

Capacity/Infrastructure

The City's system consists of 45 miles of pipeline, a water treatment plant, and three storage facilities. The City's water treatment plant has a maximum capacity rated at 5.0 mgd. However, an analysis of the City's water treatment system prepared by Sauers Engineering in 2002 indicated that the City's system has potential for expansion up to 7.5 mgd. The system currently serves approximately 2,600 customers and has had a maximum peak day demand of 2.4 mgd. The average day demand within the City is 1.0 mgd in the winter and 2.0 mgd in the summer. The City's three storage facilities have a combined capacity of 4.5 million gallons: two 1 million gallon steel tanks at the City's water treatment plant on Alta Hill, and a 2.5 million gallon steel tank on Empire Street.

Demand

Opportunities for growth in the city water service area will come primarily from build out within the existing service area. The Grass Valley 2020 General Plan estimates that there are potentially 900 residential units of infill within the City. If two-thirds of these are within the City's water service area, the maximum potential growth for residential water customer infill is estimated at 600 new connections. The added services would result in a peak day demand on the City's water system estimated to be an additional 0.4 mgd, an amount well within the system's capacity. Table 3-4 projects water demand through 2035. The table shows treated water increases in 2015 and then remains constant, while raw water shows little variation.

Table 3-4: NID Water Sales to Grass Valley (acre-feet per year)

WATER DISTRIBUTED	2005	2010	2015	2020	2025	2030	2035
City of Grass Valley Broadview Heights Treated	56	51	60	60	60	60	60
City of Grass Valley Treated	31	18	50	50	50	50	50
City of Grass Valley Raw Water	1,272	1,167	1,290	1,290	1,290	1,290	1,290
Source::Brown and Caldwell, 2011.							

Water Quality

In 2014, the quality of the City's surface water supply complied with or exceeded all state and federal drinking water requirements. The City of Grass Valley receives raw water from NID surface water originating from Lower Scotts Flat Lake. It is transmitted in ditches and pipelines to the Alta Vista Treatment Plant, where it is treated and distributed via the City's infrastructure to customers. Currently, the City chlorinates all its potable surface water. The 2014 Consumer Confidence Report reported no violations for surface water treatment.

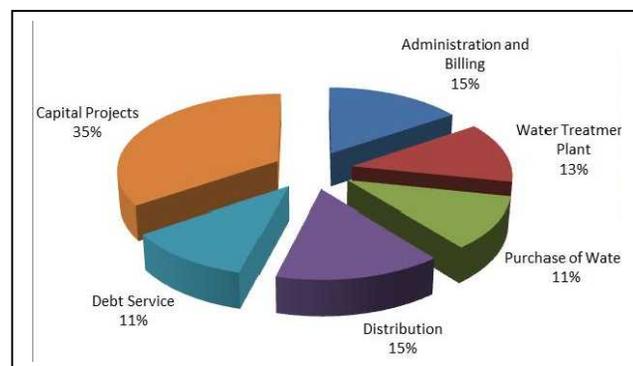
Determinations:

- 3.3.1:** The City's water system facilities and infrastructure include a water treatment plant, three treated water storage structures, and a distribution system consisting of approximately 45 miles of pipeline.
- 3.3.2:** NID sells and delivers up to 5 million gallons of raw water a day to the City. NID also directly serves approximately 40 percent of Grass Valley.
- 3.3.3:** The City's water treatment plant has a maximum capacity rated at 5 mgd. However, an analysis of the City's water treatment system indicated that the City's system has potential for expansion up to 7.5 mgd. The system currently serves approximately 2,600 customers and has a maximum peak day demand of 2.4 mgd. The water treatment plant has sufficient capacity to serve city residents.

3.4 – Financial Ability to Provide Services

The City operates the Water Fund as an enterprise fund. The vast majority of revenues, 84% on average, are derived from water sales and system access charges. The water fund revenues average approximately \$2.2 million annually. Exhibit 3-3 show the distribution of expenditures for 2013-14. About a third went to capital projects while the remaining two thirds were fairly evenly distributed between billing, the water treatment plant, water purchases, distribution, and debt service.

Exhibit 3-3: Grass Valley Distribution of Expenditures 2013-14



Source: City of Grass Valley 2013.

Table 3-5 shows revenues and expenses for the five-year period FY 2007-08 through FY 2011-12. The table also shows that the fund balance has increased each year.

Table 3-5 identifies a large variation in Non-Operating Revenues/Expenses. The total includes connection fees, interest income as well as interest expense. Most of the deficits are due to interest expenses, which varied from \$70,000 to \$143,000.

Table 3-5: Grass Valley Revenues and Expenditures

ACCOUNT	2007-08	2008-09	2009-10	2010-11	2011-12
Operating Revenues	\$1,500,105	\$1,665,128	\$3,911,181	\$1,938,102	\$2,240,142
Operating Expenses	\$1,421,268	\$1,406,313	\$1,355,371	\$1,409,982	\$1,604,598
Operating Income	\$78,837	\$258,815	\$2,555,810	\$528,120	\$635,544
Net Non-Operating Revenues	\$146,505	\$(15,592)	\$(28,348)	\$(76,805)	\$(60,550)
Net change in Assets	\$225,342	\$243,223	\$2,527,462	\$320,057	\$608,315
Net Assets End	\$5,060,057	\$5,303,280	\$7,830,742	\$8,150,799	\$8,759,114

Source: Smith & Newell CPAs, 2009, 2010,2011,2012,2013.

Rate Schedule

The City's water rates are structured so that customers pay a base rate dependent on the size of the water meter and a separate charge based on usage. Base rates are shown in Table 3-6. The average single-family domestic customer with a 5/8-inch meter will have a base fee of \$26.00 per month. Water usage is billed at a residential rate of \$3.75 per thousand gallons. All other customer classes (including commercial, industrial and governmental) using City of Grass Valley water are billed at \$4.48 per thousand gallons. The charges shown are effective January 1, 2013. Water service is billed every two months after service is provided.

Table 3-6: Grass Valley Water Rate Base Fees

SIZE	BASE RATE	SIZE	BASE RATE
5/8"	\$26.00	3"	\$390.00
¾"	\$39.00	4"	\$650.00
1"	\$65.00	5"	\$1,300.00
1½"	\$130.00	6"	\$2,080.00
2"	\$208.00		

Source: City of Grass Valley, 2014.

Outstanding Debt

Over the years, the City has borrowed funds from the State to upgrade its water treatment plant. Table 3-7 summarizes the debt obligations for the water department and shows a total debt of approximately \$3 million.

Table 3-7: Grass Valley Water Services Debt (Balance as of June 30, 2014)

DEBT	AMOUNT
2011 Capital Lease – Gov’t Capital Corporation – Metering Equipment	\$1,467,556.80
1991 State of California Loan- Water Treatment Plant	\$1,693,899.58
Total	\$3,161,456.38
Source: City of Grass Valley, 2013.	

Capital Improvements

The City has a Water Systems Master Plan. Each year, the City adopts its capital improvement budget. The recent CIP projects included valve replacements, line replacements, and funding for new storage tanks. In FY 2013-14, it included \$10,000 for an alarm system at the water treatment plant to prevent theft and secure the site for public safety.

Determinations:

- 3.4.1:** Operating expenses over the last five years averaged around \$1.4 million. Water sales were sufficient to meet expenses so that there was net positive operating revenue each year. Revenues are sufficient to meet expenses.
- 3.4.2:** The City’s water rates are structured so that customers pay a base rate dependent on the size of the water meter and a separate charge based on usage. The average single-family domestic customer will have a base fee of \$26.00 per month. Water usage is billed at a residential rate of \$3.75 per thousand gallons.
- 3.4.3:** The City has a modest level, approximately \$3 million, of outstanding debt for its water department.

3.5 – Status and Opportunities for Shared Facilities

The City works cooperatively with a number of agencies. Its agreement with NID allows water service to newer areas of Grass Valley.

The City is working with Op Terra Energy Services on a solar energy field next to the water treatment plant. The use of solar energy would help offset treatment costs.

In addition, the City applied and received a DWR grant to work with the Wolf Creek Community Alliance on the Peabody Creek Restoration Project. The project consists of creek restoration, flood management, green infrastructure, and storm water management. The project provides water quality and direct flood mitigation benefits to Grass Valley.

The City has a water master plan that was prepared in 2003. Grass Valley is in the process of updating the plan, which should be completed by the end of FY 2014-15.

Cost Avoidance Opportunities

The City has looked at additional cost avoidance opportunities with NID through functional or full consolidation. Past discussions reflect that only if studies demonstrate a significant cost benefit impact from proposed reorganizations, would they be considered. There have been several prior, staff-level studies on both functional and agency reorganizations. No additional opportunities other than NID providing potable water service to new areas has demonstrated significant cost savings.

Determinations:

3.5.1: The City works with NID to reduce costs for providing water to the community. The City collaborates with other groups such as the Wolf Creek Alliance to obtain DWR grants. In addition, the City is working with Op Terra Energy Services on a solar energy project at the water treatment plant to help offset costs.

3.6 – Government Structure and Accountability

The City of Grass Valley was incorporated in 1893 as a charter city with a council-city manager form of government. Council members are elected at large to four-year staggered terms. The Mayor and Vice Mayor are council members appointed by the other council members for two year terms. City business may be conducted by a quorum of the Council and all but financial matters may be approved by a majority of the quorum. Financial matters must receive three votes to pass.

The city council meets on the second and fourth Tuesday at 7 p.m. at City Hall located at 125 East Main. Meetings are noticed according to the Brown Act.

The city council communicates with residents through its website and newsletters that are included with water bills. In addition, the City has several boards and commissions that are made up of citizen volunteers. In total, there are five commissions and committees, the names and sizes of which are shown in table below.

Staffing for the water department is part of the water and wastewater department and has remained constant over the last four years. In FY 2013-14, there were 16 full-time employees.

Table 3-8: Grass Valley Boards and Commissions

COMMISSION/COMMITTEE	NUMBER OF MEMBERS
Historical Commission	5
Personnel Commission	5
Planning Commission	5
Parks and Recreation Commission	6
Development Review Committee	5
Source: Grass Valley, 2014e.	

Determinations:

- 3.6.1:** Grass Valley is a charter city incorporated in 1893. The City is governed by a five-member council elected at large to four-year staggered terms. The City Council meets regularly on the second and fourth Tuesday at City Hall. Meetings are noticed according to the Brown Act.
- 3.6.2:** The City communicates with ratepayers through its website and newsletter that accompanies the water bill. Residents are encouraged to participate on any of the five city commissions and committees.

3.7 – Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

As shown in Table 3-2, the City annexed several parcels between 2004 and the present. In fact the City is surrounded by NID's service area so any out of area service would be provided by NID not the City. Even in the City's sphere water service would be provided by NID. That leads to the conclusion there are no LAFCO policies affecting service delivery by the City.

Determination:

- 3.7.1:** There are no LAFCO policies that would affect water service delivery by the City of Grass Valley since NID surrounds the City's water service area. Any new service would be in NID service area.

3.8 – Summary of Determinations

- 3.1.1:** In 2014, the population of Grass Valley was estimated at 12,668, which was actually a decrease of about 1.5 percent since the 2010 census. It is anticipated Nevada County will grow at rate of 0.5 percent over the next ten years. Based on that growth rate, it is anticipated the population of Grass Valley may reach 12,924 in 2020. If the City annexed all of its sphere area the population in 2020 would be approximately 23,395.
- 3.2.1:** The City of Grass Valley recognizes a fringe community, Alta Hill, along Ridge Road and Alta Road that qualifies as a DUC. The DUC area receives treated water from NID, fire services from the Nevada County Consolidated Fire District, but currently has no public sewer service.
- 3.3.1:** The City's water system facilities and infrastructure include a water treatment plant, three treated water storage structures, and a distribution system consisting of approximately 45 miles of pipeline.
- 3.3.2:** NID sells and delivers up to 5 million gallons of raw water a day to the City. NID also directly serves approximately 40 percent of Grass Valley.

- 3.3.3:** The City's water treatment plant has a maximum capacity rated at 5 mgd. However, an analysis of the City's water treatment system indicated that the City's system has potential for expansion up to 7.5 mgd. The system currently serves approximately 2,600 customers and has a maximum peak day demand of 2.4 mgd. The water treatment plant has sufficient capacity to serve city residents.
- 3.4.1:** Operating expenses over the last five years averaged around \$1.4 million. Water sales were sufficient to meet expenses so that there was net positive operating revenue each year. Revenues are sufficient to meet expenses.
- 3.4.2:** The City's water rates are structured so that customers pay a base rate dependent on the size of the water meter and a separate charge based on usage. The average single-family domestic customer will have a base fee of \$26.00 per month. Water usage is billed at a residential rate of \$3.75 per thousand gallons.
- 3.4.3:** The City has a modest level, approximately \$3 million, of outstanding debt for its water department.
- 3.5.1:** The City works with NID to reduce costs for providing water to the community. The City collaborates with other groups such as the Wolf Creek Alliance to obtain DWR grants. In addition, the City is working with Op Terra Energy Services on a solar energy project at the water treatment plant to help offset costs.
- 3.6.1:** Grass Valley is a charter city incorporated in 1893. The City is governed by a five-member council elected at large to four-year staggered terms. The City Council meets regularly on the second and fourth Tuesday at City Hall. Meetings are noticed according to the Brown Act.
- 3.6.2:** The City communicates with ratepayers through its website and newsletter that accompanies the water bill. Residents are encouraged to participate on any of the five city commissions and committees.
- 3.7.1:** There are no LAFCO policies that would affect water service delivery by the City of Grass Valley since NID surrounds the City's water service area. Any new service would be in NID service area.

CHAPTER 4: CITY OF NEVADA CITY

The City of Nevada City was incorporated in 1856. There are two water service providers within the city limits, the City and the Nevada Irrigation District (NID). The City of Nevada City provides treated water service to the majority of the original City townsite. NID generally provides treated water service to territory annexed in the last 50 years. Where master plans have been adopted and facilities are in place, it is most efficient for the existing service provider to provide the service. NID will also be the designated service entity for newly annexed territory. Areas outside the urban service area and beyond NID service rely on individual private wells.

There are also areas just outside the City that are served with City water. The City currently estimates that approximately 10 properties outside the City receive water service. The majority of these connections date from the first half of the 20th century. In total, the City serves 1,350 connections.

4.1 – Growth and Population Projections

The population of the City of Nevada City in 2014 was estimated as 3,016 by the California Department of Finance. In the last 25 years the population grew from 2,855 to 3,016, approximately 5 percent or 0.2 percent a year. Between 2013 and 2014 the population actually decreased by approximately 57 residents or 2 percent.

Table 4-1 lists annexations to Nevada City in the last 10 years that may require water service. When annexation occurs, the City and NID work together to ensure efficient provision of service. Areas annexed into the City but within the NID service area receive water from NID, except in those instances where the City and NID mutually agree that the City will provide service. To date, there have only been three annexations, since one was an out-of-area service agreement, for a total of 17 parcels, which translates to 17 additional hookups. The demand for additional services is small and given historic growth rates is likely to remain small.

Table 4-1: Recent Annexations to Nevada City Requiring Water Services

YEAR	TITLE	LOCATION	EFFECTIVE DATE	# OF PARCELS	ACREAGE	DEVELOPED (YES, NO, MIXED)	WATER PROVIDER
2008	Silva Avenue		10-10-2008	Three	4.5	yes	NC
2009	Northside	Various northern	4-29-2009	Ten	61	mixed	NC/NID
2013	Grove (annexation)	Grove Street	4-26-13	Four	4.32	Yes(4)	NC
Source: Nevada County LAFCO 2014.							

Determinations:

4.1.1: The population in Nevada City has shown little change in the last 25 years with an average annual growth rate of 0.2 percent. In fact, the population has decreased in the last year. Using the historic growth rate the population can be expected to grow by 1 percent in the next five years, which translates to 30 additional residents for an anticipated population of 3,046.

4.2 – Disadvantaged Unincorporated Communities

Please see Section 1.5 for complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo's policy definition.

No disadvantaged unincorporated communities have been identified adjacent to the Nevada City boundaries and the SOI.

Determinations:

4.2.1: There are no disadvantaged unincorporated communities adjacent to the boundaries of Nevada City.

4.3 – Present and Planned Capacity of Public Facilities

The City's water system was first installed in the 1850s. Nevada City appropriates water from Little Deer Creek southeast of the City. The City relies on two raw water sources, Little Deer Creek and NID's D.S. Canal. Nevada City is entitled to a maximum direct diversion of 2.5 cubic feet per second (cfs) from Little Deer Creek through a permit issued by the State Water Resources Control Board. However, the City asserts that it has appropriative and riparian rights to Little Deer Creek for 4.755 cfs. Flows from the creek are sufficient to meet the City's raw water demands for most of the year; however, during the summer months Nevada City frequently augments raw water supplies by drafting from NID's D.S. Canal.

Water service is provided by the City and NID within the city limits. Exhibit 4-1 shows the areas for each service provider. In all, there are four service areas.

- Area 1 — East of freeway, north of Little Deer Creek, encompassing Aristocracy Hill (Boulder, Grove, Nevada, and Uren Streets). This area is entirely within NID's service area.
- Area 2 — East of the freeway, south of Little Deer Creek, encompassing Prospect Hill, Gold Flat Road, Adams, Clay, Nimrod, Bost Avenue, Lower Grass Valley Road. NID serves this area.
- Area 3 — South of West Broad Street, west of Searls Avenue, encompassing Providence Mine Road, Zion Street, Piety Hill, Spring Street, Bennett and Sacramento Streets. Within this portion, the Hirschman's Pond, Moon, and Erikson properties are within the sphere. Both the Erickson and Moon properties are within the City's service area; the remaining area is within NID's service area.

- Area 4 — West of the freeway, north of West Broad Street, encompassing State Route 49, East Broad Street., County Government offices, USFS, North Pine Street, etc. This quadrant contains the balance of the sphere properties; all are within NID's service area.

The City's water system consists of two surface raw water sources (Little Deer Creek and NID's D.S. Canal), a conventional water treatment plant, three water storage tanks, and approximately 17 miles of distribution pipeline.

Water is treated and stored in three tanks with a collective capacity of three million gallons located in the southeast (Banner Mt. Trail), west (201 Providence Mine Road), and north (County Administration site) areas of the City at similar elevations. The system has a capacity of two million gallons per day (mgd) and treats a maximum of 1.5 mgd in the summer and 0.3 mgd in the winter. The City purchases water from NID during low-flow summer periods.

The City's water system operates via gravity flow except for a couple of private water pump stations on the west side of the City that serves Nevada County facilities and the American Hill Tract plus neighboring lots. Water volume is not a problem, but the treatment facility is close to capacity and the underground system is constrained by pipe size. The recently completed plant upgrades in January 2009 were for improvements to the water quality and did not result in expanded capacity.

Table 4-2 shows the capacity of the City's water system and expected changes to capacity.

Table 4-2: Capacity — Nevada City Water System

CATEGORY	COMPONENT	2008	EXPECTED		
			2013	2018	2023
Source	Little Deer Creek	2.5 cfs (Winter)	No Change		
	NID Agreement for D.S. Canal	Varies	No Change		
Treatment	Rated Capacity for NC Plant	2.0 mgd	No Change		
Storage Facilities	Three Tanks	3 mg	No Change		
Demand	Service Connections	1,350	1,400	1,450	1,500
	Max. Day Demand	1.54 mgd			
Distribution	17 miles				
	Pump Station	1			
Personnel		1	2	2	2

Note: mgd= million gallons per day mg= million gallons
Source: City of Nevada City 2013a

Table 4-3 provides capacity data for the portion served by NID and approximate dates for updates to the system as well as increased capacity.

Table 4-3: Capacity —NID within Nevada City Service Area

CATEGORY	COMPONENT	CURRENT (2006)	E X P E C T E D		
			2011	2016	2021
Source	D.S. Canal (Raw waters supply)	208 acre-feet	Summer only		
Storage Facilities	Tanks		3 mg	3 mg	5 mg
Demand	Service Connections (Total)	600approximately	41	3	29
	Max. Day Demand				
Distribution	NID Mains	All non-City	All future non-City		
	Pump Station	1			—
Note: mg= million gallons Source: City of Nevada City, 2013a.					

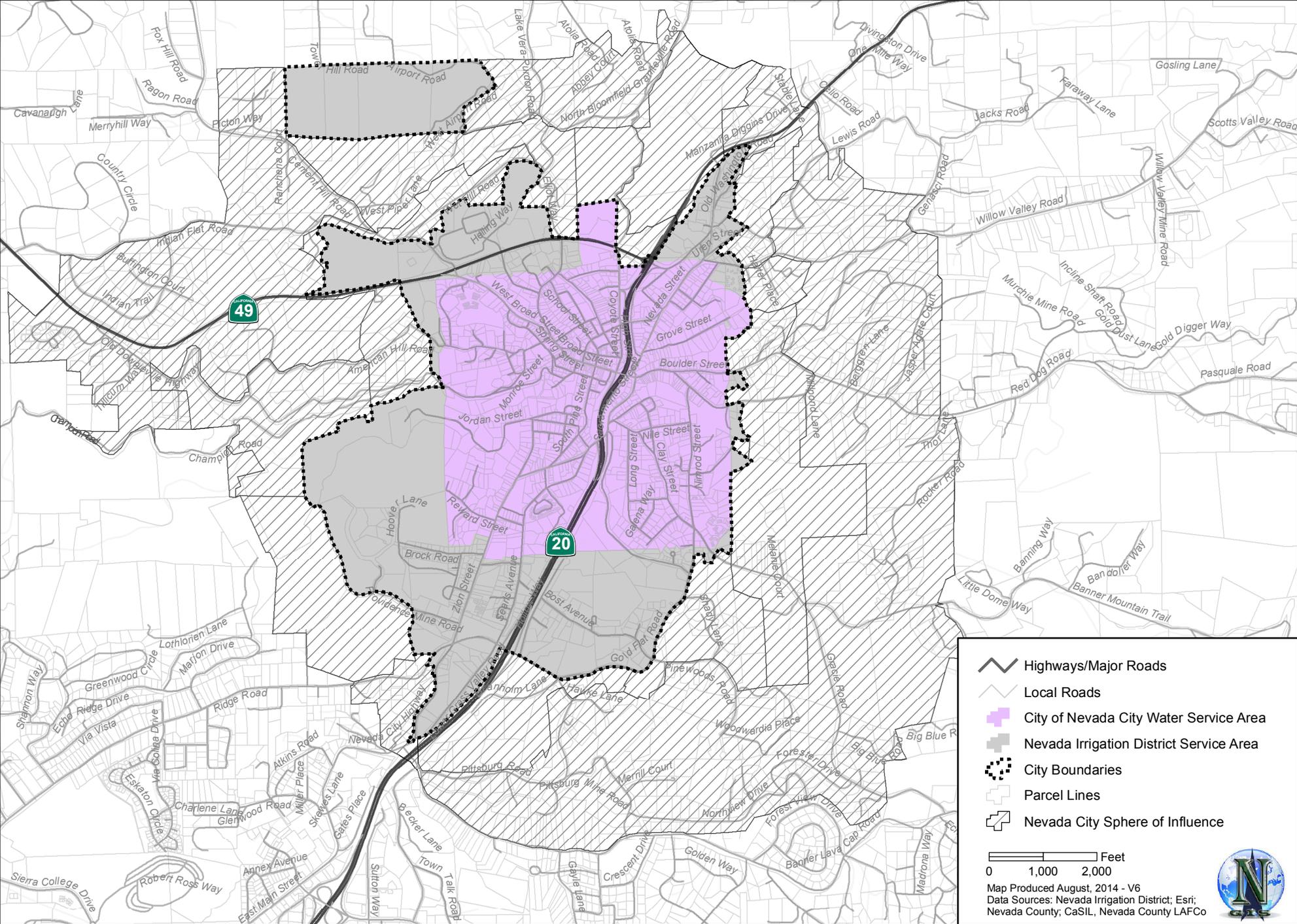
NID provides treated water for its service territory in and around Nevada City from the Elizabeth George water treatment plant southeast of Nevada City on Banner Mountain Road. The Elizabeth George water treatment plant has a capacity of 10 million gallons per day (mgd) (practical capacity of 9 mgd) and a usage commitment of 7.6 mgd. The Elizabeth George water treatment plant master plan was updated in May 2006. NID boundaries have been expanded to include substantially all lands outside the City. In anticipation of additional service demand with the expanded boundaries capacity was increased to approximately 24 mgd.

A generally accepted fire flow standard is 1,500 gallons per minute (gpm). The upper elevations of the City have limited fire flow because of reduced pressures. However, the City and NID have formal agreements for two interties to augment the system to insure adequate fire flow throughout the City. These interties have been employed in emergency situations and have proven adequate for demands of up to one million gallons in 12 hours.

The City is constructing an additional intertie near the intersection of Gracie Road and Gold Flat Road with a DWR grant awarded to the City. The City anticipates that additional interties will be proposed in areas where they would improve public safety capabilities. It should be noted that physical facilities to allow these interties are already in place in some locations, including the proposed non-DWR funded intertie at upper Boulder Street adjacent to the City public works yard at 255 Boulder Street. There is also a potential intertie on Uren Street between B and Hoffman Streets.

Water demand is greater for daytime use than evening use. In daytime, there is difficulty delivering water through the water system to the Sugarloaf Reservoir because of the size of conduits and the high demand during business hours.

Exhibit 4-1: Water Service Providers in Nevada City



- Highways/Major Roads
- Local Roads
- City of Nevada City Water Service Area
- Nevada Irrigation District Service Area
- City Boundaries
- Parcel Lines
- Nevada City Sphere of Influence

0 1,000 2,000 Feet

Map Produced August, 2014 - V6
 Data Sources: Nevada Irrigation District; Esri;
 Nevada County; CaSIL, Nevada County LAFCO



Significant infrastructure improvements are needed, as well as replacement of aging and undersized distribution lines. The City is in the process of developing a system master plan and capital improvement plan. It plans to remedy system deficiencies that include installing telemetry and altitude valves at one or more of its storage tanks. The City believes that it can improve treatment plant production by adjustments to the filtration system, SCADA system and backwash equipment, distribution, and water plant upgrades. The \$1.5 million DWR grant will assist in completing those projects.

In general, absent major annexations and general plan amendments that will substantially increase development density and/or intensity, both entities have adequate potable water to accommodate projected growth through 2023.

Determinations:

- 4.3.1:** Water service is provided by the City and NID within the city limits in four service areas. The City serves 1,350 connections, while the NID service area includes 600 connections to the west and south of the city center. NID also serves the Nevada City SOI.
- 4.3.2:** The Nevada City portion is served by water from Little Deer Creek and NID's D.S. Canal. Water is treated at a treatment plant with a capacity of 2.0 mgd. Current maximum daily demand is 1.5 mgd. The treatment plant has sufficient capacity for the current population and for the next five years given growth expectations over that period.
- 4.3.3:** Nevada City supplements its fire flow capacity through interties with NID and existing NID fire hydrants. Otherwise, there could be insufficient flow for a major fire in town.
- 4.3.4:** Significant infrastructure improvements are indicated, as well as replacement of aging and undersized distribution lines. Nevada City has received DWR grants to upgrade its treatment plant and distribution system.

4.4 – Financial Ability to Provide Services

In 2012-13, revenues exceeded expenses \$856,807 to \$518,759. Analysis of revenues and costs shows that 3 percent of the revenue comes from property tax, while 97 percent comes directly from water rates.

The City engages in several enterprise activities, with water as one of the key activities. Typically, enterprise activities are funded by rates charged to customers. As noted, the water rates account for 97 percent of revenues. Rates appear to be sufficient to cover costs.

Table 4-4 shows revenues and expenses for the period FY 2008-09 to FY 2012-13. Up until FY 2011-12 it cost more to provide services than the revenues collected. The data indicate that water rates were not sufficient to meet operations and maintenance costs. Many of the pipes were in need of

replacement and significant upgrades were needed at the water treatment plant. In addition, the fee structure did not include sufficient funds for much needed capital improvements to the City's aging water system.

In 2010, the City conducted a water rate study to update its fee schedule to close the funding gap shown in the first three years of Table 4-4. Up to that time the City was charging a flat fee for water usage. In addition to providing insufficient revenues there was also concern that the flat rate was inequitable to those using little water, and failed to encourage water conservation. The City Council did approve a rate increase that became effective in January 2011, with further increases in 2012 and 2013. Beginning in FY 2011-12 revenues exceeded expenditures. The adopted fee schedule is reviewed each year to determine the need to change rates.

Table 4-4: Nevada City Water Enterprise Fund Revenues and Expenditures

ITEM	2008-09	2009-10	2010-11	2011-12	2012-13
Total Revenues	\$487,334	\$530,334	\$582,925	\$753,685	\$856,807
Total Expenditures	\$784,600	\$687,668	\$611,513	\$562,790	\$518,759
Difference	(\$59,511)	(\$75,643)	(\$51,565)	\$160,991	\$308,450
Source: City of Nevada City 2008,2009,2010,2011,2012,2013.					

Rate Schedule

The rates shown in Table 4-5 are residential water rates. As shown, the City charges a service fee based on the size of the meter and then a two-tiered rate. A lower rate is charged for the first 8,000 gallons used per month. Once 8,000 gallons is exceeded, the customer is charged a higher rate. The two-tiered system encourages water conservation.

Table 4-5: Nevada City Water Rates

BI-MONTHLY RATES & FEES	PRICE PER 1,000 GALLONS		
	1/1/2011	1/1/2012	1/1/2013
First 8,000 gallons	\$2.00	\$2.15	\$2.15
Over 8,000 gallons	\$2.60	\$2.80	\$2.80
Service Fee 5/8-inch meter	\$38.34	\$44.00	\$44.00
Service Fee ¾-inch meter	\$57.52	\$66.00	\$66.00
Service Fee 1-inch meter	\$95.86	\$110.00	\$110.00
Source: City of Nevada City, 2013c.			

Capital Improvements

In 2010, the City, along with the Washington County Water District, applied for a DWR grant to develop a capital improvement plan. As a result of the rate increase, the City was able to set aside funds for capital improvements. Some of the proposed projects are shown in Table 4-6.

**Table 4-6: City of Nevada City Capital Improvement Plan 2010–2016
(Excerpt from Nevada City’s Five-Year CIP)**

PROJECT #	PROJECT (NAME/TITLE)	ESTIMATED YEAR COMPLETED	TOTAL COST	FUNDS	GAP FUNDING REQUIRED FOR COMPLETION
WATER PLANT UPGRADES					
35	Automatic Tank Valves	2015	\$20,000		\$20,000
WATER DISTRIBUTION SYSTEM					
37	4' Water Line Am Hill to Old Downieville	2016	\$95,000		\$95,000
38	4' to 6' Water Main Prospect Street	2015	\$75,000		\$75,000
40	6' Water Main N Pine St.	2015	\$160,000	\$160,000	
41	4' to 6' Water Main Park Ave.	2015	\$85,000	\$85,000	
44	6' Water Main Woodpecker Lane	2015	\$112,000	\$112,000	
45	6' Water Main S Pine St/Cross St.	2015	\$220,000	\$220,000	
47	Clean & Repaint Water Tanks	2016	\$200,000	\$20,000	\$180,000
48	Alt. Valves & SCADA @ Water Plant	2015	\$142,000	\$142,000	
TOTAL			\$1,109,000	\$739,000	\$370,000
Source: City of Nevada City 2010a, Falconi 2015					

Determinations:

- 4.4.1:** Nevada City found that water rates were unable to generate sufficient revenues for operation and maintenance as well as to fund needed capital improvements. A rate study was conducted in 2010 and recommended a baseline rate plus a two-tier usage rate. The usage rate was based on a cost per 1,000 gallons consumed with a cutoff for the higher rate at 8,000 gallons per two-month period.
- 4.4.2:** The higher rates became effective in January 2011. As a result revenues exceeded expenditures for FY 2011-12 and FY 2012-13 and provided funding for capital improvements. It was estimated the City needed an additional \$370,000 to complete its list of projects.

4.5 – Status and Opportunities for Shared Facilities

The City works cooperatively with a number of local agencies. The City worked with Washington County Water District to prepare and receive DWR grants. The City is administering the grants for

both the City and WCWD. In addition, the grant allowed the City to develop a drought action plan and a customer conservation and education program.

The City also works with NID since they both serve portions of the City. The main source of water for the City is the D.S. Canal off Lower Scotts Flat Lake Reservoir in the Deer Creek system. The City and NID have formal agreements for two interties to augment the system to insure adequate fire flow throughout the City.

Cost Avoidance Opportunities

The City has also looked cost avoidance opportunities through functional or full consolidation with NID. Past discussions reflect that only if studies demonstrate a significant cost benefit impact from proposed reorganizations, would they be considered. There have been several prior, staff-level studies on both functional and agency reorganizations. The City has studied cost avoidance opportunities as part of some development projects by reduction of pipelines and use of existing available water treatment capacity.

Determinations:

4.5.1: The City works cooperatively with many local agencies. Some examples are agreements for interties with NID to augment the system to insure adequate fire flow capabilities and the DWR grant with Washington County Water District.

4.6 – Government Structure and Accountability

The City of Nevada City is governed by a five member city council elected at large to four year staggered terms. City Council meetings are held on the second and fourth Wednesdays of each month, at 6:30 p.m., in the City Council Chambers at City Hall, 317 Broad Street in Nevada City. Meetings are noticed according to the Brown Act.

The City maintains a website that includes contact information for city council members. Agendas and minutes will also be posted on the Archive page along with the video from each meeting. Because of Nevada City's small population, many city officials are easily recognized so that residents can easily communicate with them.

The water system is maintained by the Public Works Department. The Public Works Department is also responsible for repair and maintenance of City streets, buildings and grounds maintenance for all city facilities. The Water Treatment Plant, Waste Water Facility, Engineering, and Parks & Recreation are divisions of the Public Works Department. The Public Works Division consists of seven full-time employees.

Determinations:

4.6.1: The City of Nevada City is governed by a five-member city council elected at large to four-year staggered terms. They meet regularly on the second and fourth Wednesdays at 6:30 p.m. at City Hall. Meetings are noticed according to the Brown Act.

- 4.6.2:** The City communicates with residents through its website, where residents can find meeting agendas, minutes, and video of the proceedings.

4.7 – Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

As shown in Table 4-1, the City annexed several parcels between 2008 and the present. One annexation was preceded by an emergency extension of a sewer service contract. The extension of service contract policy has very limited application and is designed to provide service in cases where the parcel is in the SOI and annexation is imminent or in the event of an imminent risk to health and safety. Although lack of safe, potable water sources constitutes a risk to health and safety, because Nevada Irrigation District serves most areas surrounding the city, it is rare that the City would be asked to provide water service by contract outside its boundaries. That leads to the conclusion there are no LAFCO policies affecting water service delivery by the City.

Determinations:

- 4.7.1:** There are no LAFCO policies that would affect water service delivery.

4.8 – Summary of Determinations

- 4.1.1:** The population in Nevada City has shown little change in the last 25 years with an average annual growth rate of 0.2 percent. In fact, the population has decreased in the last year. Using the historic growth rate the population can be expected to grow by 1 percent in the next five years, which translates to 30 additional residents for an anticipated population of 3,046.
- 4.2.1:** There are no disadvantaged unincorporated communities adjacent to the boundaries of Nevada City.
- 4.3.1:** Water service is provided by the City and NID within the city limits in four service areas. The City serves 1,350 connections, while the NID service area includes 600 connections to the west and south of the city center. NID also serves the Nevada City SOI.
- 4.3.2:** The Nevada City portion is served by water from Little Deer Creek and NID's D.S. Canal. Water is treated at a treatment plant with a capacity of 2.0 mgd. Current maximum daily demand is 1.5 mgd. The treatment plant has sufficient capacity for the current population and for the next five years given growth expectations over that period.
- 4.3.3:** Nevada City supplements its fire flow capacity through interties with NID and existing NID fire hydrants. Otherwise, there could be insufficient flow for a major fire in town.
- 4.3.4:** Significant infrastructure improvements are indicated, as well as replacement of aging and undersized distribution lines. Nevada City has received DWR grants to upgrade its treatment plant and distribution system.

- 4.4.1:** Nevada City found that water rates were unable to generate sufficient revenues for operation and maintenance as well as to fund needed capital improvements. A rate study was conducted in 2010 and recommended a baseline rate plus a two-tier usage rate. The usage rate was based on a cost per 1,000 gallons consumed with a cutoff for the higher rate at 8,000 gallons per two-month period.
- 4.4.2:** The higher rates became effective in January 2011. As a result revenues exceeded expenditures for FY 2011-12 and FY 2012-13 and provided funding for capital improvements. It was estimated the City needed an additional \$370,000 to complete its list of projects.
- 4.5.1:** The City works cooperatively with many local agencies. Some examples are agreements for interties with NID to augment the system to insure adequate fire flow capabilities and the DWR grant with Washington County Water District.
- 4.6.1:** The City of Nevada City is governed by a five-member city council elected at large to four-year staggered terms. They meet regularly on the second and fourth Wednesdays at 6:30 p.m. at City Hall. Meetings are noticed according to the Brown Act.
- 4.6.2:** The City communicates with residents through its website, where residents can find meeting agendas, minutes, and video of the proceedings.
- 4.7.1:** There are no LAFCo policies that would affect water service delivery.

CHAPTER 5: NEVADA IRRIGATION DISTRICT

The Nevada Irrigation District (NID) is an independent special district established in 1921 under the Irrigation District Law (California Water Code Section 20500, et seq.). NID's boundaries cover a 287,000-acre area, including large portions of western Nevada County and Placer County.

In total, NID serves 24,500 customers primarily in Nevada and Placer counties. Services consist of irrigation water for agricultural, landscape and recreational uses as well as raw water for treatment and delivery to urban/rural areas in the cities of Grass Valley and Nevada City. The District also treats and distributes water. NID's retail potable water system connections are predominantly single-family, but also consist of multi-family, commercial, industrial, and institutional customers.

NID's boundaries include several areas that are not served due to the sporadic development of these rural areas. It is likely that some of these areas will eventually require treated water and fire flow supplies. A map of NID's current boundary and sphere of influence (SOI) is shown in Exhibit 5-1. The map includes the service territory as well as the sources of surface water in eastern Nevada County.

In 1926 the Railroad Commission authorized NID to provide irrigation water to the former Excelsior Water and Power Company's holdings. The Railroad Commission Order 15926 included 14,673 acres of which 9,893 acres are currently outside the District boundaries in Yuba County. A total of 2,330 acres in that area currently receive raw water. The order requires the District to provide 1.0 miners inch of irrigation water if requested. All of the customers pay out of district rates for water services. There is a small water treatment facility within the community of Smartsville that provides service to 44 customers.

NID also provides electric generation and limited recreational services at the District's reservoirs. The district recently extended its service agreement with PG&E so that PG&E purchases power generated at NID's system of reservoirs. However, those services are not a topic for this MSR.

5.1 – Growth and Population Projections

Because of the large service area, the estimated population receiving potable water was derived from the 2010 Urban Water Management Plan. The estimate is based on census tract data and an assumption for persons per residential connection. The methodology resulted in an estimated population of potable water customers of 44,761 in 2010. Table 5-1 shows population estimates from 1995 projected to 2035. Beyond 2010, the table shows a population range. The two values represent a low growth estimate of 1.7 percent annually and a high growth estimate of 2.5 percent annually. The high growth estimate is good to project long-term needs as well as the irrigation water-only customers, while the low growth estimate is more consistent with historical data.

Table 5-1: Estimated Population of NID Potable Water System Customers

YEAR	ESTIMATED POPULATION
1995	36,536
2000	39,374
2005	44,001
2010	44,761
2015	48,620–50,422
2020	52,813–56,799
2025	57,336–63,982
2030	62,312–72,073
2035	67,685–81,188
Source: Brown and Caldwell 2011	

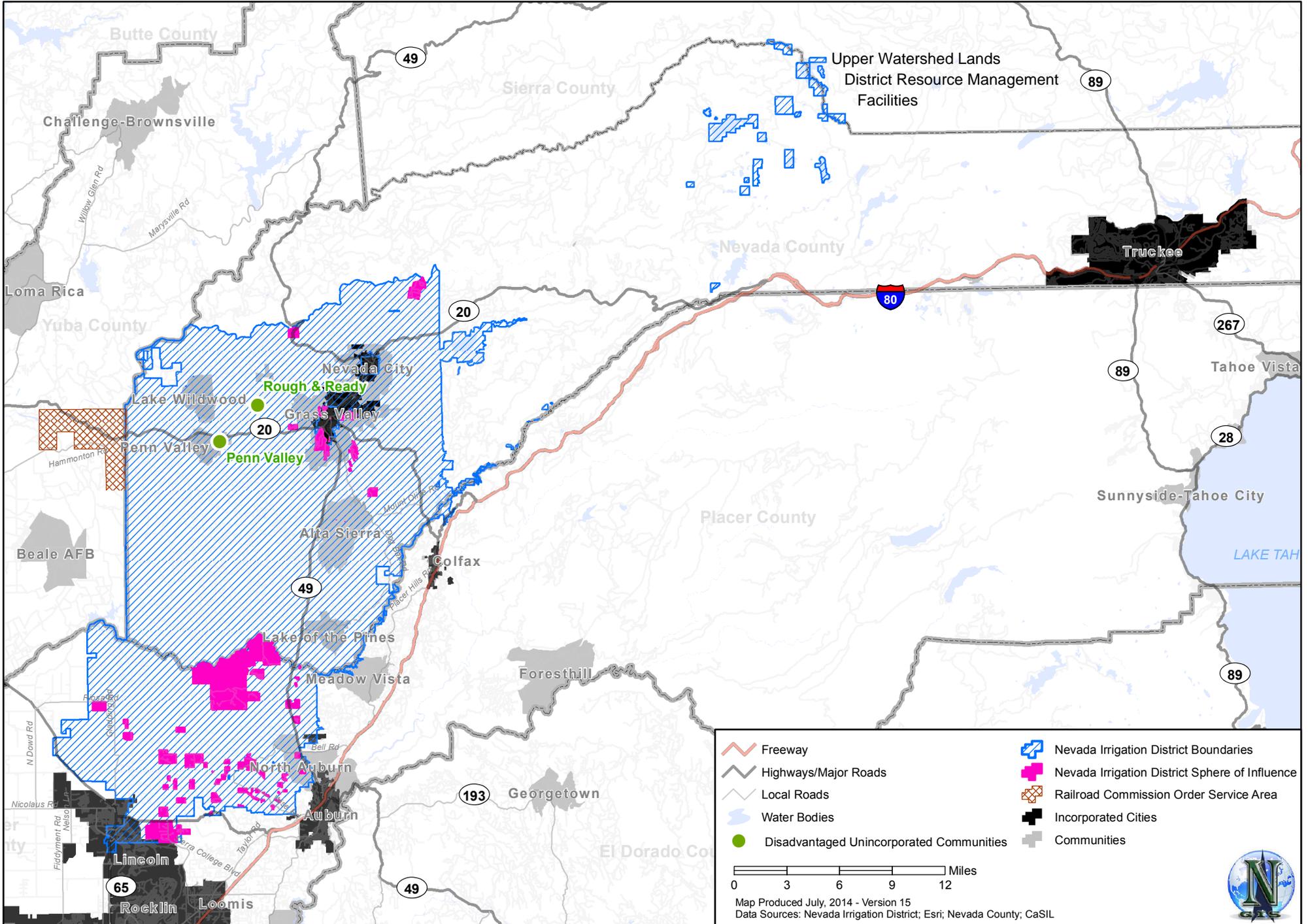
Table 5-2 lists annexations to NID in the last 10 years that may require water service. The table shows there were 180 parcels annexed to NID, as the service provider. Although there were several additional parcels and customers the addition represents less than 0.5 percent of the customer base and can be considered small.

Table 5-2: Recent Annexations to NID

YEAR	TITLE	LOCATION	EFFECTIVE DATE	NO. OF PARCELS	ACREAGE	DEVELOPED (YES, NO, MIXED)
2005	Sierra Nevada Memorial Hospital	Grass Valley	3-22-2005	1	28	mixed
	Empire Hills	Grass Valley	6-14-2005	11	46	mixed
	Atwood	Placer County	3-2-2006	1	40	mixed
2006	Moule	Grass Valley	10-31-2006	1	2	no
	Indian Trails	West of Nevada City	2-22-2007	30	43	no
2007	Cement Hill	North of Nevada City	4-25-2007	64	540	mixed
	Hills Flat	Grass Valley	7-25-2007	72	44	mixed
Source: Nevada LAFCO, 2014.						

In addition, there have been several annexations to cities as a result of new development projects where NID is the service provider. Table 5-3 shows that in addition to growth by annexation, growth can occur as a result of build out, since NID's boundaries and service areas include portions of Nevada City and Grass Valley. Annexations to other agencies resulted in an additional 289 parcels served by NID.

Exhibit 5-1: Nevada Irrigation District Boundary Map



	Freeway		Nevada Irrigation District Boundaries
	Highways/Major Roads		Nevada Irrigation District Sphere of Influence
	Local Roads		Railroad Commission Order Service Area
	Water Bodies		Incorporated Cities
	Disadvantaged Unincorporated Communities		Communities

Miles
 0 3 6 9 12

Map Produced July, 2014 - Version 15
 Data Sources: Nevada Irrigation District; Esri; Nevada County; CaSIL



Table 5-3: City Annexations Where NID Provides Water Services

YEAR	AGENCY	TITLE	LOCATION	EFFECTIVE DATE	NO. OF PARCELS	ACREAGE	DEVELOPED
2004	Grass Valley	Glenbrook West C, East B	Glenbrook	6-08-2004	54	94	Mixed
	Grass Valley	Glenbrook West A	Glenbrook	8-16-2004	70	45	Yes
	Grass Valley	Partridge		9-15-2004	1	0.17	Yes
	Grass Valley	Morgan Ranch West	Morgan Ranch	9-15-2004	26	18	No (25)
2005	Co San District	Villagio di Vignetto	Wildwood	6-02-2005	1	53	No (49)
	Co San District	Valley Oak Court	Penn Valley	10-31-2005	15	9	Mixed
2006	Co San District	Saddle Ridge	Lake of Pines	10-31-2006	2	32	Mixed (97)
	Grass Valley	Makiah Woods	East of Glenbrook	02-27-2006	2	13	Mixed
	Grass Valley	Di Martini	Idaho Maryland Rd.	6-22-2006	4	13	No (4-9)
	Grass Valley	Glenbrook West EFG	Glenbrook	7-20-2006	70	45	Mixed
	Grass Valley	Hastert-Jones		9-22-2006	1	Two	Yes
2007	Co San District	Copeland	Lake of the Pines	2-23-2007	1	One	Yes (1)
	Co. San District	Lindke	Penn Valley	5-16-13	1	One	Yes
2008	Co San District	Combie Plaza	Lake of the Pines	2-22-2008	1	Four	Yes
	Co San District	Industrial Place	Lake of the Pines (?)	11-18-2008	2	Four	No (10)
2009	Nevada City	Gracie Commons	Gracie Rd.	4-24-2009	4	2.25	No (16)
	Nevada City	Northside	Various northern	4-29-2009	10	61	Mixed
2011	Grass Valley/NID	Milco	Idaho Maryland Rd.	10-27-2011	3	8	No (6)
2012	Grass Valley	Loma Rica	East GV	12-11-2012	9	455	No (700)
	Nevada City	Grove (out of agency contract)	Grove Street	9-20-2012	4	4.32	Yes (4)
2013	Nevada City	Grove (annexation)	Grove Street	4-26-2013	4	4.32	
	Co. San District	Rincon del Rio	Lake of the Pines	8-21-2013	4	215	

Source: Nevada LAFCO, 2014.

Determinations:

- 5.1.1:** The estimated population of potable water service areas was 44,761 in 2010. By 2020, the population is expected to range between 52,813 and 56,799. The larger estimate represents an annual growth rate of 2.5 percent.
- 5.1.2:** In recent years, NID's customer base has grown through annexations to NID and annexations to agencies that contract with NID. Since 2004, NID has provided new or expanded service to an additional 180 parcels through annexation to the district itself, and to 289 parcels through annexations to Grass Valley and Nevada City where the District is the water service provider.

5.2 – Disadvantaged Unincorporated Communities

Please see Section 1.5 for complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo's policy definition.

Within NID service territory the communities of Penn Valley and Rough and Ready have been identified by the County as Disadvantaged Unincorporated Communities (Exhibit 5-1). Both have existed for more than 50 years and can be considered Legacy Communities. One other DUC in NID territory, Alta Hill, lies adjacent to the City of Grass Valley. A discussion of service to that community can be found in the Grass Valley chapter of this MSR.

Penn Valley has a median household income of \$41,855 which is 68% of the statewide median household income. Water is provided by NID and wastewater by County Sanitation District 1. Penn Valley receives fire protection from the Penn Valley Fire Protection District. The District employs ten full time career fire personnel and relies on part time firefighters to augment the full time staff. The District operates three fire stations, two of which are currently staffed twenty-four hours a day with a minimum of two personnel. Penn Valley Fire Protection District also provides Advanced Life Support Paramedics and an ambulance service.

In Rough and Ready the median household income is \$39,050 or 64% of the statewide value. Water is provided by NID, although Rough and Ready receives only irrigation water. Rough and Ready residents rely on septic systems as there is no municipal wastewater treatment system available. Like Penn Valley Rough and Ready has its own fire department, the Rough and Ready Volunteer Fire Protection District. The district operates from the station in the heart of Rough and Ready. In addition to the fire chief, District personnel include an assistant fire chief, a captain, four firefighter EMTs and five firefighters.

Determinations:

- 5.2.1:** There are three identified DUCs in NID territory, Penn Valley, Rough and Ready, and Alta Hill. The Alta Hill community is adjacent to the City of Grass Valley. All receive water from NID, although Rough and Ready only receives irrigation water. Rough and Ready and Penn Valley have their own fire districts that provide fire protection, while Alta Hill is served by the Nevada County Consolidated Fire District. Penn Valley receives

sewer services from Nevada County Sanitation District 1, while residents of Rough and Ready and Alta Hill rely on septic systems.

5.3 – Present and Planned Capacity of Public Facilities

Supply

NID’s primary water source is surface water from the Yuba River, Bear River, and Deer Creek watersheds. Water is diverted and stored under the Districts pre-1914 and post 1914 appropriative water rights. Additional water supply comes from PG&E contract purchases and recycled water.

The District holds 28 post-1914 appropriative water rights, 22 pre-1914 rights, and three riparian rights. These include rights for both consumptive and power purposes. The total water right volumes consist of storage rights, direct diversion rights, and a combination of both. The total estimated for diversion and/or storage for consumptive use totals 450,000 AFY. The water right entitlements are subject to the permitted season for diversion and water availability in each year. In drought years supply is based on availability rather than water right limitations.

Primary water supply for NID is currently derived from mountain snowpack from Northern California’s Sierra Nevada Mountains. Snow melt is stored in an extensive system of ten reservoirs that provide water to NID’s seven water treatment plants as well as the raw water supply for NID’s raw water system. Table 5-4 shows the ten reservoirs and their capacity, which totals 280,000 AF.

The District is also seeking to expand its capacity and in August 2014 submitted an application to build a new 110,000 AF reservoir on the Bear River between Rollins Reservoir and Combie Reservoir. More details on its capacity can be found in the financial section on capital improvements.

Table 5-4: NID Reservoirs and Capacity

NAME	CAPACITY (AF)	SPILL ELEVATION (FT)	MINIMUM POOL/ DEAD STORAGE (AF)
Jackson Meadows	69,205	6,036.00	21,000
Milton	295	5,690.50	148
Bowman	68,510	5,563.60	3,425
Jackson Lake	1,330	6,592.67	360
Sawmill	3,030	5,860.00	0
Faucherie	3,980	6,123.00	249
French	13,940	6,660.28	893
Rollins	65,988	2,171.00	7,200
Scotts	48,547	3,074.81	5,000
Combie	5,555	1,600.00	1,400
TOTAL	280,390	—	39,675
Source: Brown and Caldwell, 2011.			

NID holds permits from the California Department of Public Health, Office of Drinking Water, for seven treatment plants with a combined capacity of 33.4 million gallons per day, serving over 18,000 connections. Each water treatment plant (WTP) complies with applicable state and federal regulations including the Surface Water Treatment Rule and the Safe Drinking Water Act. Table 5-5 lists the treatment facilities, their capacity, and planned expansion.

Table 5-5: NID Water Treatment Facilities

WTP	EXISTING WTP CAPACITY, MGD	PROPOSED EXPANSION, MGD	TOTAL CAPACITY (EXISTING + PROPOSED), MGD	PROPOSED EXPANSION DATE
Loma Rica WTP	8.3	4	12.3	2020
E. George WTP	18	6	24	2030
Lake Wildwood WTP	4	4	8	2016
North Auburn WTP	6	4	10	2020
Lake of the Pines WTP	5	0	5	—
Cascade Shores WTP	0.34	0	0.34	—
Smartsville WTP	0.085	0	0.085	—
Lincoln Service Area	— ^(a)	10	10	2016
TOTAL	41.725(MGD) (46,738(AFY))	28	69.725 (MGD) (78,102 (AFY))	—

Source: Brown and Caldwell, 2011

Contract Water

In addition to snowpack runoff and storage in the reservoirs, NID can purchase wholesale raw water through its contract with PG&E for up to 59,318 acre-feet annually (AFY). Historically NID has purchased between 1,500 acre-feet and 23,000 acre-feet. The average demand has been 8,000 acre-feet.

Recycled Water

All wastewater treated within the NID service area is discharged to local watercourses. Recycled water discharge mixes with NID water being transported in the creeks. The combined waters are then diverted from the creek into district canals. This supply of water augments NID's overall water supply. NID takes effluent from wastewater treatment facilities from Nevada City, Grass Valley, and Auburn for agricultural use. This source provides an additional 2,550 AFY.

Supply Reliability

A water supply reliability comparison considers three water supply scenarios: normal water year, single dry year, and multiple dry years. The surface water supply to NID is subject to a reduction during single and multiple dry years (seasonal and climatic shortages). The only other source of water for NID is recycled water, which is likely to also be reduced based on the assumption that river discharge from the waste water treatment facilities will be reduced. Table 5-6 shows the reliability for each scenario. A single dry year reduces reliability to 45 percent while even in multiple dry years, reliability exceeds that level.

Table 5-6: NID Supply Reliability for various scenarios

SOURCES	NORMAL	SINGLE DRY	MULTIPLE DRY WATER YEAR SUPPLY			
	WATER YEAR		YEAR	YEAR 1	YEAR 2	YEAR 3
Wholesaler - Contract Purchase (PG&E)	54,361	23,591	23,591	23,591	23,591	23,591
Supplier-produced groundwater	0	0	0	0	0	0
Supplier-produced surface water	0	0	0	0	0	0
Watershed runoff	229,124	37,179	109,506	106,410	247,931	146,443
Carryover storage	119,843	119,843	119,843	59,921	59,921	59,921
Transfers in	0	0	0	0	0	0
Exchanges in	0	0	0	0	0	0
Recycled water	2,500	2,500	2,500	2,500	2,500	2,500
Desalination water	0	0	0	0	0	0
TOTAL	405,828	183,113	255,439	192,422	333,944	232,455
Percent of Normal	100%	45%	63%	47%	82%	57%
Source: Brown and Caldwell, 2011 and Crough, 2014.						

Demand

Table 5-7 shows the number of connections and types of connections projected out to 2020. Total connections show a modest increase of 10 percent over the five year period or 2 percent per year. Most connections, 93 percent, are single family residences. Total domestic treated water demand remains fairly constant at 10,339 AFY annually. As shown in Table 5-6 the WTP network can supply 46,738 AFY and can easily meet the demand of 10,339 AFY.

Table 5-7: NID Metered Connections and Projected Demand

USE	2005	2010	2015	2020
Single-family	17,268	17,561	19,586	22,031
Multi-family	341	347	387	435
Commercial	341	374	417	469
Industrial	46	47	52	59
Institutional	221	225	251	282
Landscape irrigation	203	206	230	259
Total	18,419	18,760	20,923	23,535
Total Volume (AFY)	10,029	9,134	10,346	10,339
Source: Brown and Caldwell 2011				

While Table 5-7 shows water demand for NID's domestic customers, Table 5-8 shows demand for all customers. A comparison of the two tables shows that potable water is a small fraction of total demand. A large majority goes to agriculture as applied water. Given the storage capabilities and treatment plant capacity, NID has sufficient supply to meet demands of its ratepayers even during dry years and multiple dry years.

Table 5-8: NID Water Usage 2011

USE	ACRE-FEET
Applied Water	117,340
Distribution, Seepage, Evaporation and Spills (estimated 10% combined loss)	14,000
Municipal and Industrial Water Use	2,450
Any Water Used For Environmental Purposes	9,135
Any Water Leaving the Service Area	4,424
Other, Domestic Water	9,728
Total	157,077
Source: Nevada Irrigation District 2012	

Determinations:

5.3.1: NID receives water from snowmelt that it catches at 10 reservoirs. In addition, it has a contract for raw water with PG&E for up to 54,000 AFY. The reservoirs have a total capacity in excess of 280,000 acre-feet. Typical potable demand is approximately 10,000 AFY. In 2011, water uses totaled 157,077 acre-feet. The conclusion is that NID has

sufficient capacity to meet demand in the current year and through 2020. Water supply reliability exceeds 45 percent even in extended dry years.

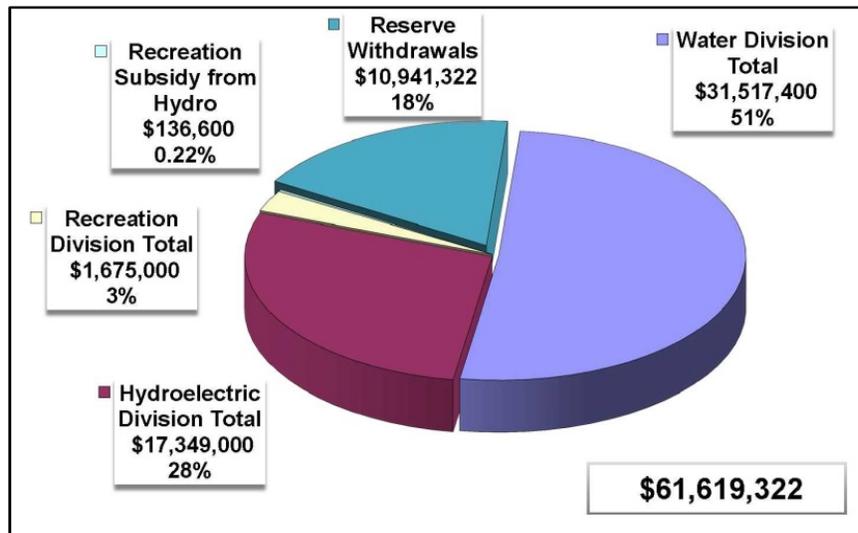
- 5.3.2:** NID takes advantage of opportunities to augment its supply with recycled water. Typically, effluent discharge from wastewater facilities in Auburn, Grass Valley, and Nevada City provides an additional 2,550 AFY for agricultural uses.

5.4 – Financial Ability to Provide Services

The District operates on a calendar year budget. In 2014 the District plans to spend \$61.6 million. The revenues and expenses are divided among the water division, the electricity division, as well as the recreation division, which operates campgrounds at several of its reservoirs. The water division budget represents two-thirds of the budget, or approximately \$42 million. The hydroelectric division accounts for \$17.3 million and recreation \$1.8 million. Since this MSR only reviews water services, the focus will be on the water division.

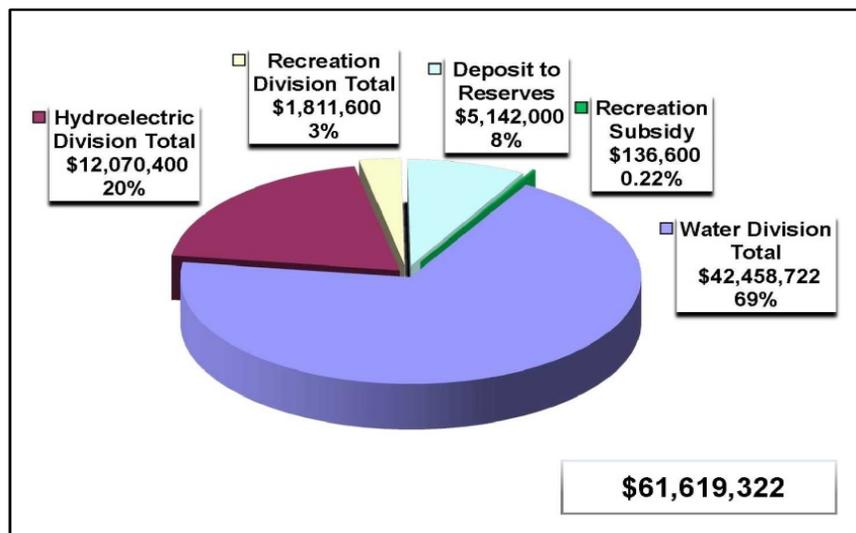
Exhibit 5-2 and Exhibit 5-3 show revenues and expenses for 2014. The Water Division’s budget represents 51 percent of total revenues but 69 percent of total expenses.

Exhibit 5-2: NID Budget 2014 –Revenues



Source: NID 2014

Table 5-9 shows revenues and expenses from 2008 to 2012. The table shows net assets, the fund balance, has increased each year except 2012. During that period water sales accounted for about 90 percent of operating revenues. Operating expenses consist of administration, 28 percent; canals, 23 percent; treatment plants, 11 percent; and treated water systems, 14 percent. Property taxes provide the main source of non-operating revenues accounting for \$10 million of the \$12 million on average. It is clear from the table that water sales are not sufficient to cover operating expenses, but

Exhibit 5-3: NID Budget 2014 –Expenses

Source: NID 2014

in combination with property taxes, revenues are sufficient to cover costs. Any long-term negative economic impact on NID's water sales or property tax could have a negative impact on NID's water operations budget, necessitating potential expenditure reductions or extraordinary rate increases.

Since some capital projects are funded from outside water sales to Grass Valley, Nevada City, and Yuba and Placer counties, they would not be as impacted by property tax reductions resulting from the sale of property at lower prices during the economic downturn. NID maintains sufficient reserves for short term impacts; however, any long-term negative impact on water sales due to drought management requirements or losses of property tax revenues may require significant water rate increases to maintain operational and capital expenditure levels.

Table 5-9: NID Revenues and Expenditures

ACCOUNT	2008	2009	2010	2011	2012	AVERAGE
Operating Revenues	\$18,067,112	\$17,801,467	\$17,694,353	\$18,545,326	\$20,086,339	\$18,438,919
Operating Expenses	\$27,581,737	\$26,212,339	\$24,867,080	\$25,872,389	\$29,266,957	\$26,760,100
Non-Operating Revenues	\$18,127,593	\$10,841,106	\$11,793,273	\$11,744,251	\$10,147,253	\$12,530,695
Net Assets	\$260,176,655	\$262,721,945	\$273,967,991	\$283,502,076	\$282,013,205	\$272,476,374

Source: Boler & Associates, 2009, 2010, 2011, 2012, 2013.

Rate Schedule

NID's water service rate structure is very complex due to both the variety and volume of customer needs. The rate structure reflects consumption-based charges and standby fixed rate charges for its customer connections. NID revised the rate structure as part of a broader based strategic plan of services and reduced the number and types of rates from about 40 to 25, addressing both agricultural and potable water customer types.

NID contracted with the firm of Bartle Wells Associates in 2012 to prepare a Capacity Charge Update Study. The new report was submitted and accepted by the District in spring 2014 and established a methodology for future expansions and allocation of costs based upon type and benefit of capacity for new development. A new capacity charge component for water supply and related infrastructure is included. Planned upgrades to treatment facilities were also factored into the calculations. It included estimated costs for expansion of the Lake Wildwood and North Auburn Treatment Plants, expansion of major transmission and distribution pipelines, and added pump stations.

NID reports rate increases implemented in 2014 were needed to fund full cost recovery for the Water Division. NID anticipates gradual increases in the near future to address costs of service and expected lower sales due to the drought and statewide mandatory conservation. In the past property taxes were put into an operating reserve that was drawn upon when revenues from water sales fell short of expenses. The rate increase will assist in closing the revenue versus expenditure gap in Operation and Maintenance so that rates are no longer subsidized through tax revenues.

Capital Improvements

NID adopted a Ten Year Capital Improvement Plan in 2012. NID reports that it maintains a list of updated projects requiring capital investments. NID then makes decisions concerning new improvements on an annual basis as part of the fiscal year budget. On average, NID budgets \$11 million annually for major repairs and upgrades. The 2014 budget included \$14,158,000 for pipeline, pump station, and major repair projects. Several of the key projects are listed in Table 5-3 below. Consistent with the listed projects, the Loma Rica Pipeline & Pump Station Project, which is nearing completion, will allow NID to supply the Loma Rica WTP with 1,800 gallons per minute if the plant is offline or to augment supply. That is about 2.5 million gallons per day (mgd) that will be available if and when needed for system reliability.

Recently, NID staff received approval to apply for a DWR grant of \$1.3 million that would be used for the Rock Creek Siphon Project. The project includes 3,750 feet of 36-inch pipeline designed to carry up to 35 cubic feet of water per second. That would allow NID to move water from the Combie-Ophir II Canal at the PG&E Rock Creek Reservoir in North Auburn and bolster water availability to several NID service areas. The project will also benefit NID and PCWA by providing a layer of redundancy for a critical water supply in the event of a Bear River Canal failure or outage.

Among the anticipated CIP projects is a new reservoir on the Bear River. The new reservoir would be about located between the Combie Lake Reservoir and Rollins Lake west of Colfax. The new reservoir would store an additional 110,000 AF and divert another 112,000 AF for a total of 222,000 AF. The District has acquired more than 1,200 acres in the vicinity of the prospective new reservoir. NID began the process by applying to the state for additional water rights with the State Water Resources Control Board. Evidence of water rights is required before a construction application can be approved. The application for construction is made to the Department of Water Resources Division of Safety of Dams. They are responsible for approving plans and making inspections during the actual construction. Once complete they will issue a certificate of approval certifying the dam and reservoir are safe to impound water. In addition the Department of Fish and Wildlife would be

involved in determination of water rights, CEQA, and the stream alteration permit. CALTRANS would be part of the review if the project affects the right of way of a state highway. The project also requires extensive CEQA review. For CEQA purposes, **NID is the lead and DWR is the responsible agency** (another option may be for **DWR to act as lead agency**). Federal agencies such as the Bureau of Reclamation and the Federal **Energy Regulatory Commission** (FERC) would be part of the review as well since it is intended that the dam will generate electricity. Often it takes approximately 10 years to build a dam and reservoir. At this stage the actual projected completion date is uncertain.

Some of the other planned expansions for NID facilities are shown in Table 5-10. The anticipated projects would add an additional capacity of approximately 13,200 AFY.

Table 5-10: NID Future Water Supply Projects

PROJECT NAME	PROJECTED START DATE	NORMAL YEAR SUPPLY ^(B) AC-FT/YR	MULTIPLE DRY YEAR SUPPLY, AFY		
			FIRST YEAR	SECOND YEAR	THIRD YEAR
Loma Rica WTP 4-mgd expansion	2020	1,792	1,792	1,792	1,792
Lake Wildwood WTP 4-mgd expansion	2016	1,792	1,792	1,792	1,792
North Auburn WTP 4-mgd expansion	2020	1,792	1,792	1,792	1,792
Lincoln service area WTP 10-mgd new WTP ^(a)	2018	4,480	4,480	4,480	4,480
E. George WTP 6-mgd expansion	2020	3,360	3,360	3,360	3,360
Total		13,216	13,216	13,216	13,216
Notes:					
a. NID raw water is currently treated in Placer County Water Agency's treatment plant to serve NID customers in Lincoln. An NID treatment plant is proposed in approximately 2018.					
b. The annual increase in treated water available as a result of water treatment plant capacity expansions is assumed to equal to the expansion capacity divided by 2.5.					
Source: Brown and Caldwell 2011, Crough 2014.					

Long-Term Debt

Debt service payments for the current fiscal year, 2014, were budgeted at \$4,067,800. They fall in five main categories: revenue bonds, state loans, certificates of participation, improvement bonds, and notes payable. Table 5-11 shows the total debt service and payments for 2014. Debt service payments represent approximately 15 percent of expenses. The one year payout in the table represents the balance in 2012, so it is reasonable that 2014 is a little lower.

Determinations:

5.4.1: NID operates on a budget of approximately \$60 million that funds three divisions: water, hydroelectric, and recreation. The water division budget includes about \$42 million or two-thirds of the annual budget.

Table 5-11: NID Long-Term Debt

SOURCE	BALANCE AT DECEMBER 31, 2012	DUE WITHIN ONE YEAR
Revenue bonds	\$28,455,000	\$3,050,000
State of California loans	9,541,518	258,189
Certificates of participation	4,980,000	2,020,000
Improvement bonds	620,100	17,400
Notes Payable	150,000	50,000
Total	\$43,746,618	\$5,395,589
Source: Boler & Associates.2013		

5.4.2: The main sources of revenues for the water division are sales and property tax. Water sales represents 90 percent of operating revenues and property taxes average \$10 million of the \$12 million non-operating revenues. Together they offset expenses.

5.4.3: The District's rate structure is complex, which is due to the diversity of its customers. NID has recently conducted rate studies and capacity charge studies to help match revenues with expenses.

5.4.4: NID has a long range capital improvement program that upgrades and increases capacity of its water treatment facilities. In addition, the District has applied for DWR grants to increase water availability.

5.4.5: NID has approximately \$43 million in long-term debt obligations. In 2014, the budget called for payment of approximately \$4 million, which is 15 percent of the budget.

5.5 – Status and Opportunities for Shared Facilities

The District works cooperatively with the Placer County Water Agency (PCWA), the cities of Grass Valley, Nevada City, and Lincoln. NID is a member of the Mountain Counties Water Resources Association and CABY Integrated Regional Water Management Planning Group. NID actively participates in local and regional planning and project implementation. NID also works with the counties of Nevada, Placer and Yuba water departments for long range planning and to develop efficient water management practices.

NID sells water to PCWA for territory in or near the City of Lincoln and other urban areas within NID's service area in Placer County. In fact of the total 2,450 AF supplied for municipal water service in 2011, nearly half, 1,063 AF was sold to PCWA. The water is transferred through interties that include a certain amount of redundancy to act as a backup system in case of failure in the infrastructure. In addition NID

is working with PCWA to develop a Source Water Protection Plan for their 16 system wide treatment plants.

NID cooperates with the cities of Grass Valley and Nevada City in staff training and water conservation planning. The connection and sale of untreated water to those cities provide some economic benefit by recovering administrative and overhead expenses that might otherwise only be assessed to NID customers. NID also assists smaller independent agencies such as Washington CWD on an as-needed basis for special projects and water testing.

NID works with PG&E and contracts for additional water supplies. NID also works with PG&E to coordinate the operations of its network of reservoirs and canals. NID and PG&E have established a water management committee that meets weekly to coordinate operations of the network.

In addition, the District works with Master Gardeners to demonstrate sustainable landscape techniques for home gardeners. NID worked with the University of California to establish the demonstration garden in March 1991. NID installed water lines and electricity for irrigation timers. Master Gardeners planted an herb garden the first year. The following year saw planting of vegetable beds and fruit trees. Master Gardeners plan, install, and maintain the garden.

Cost Avoidance Opportunities

While there is the potential for a functional or full consolidation with the cities of Grass Valley and/or Nevada City, past discussions reflect that only if studies demonstrate a significant cost benefit impact from proposed reorganizations, would they be considered. There have been several prior, staff-level studies on both functional and agency reorganizations. The other factors being studied as part of some development projects within each city are reduction of pipelines and use of existing available water treatment capacity.

Management Efficiencies

One measure of management efficiencies is the planning process and whether the agencies have long-range plans and strategic plans. In addition to the required Urban Water Management Plan (UWMP), NID has an Ag Water Master Plan and a Raw Water Master Plan. NID relies on its 2010-11 Strategic Plan, an asset management plan, delivery system plans, and resource planning.

Determinations:

- 5.5.1:** The District works cooperatively with the Placer County Water Agency (PCWA), the cities of Grass Valley, Nevada City, Auburn and Lincoln. NID is a member of the Mountain Counties Water Resources Association and CABY Integrated Regional Water Management Planning Group.

- 5.5.2:** NID works with PCWA to supply water to portions of Lincoln within the district's boundaries. The agencies also collaborate on operations through a series of interties that include redundancy to act as a backup system in case of failure in the

infrastructure. NID is also working with PCWA to develop a Source Water Protection Plan for their 16 system wide treatment plants.

- 5.5.3:** NID works with PG&E and contracts for additional water supplies. NID also works with PG&E to coordinate the operations of its network of reservoirs and canals.
- 5.5.4:** NID has worked with Master Gardeners to demonstrate sustainable landscape techniques for home gardeners.
- 5.5.5:** Management efficiency can be measured by how the agency uses the planning process. In addition to the UWMP, NID has master plans for agricultural water and raw water, as well as a comprehensive strategic plan.

5.6 – Government Structure and Accountability

The NID board consists of five members elected by division to serve four-year staggered terms. Directors receive \$15,000 per year plus benefits for their service on the Board. The Board meets on the second and fourth Wednesdays at 9 a.m. at the District offices. Meetings are posted according to the Brown Act.

The District operates an Ambassador program consisting of employees who will go out to schools or other civic gatherings to provide information about the District, its history, operations and role in the community.

The District communicates through its website where it posts all agendas. The District often conducts town hall style meetings to inform the public on key issues. One example is the recent water summit that discussed issues related to the drought. In addition to providing information, NID also encouraged comments from its ratepayers on measures to deal with the drought. In addition, the District publishes press releases on relevant issues.

Table 5-12 shows the most recent staffing levels for the water division. Staffing for the District increased by 13 positions between 2013 and 2014. This increase is the result of operational changes in the Hydroelectric Division relating to new operating and power purchase agreements with PG&E, and new licensing requirements under the Federal Energy Regulatory Commission. The staffing for the water operations and treatment has remained at 46.

Determinations:

- 5.6.1:** The District is governed by a five-member board elected by division to four-year staggered terms. Directors receive \$15,000 per year plus benefits for their service on the Board. The Board meets the second and fourth Monday at 9 a.m. at District offices. Meetings are noticed according to the Brown Act.
- 5.6.2:** The District communicates through its website and press releases. The NID ambassador program consists of employees who go to various civic organizations to talk about the

District, its history, and community involvement. The District often holds town hall style meetings to educate rate payers about relevant issues.

5.6.3: Staffing for the water operations and treatment division has remained steady at 46 the last couple years.

Table 5-12: NID Staffing Levels for 2014

DEPT #	DESCRIPTION	AUTHORIZED			APPROVED
		2013	APPROVED	FROZEN	2014
10113	Directors	5.00			5.00
10115	Management	9.50	1.00		10.50
10118	Information Services	2.00			2.00
10131	Cashiering	2.00			2.00
10133	Customer Service	6.00			6.00
10135	Accounting	6.00	1.00		7.00
10151	Engineering	16.00	3.00	(6.00)	19.00
10171	Water Operations & Treatment	46.00			46.00
10191	Maintenance	58.00	3.00		61.00
10193	Purchasing	5.00			5.00
10195	Shop Operations	3.00			3.00
Hydro	Hydroelectric Division	17.00	5.00		22.00
Rec	Recreation Division	6.00			6.00
Total positions		181.50	13.00	(6.00)	194.50

Source: NID, 2014.

5.7 – Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

Since a majority of the assessed value of taxable lands within the District is located within Nevada County, Nevada County LAFCO is the principal LAFCO responsible for SOI updates and changes of organization. Nevada LAFCO's policies recognize that many special districts serve lands within Nevada County as well as within neighboring counties, and encourage communication and coordination between neighboring LAFCOs relative to multi-county districts. In line with these policies, Nevada LAFCO has an agreement with Placer LAFCO to meet and confer regarding boundary changes, municipal service reviews and spheres of influence for shared multi-county districts. Typically, Nevada LAFCO will defer to Placer LAFCO for changes of organization in Placer County.

Requests to extend service by contract (i.e., outside NID's boundaries) are rare. However, prior to the 1993 adoption of Assembly Bill 1335, which added Government Code 56133 to LAFCO law requiring Commission approval of any contracts or agreements to extend services

outside an agency's boundaries, the District extended service to numerous out-of-district water users through contract. These pre-1994 contracts are considered exempt to the provisions of Government Code 56133.

Nevada LAFCO's extension of service policy requires submittal of a concurrent application for annexation. Alternatively there must be a condition in its contract with the property owner requiring submission of an annexation application within a period not to exceed two years. In addition the applicant must record a notice against the title to the property specifying that in the event the agency does not initiate annexation, the property owner must make application to LAFCO for annexation of the territory within two years of LAFCO's approval of the request.

If there is a threat to health and safety, applicants may submit an abbreviated application to be considered for temporary administrative approval by the Executive Officer. The Executive Officer then presents the matter to the Commission at the next available meeting for final consideration.

Determinations:

- 5.7.1:** Since NID has on occasion received requests for out of area services, LAFCo's out-of-area service policy may affect provision of water services by the District to certain parcels.
- 5.7.2** Nevada LAFCO's policies recognize that many special districts serve lands within Nevada County as well as within neighboring counties, and encourage communication and coordination between neighboring LAFCos relative to multi-county districts. In line with these policies, Nevada LAFCo has an agreement with Placer LAFCO to meet and confer regarding boundary changes, municipal service reviews and spheres of influence for NID.

5.8 – Summary of Determinations

- 5.1.1:** The estimated population of potable water service areas was 44,761 in 2010. By 2020, the population is expected to range between 52,813 and 56,799. The larger estimate represents an annual growth rate of 2.5 percent.
- 5.1.2:** In recent years, NID's customer base has grown through annexations to NID and annexations to agencies that contract with NID. Since 2004, NID has provided new or expanded service to an additional 180 parcels through annexation to the district itself, and to 289 parcels through annexations to Grass Valley and Nevada City where the District is the water service provider.
- 5.2.1:** There are three identified DUCs in NID territory, Penn Valley, Rough and Ready, and Alta Hill. The Alta Hill community is adjacent to the City of Grass Valley. All receive water from NID, although Rough and Ready only receives irrigation water. Rough and Ready and Penn Valley have their own fire districts that provide fire protection, while Alta Hill is served by the Nevada County Consolidated Fire District. Penn Valley receives sewer

services from Nevada County Sanitation District 1, while residents of Rough and Ready and Alta Hill rely on septic systems.

- 5.3.1:** NID receives water from snowmelt that it catches at 10 reservoirs. In addition, it has a contract for raw water with PG&E for up to 54,000 AFY. The reservoirs have a total capacity in excess of 280,000 acre-feet. Typical potable demand is approximately 10,000 AFY. In 2011, water uses totaled 157,077 acre-feet. The conclusion is that NID has sufficient capacity to meet demand in the current year and through 2020. Water supply reliability exceeds 45 percent even in extended dry years.
- 5.3.2:** NID takes advantage of opportunities to augment its supply with recycled water. Typically, effluent discharge from wastewater facilities in Auburn, Grass Valley, and Nevada City provides an additional 2,550 AFY for agricultural uses.
- 5.4.1:** NID operates on a budget of approximately \$60 million that funds three divisions: water, hydroelectric, and recreation. The water division budget includes about \$42 million or two-thirds of the annual budget.
- 5.4.2:** The main sources of revenues for the water division are sales and property tax. Water sales represents 90 percent of operating revenues and property taxes average \$10 million of the \$12 million non-operating revenues. Together they offset expenses.
- 5.4.3:** The District's rate structure is complex, which is due to the diversity of its customers. NID has recently conducted rate studies and capacity charge studies to help match revenues with expenses.
- 5.4.4:** NID has a long range capital improvement program that upgrades and increases capacity of its water treatment facilities. In addition, the District has applied for DWR grants to increase water availability.
- 5.4.5:** NID has approximately \$43 million in long-term debt obligations. In 2014, the budget called for payment of approximately \$4 million, which is 15 percent of the budget.
- 5.5.1:** The District works cooperatively with the Placer County Water Agency (PCWA), the cities of Grass Valley, Nevada City, Auburn and Lincoln. NID is a member of the Mountain Counties Water Resources Association and CABY Integrated Regional Water Management Planning Group.
- 5.5.2:** NID works with PCWA to supply water to portions of Lincoln within the district's boundaries. The agencies also collaborate on operations through a series of interties that include redundancy to act as a backup system in case of failure in the infrastructure. NID is also working with PCWA to develop a Source Water Protection Plan for their 16 system wide treatment plants.

- 5.5.3:** NID works with PG&E and contracts for additional water supplies. NID also works with PG&E to coordinate the operations of its network of reservoirs and canals.
- 5.5.4:** NID has worked with Master Gardeners to demonstrate sustainable landscape techniques for home gardeners.
- 5.5.5:** Management efficiency can be measured by how the agency uses the planning process. In addition to the UWMP, NID has master plans for agricultural water and raw water, as well as a comprehensive strategic plan.
- 5.6.1:** The District is governed by a five-member board elected by division to four-year staggered terms. Directors receive \$15,000 per year plus benefits for their service on the Board. The Board meets the second and fourth Monday at 9 a.m. at District offices. Meetings are noticed according to the Brown Act.
- 5.6.2:** The District communicates through its website and press releases. The NID ambassador program consists of employees who go to various civic organizations to talk about the District, its history, and community involvement. The District often holds town hall style meetings to educate rate payers about relevant issues.
- 5.6.3:** Staffing for the water operations and treatment division has remained steady at 46 the last couple years.
- 5.7.1:** Since NID has on occasion received requests for out of area services, LAFCo's out-of-area service policy may affect provision of water services by the District to certain parcels.
- 5.7.2** Nevada LAFCO's policies recognize that many special districts serve lands within Nevada County as well as within neighboring counties, and encourage communication and coordination between neighboring LAFCos relative to multi-county districts. In line with these policies, Nevada LAFCo has an agreement with Placer LAFCO to meet and confer regarding boundary changes, municipal service reviews and spheres of influence for NID.

CHAPTER 6: SAN JUAN RIDGE COUNTY WATER DISTRICT

The San Juan Ridge County Water District was formed under Division 12 of the Water Code in 1958. In 1971, the district was consolidated with the nearby French Corral Water District, with the resulting district retaining the name “San Juan Ridge County Water District.” In 1975, a detachment of all the territory that had originally been included in the North San Juan County Water District was approved by LAFCo. As a result, only the territory that had originally been included in the French Corral County Water District remains in the San Juan Ridge County Water District. The District serves untreated irrigation water to approximately 24 customers in the community of San Juan Ridge. The District receives water from Shady Creek that is stored in the 155 acre-foot Pine Grove Reservoir. The District encompasses approximately 1,000 acres in northern Nevada County as shown in Exhibit 6-1.

6.1 – Growth and Population Projections

There are approximately 40 people who live in the District and 24 service connections. The Department of Finance estimated the population of Nevada County grew by 0.1 percent between 2013 and 2014, which translates to 0.5 percent over the five-year time horizon of this document. There is little or no population growth anticipated in the district as even applying the county growth factor results in the addition of perhaps one person. No changes in service area or demand are projected, as the District is fully subscribed and there are no additional connections available.

Determinations:

- 6.1.1:** The population of the San Juan Ridge County Water District is 40. Little or no growth is expected in the next five years. The population of the District in 2020 is expected to be the same.
- 6.1.2:** There are no anticipated changes in the service area, as the District is fully subscribed.

6.2 – Disadvantaged Unincorporated Communities

Please see Section 1.5 for complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo’s policy definition. No disadvantaged unincorporated communities have been identified within or adjacent to the boundaries of the San Juan Ridge County Water District.

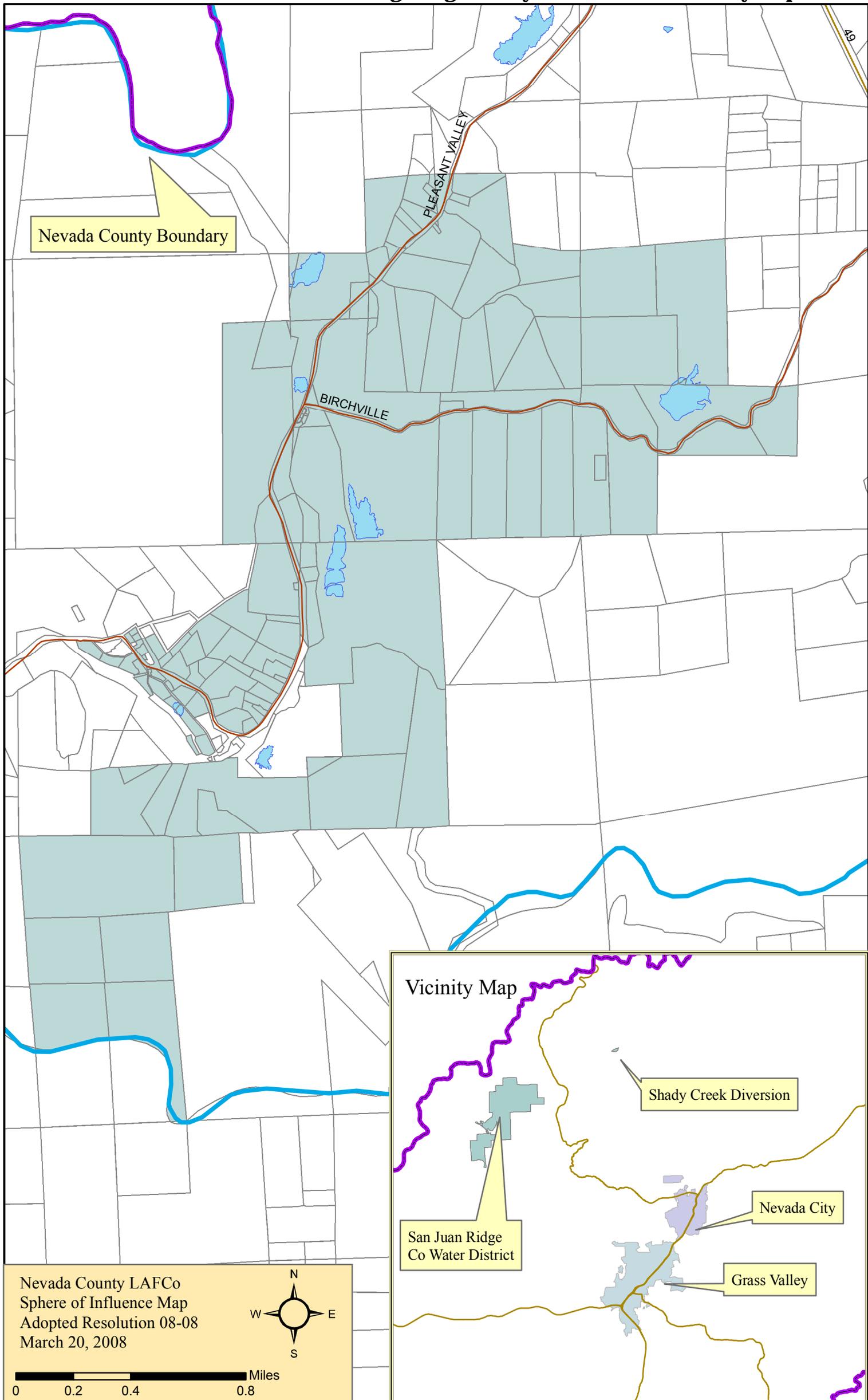
Determinations:

- 6.2.1:** No disadvantaged unincorporated communities within or adjacent to the boundaries of the San Juan Ridge County Water District have been identified.

6.3 – Present and Planned Capacity of Public Facilities

The principal and only source of water for San Juan Ridge is a stream, Shady Creek, whose headwaters are ten miles northeast of San Juan Ridge and one mile south of the historic old mining

Exhibit 6-1: San Juan Ridge Ridge County Water District Boundary Map



Source: Nevada County LAFCo 2008

town of North Columbia. Shady Creek empties into the South Yuba River two miles southeast of San Juan Ridge. A diversion dam was built on Shady Creek, creating what is called Ponderosa Reservoir, about midway from its source to its confluence with the South Yuba. Water from this diversion dam was routed by ditch to an old mining reservoir at Pine Grove and then by ditch and flume to San Juan Ridge customers. Not all the water in the ditch reaches S.J.R.W.D customers due to theft and seepage. Board members have noted that the distribution system needs maintenance and repair, suggesting a better maintained distribution system could increase the available water to customers.

The supply of water depends on how much water flows from Shady Creek into the reservoir each year. Capacity is approximately 155 AF. Water deliveries begin in mid-May and continue until all the water in the reservoir is delivered. On average approximately 155 to 200 AF are delivered each year. There are no other sources of water and topography limits acquiring additional water from NID.

The District owns three parcels and a small amount of equipment. It is responsible for maintaining the ditches for delivery of irrigation water to its customers. The District has no staff but on occasion contracts out maintenance services. Most maintenance is performed by District Board members assisted by volunteers.

Determinations:

6.3.1: The District receives water from Shady Creek, which is diverted to Pine Grove Reservoir. Capacity is approximately 155 AF. Water deliveries begin in mid-May and continue until all the water is gone. On average approximately 155 to 200 AF are delivered each year.

6.4 – Financial Ability to Provide Services

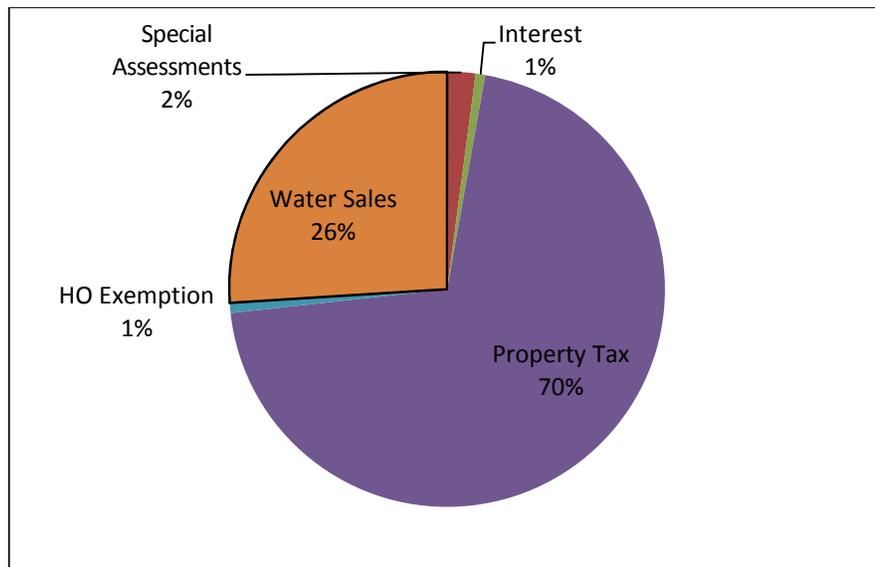
The annual operating budget is approximately \$20,000. Table 6-1 shows revenues and expenses for the last 5 years from FY 2008-09 to FY 2012-13. In three of the five years, expenses have exceeded revenues. During that time the District relied on undesignated reserves to cover the shortfall. The District was determined to resolve the shortfall and in FY 2010-11 passed a special assessment. The assessment would augment revenues by up to \$2,000 annually that resulted in a surplus in that year. As shown in the table the District maintains a fund balance of approximately \$20,000 which is sufficient for one year of operations.

Table 6-1: SJRCWD Revenues and Expenses

ACCOUNT	FY 08-09	FY 09-10	FY10-11	FY11-12	FY 12-13
Beginning Fund Balance	\$27,162	\$14,591	\$16,245	\$22,312	\$20,112
Operating Revenues	\$19,137	\$19,400	\$20,417	\$19,692	\$22,086
Operating Expenses	\$31,708	\$17,746	\$14,350	\$21,892	\$25,053
Ending Fund Balance	\$14,591	\$16,245	\$22,312	\$20,112	\$17,145
Source: Michael Hinz, CPA, 2010, 2011, 2013a, 2013b.					

Sources of revenues and expenses are shown in Exhibit 6.2 and Exhibit 6.3. The data in the exhibits represents an average of revenues and expenses for the period FY 2008-09 to FY 2012-13. Exhibit 6.2 shows water sales and property taxes account for 96% of annual revenues. The special assessment accounts for 2% of revenues on average.

Exhibit 6-2: Revenue Sources SJRCWD



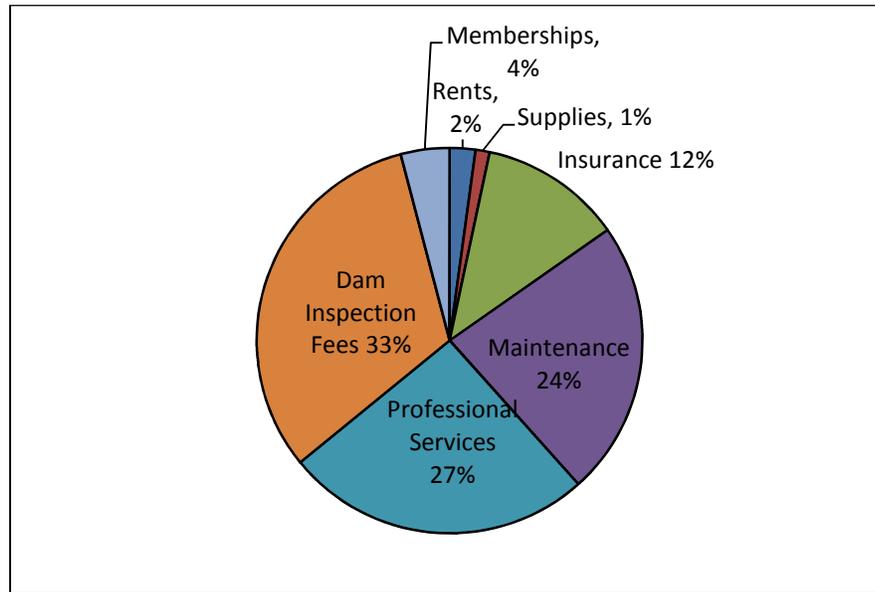
Source: Michael Hinz, CPA, 2010, 2011, 2013a, 2013b

Exhibit 6.3 shows 84% of total expenses are water fees, 33 percent, professional services, 27 percent, and maintenance, 24 percent. Professional services also include bookkeeping.

Rates

Customers are charged \$2.00 per miner's inch delivered every three weeks and billed monthly as long as they receive water. Customers request water in May and receive water until the supply is exhausted in August or September.

During the Gold Rush, the standard unit of water measurement was the "miner's inch". Early miners used a miner's inch box, a special type of free-flowing orifice to measure water flow. A miner's inch is the quantity of water that discharges through a square inch of opening. The number of miner's inches is equal to the area of the opening in square inches. The miner's inch was primarily intended for measuring small quantities of flow. It eventually gave way to what was called the "second foot" or cubic foot per second (cfs) unit that is commonly used today in the United States to measure water flow.

Exhibit 6-3: Expense Categories SJRCWD

Source: Michael Hinz, CPA, 2010, 2011, 2013a, 2013b

A miner's inch does not represent a fixed and definite quantity of water, being measured generally by an arbitrary standard of the various ditch companies. The value of a miner's inch can vary by locality, so most western states have established the value by statute. In northern California, Nevada, Arizona, Oregon, and Montana, a miner's inch equals 0.025 cfs ($\frac{1}{40}$ of a cfs); in Colorado, it equals 0.026 cfs ($\frac{1}{38}$ of a cfs). This amounts to a flow of about 1.5 cubic feet per minute or 11.25 gallons per minute ($\frac{1}{40}$ of a cfs) in northern California, Nevada, Arizona, Oregon, or Montana but only 9.0 gallons per minute ($\frac{1}{50}$ of a cfs) in Idaho, Kansas, Nebraska, South and North Dakota, New Mexico, Utah, Washington, or southern California.

Determinations:

- 6.4.1:** The District operates with an annual budget of approximately \$20,000. Key revenue sources are property taxes and water sales, which account for 96 percent of all revenues. Expenses are split among water fees, professional services, maintenance, and insurance.
- 6.4.2:** Over the last five years, the District experienced a shortfall and relied on undesignated reserves to fill the void. The District Board approved an annual assessment per customer in 2010-11 that provides an additional fixed income of \$100 per using customer per year. The District typically maintains a fund balance of nearly \$20,000 sufficient to fund one year of operations.

6.5 – Status and Opportunities for Shared Facilities

The District is remote from other agencies, so there are limited opportunities for sharing. However, the District works with a number of local agencies to reduce costs.

Since the District has no staff it contracts with other entities for maintenance. Board members will also contribute. For example, a board member's husband owns a backhoe and maintains the ditch for the cost of fuel. On occasion, the District will rent a backhoe from Grass Valley.

Cost Avoidance Opportunities

Often, the District will try to reduce costs by “tagging on” to orders for supplies from other agencies. An example is an order for pipe that was part of a larger order by NID. Cost avoidance opportunities through either functional or full consolidation with NID are limited due terrain considerations, its remote location, and lack of interest by either district.

Determinations:

6.5.1: The District works with a number of local agencies to reduce costs, however, the District's remote location limits sharing opportunities. An example is piggybacking on NID's pipe order. Board members will also contribute to maintenance tasks.

6.6 – Government Structure and Accountability

The governing body consists of five members elected at large to four year staggered terms. The Board meets on the second Thursday at 21266 Pleasant Valley Road. Meetings are noticed according to the Brown Act. Directors may receive \$90 per month.

Typically, board members will perform maintenance for the District. The District has no paid staff and contracts for professional services such as bookkeeping. Since there are only 24 land owners receiving services, there are times when it is hard to fill vacancies on the Board. At present, there is one vacancy.

The District has no website and sends out no news releases. Typically, the District communicates with residents by writing letters to customers and making phone calls to announce workdays or special meetings. Usually, the letter is included in the water bill.

Determinations:

6.6.1: The District is governed by a five-member board elected at large to four-year staggered terms. Board members are allowed compensation of \$90 per month. There is one vacancy on the Board, which has been difficult to fill.

6.6.2: The District has no paid staff but contracts for bookkeeping and other professional services. Often, Board members will volunteer time to assist with maintenance.

- 6.6.3:** The District has no website but communicates with ratepayers through letters included in the water bill. Work details are organized by phone.

6.7 – Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

Because the District is fully subscribed, there are no plans or room for expanding district boundaries. In addition, it appears that water sales and property taxes are sufficient to cover expenses so it looks like the District will be able to provide services through the time frame of this service review and beyond. Therefore, it is unlikely that LAFCo policies will have an effect on the ability to provide services.

Determinations:

- 6.7.1:** There are no LAFCo policies that would affect service delivery.

6.8 – Summary of Determinations

- 6.1.1:** The population of the San Juan Ridge County Water District is 40. Little or no growth is expected in the next five years. The population of the District in 2020 is expected to be the same.
- 6.1.2:** There are no anticipated changes in the service area, as the District is fully subscribed.
- 6.2.1:** There are no disadvantaged unincorporated communities adjacent to the boundaries of the San Juan Ridge County Water District.
- 6.3.1:** The District receives water from Shady Creek, which is diverted to Pine Grove Reservoir. Capacity is approximately 155 AF. Water deliveries begin in mid-May and continue until all the water is gone. On average approximately 155 to 200 AF are delivered each year.
- 6.4.1:** The District operates with an annual budget of approximately \$20,000. Key revenue sources are property taxes and water sales, which account for 96 percent of all revenues. Expenses are split among water fees, professional services, maintenance, and insurance.
- 6.4.2:** Over the last five years, the District experienced a shortfall and relied on undesignated reserves to fill the void. The District Board approved an annual assessment per customer in 2010-11 that provides an additional fixed income of \$100 per using customer per year. The District typically maintains a fund balance of nearly \$20,000 sufficient to fund one year of operations.
- 6.5.1:** The District works with a number of local agencies to reduce costs, however, the District's remote location limits sharing opportunities. An example is piggybacking on NID's pipe order. Board members will also contribute to maintenance tasks.

- 6.6.1:** The District is governed by a five-member board elected at large to four-year staggered terms. Board members are allowed compensation of \$90 per month. There is one vacancy on the Board, which has been difficult to fill.
- 6.6.2:** The District has no paid staff but contracts for bookkeeping and other professional services. Often, Board members will volunteer time to assist with maintenance.
- 6.6.3:** The District has no website but communicates with ratepayers through letters included in the water bill. Work details are organized by phone.
- 6.7.1:** There are no LAFCo policies that would affect service delivery.

CHAPTER 7: WASHINGTON COUNTY WATER DISTRICT

Washington is an unincorporated community located in Nevada County, approximately 13 miles east of Nevada City, on the South Fork of the Yuba River. Washington was initially settled as an active gold mining community in the 1850s. The community is small and isolated, with few opportunities for expansion because of rugged topography and because it is surrounded entirely by Tahoe National Forest property (**Exhibit 7.1**).

The Washington County Water District (WCWD) is the only water agency serving the community. It was formed under section 30000 of the Water Code on November 29, 1962. The District provides water through 122 hook-ups that serve residents and businesses, including two privately owned campgrounds and a bar/hotel. Washington is also a popular recreation destination, which results in considerable spikes in summertime water use. Since the area is rather isolated the District also provides fire protection, however that service is not part of this review.

7.1 – Growth and Population Projections

The 2010 census determined the population of Washington was 185. Little to no growth is expected to occur in the community. The Department of Finance estimated the population of Nevada County grew by 0.1 percent between 2013 and 2014. That translates to 0.5 percent over the five-year time horizon of this document. In terms of the community of Washington that translates to one additional resident over the next five years. No changes in service area or demand are projected, as the District is “landlocked” by United States Forest Service (USFS) lands. No more than 10 new connections are possible within the existing service area.

Determinations:

- 7.1.1:** The population of the Washington County Water District is 185. Little to no growth is expected in the next five years. The population of the District in 2020 is expected to be the same.
- 7.1.2:** There are no anticipated changes in the service area and there are only 10 additional connections possible.

7.2 – Disadvantaged Unincorporated Communities

A complete discussion of the statutory provisions relative to Disadvantaged Unincorporated Communities and Nevada County LAFCo’s policy definition is found in Section 1.5 above. In this section the Department of Water Resources designation of Disadvantaged Community (DAC) by is the same as the Disadvantage Unincorporated Community (DUC).

The entire community of Washington is designated a Disadvantage Community (**DAC**) under the definition provided by the Department of Water Resources (DWR) Integrated

Regional Water Management (IRWM) program. The median household income in the 2010 Census was \$19,000. Washington qualifies as a Severe DAC by DWR standards.

As a disadvantaged community, Washington has not had the resources to map its infrastructure system, conduct systematic leak detection and make repairs on its aging pipelines, upgrade water storage and distribution systems, engage in community level water conservation, or meter any portion of its system. The District has almost no capacity to adapt to low-flow scenarios. Additionally, residents are not financially able to retrofit aging plumbing.

One of the concerns for a DAC is the provision of backbone services such as water, wastewater, and fire protection. In the Washington community the WCWD provides water and fire protection. Owing to its location there are no municipal wastewater services available. Residents and business are on septic systems.

Determinations:

7.2.1: The entire community of Washington is considered a Disadvantaged Unincorporated Community. The WCWD provides water and fire protection. Municipal wastewater services are unavailable so residents and businesses rely on septic systems.

7.3 – Present and Planned Capacity of Public Facilities

The District provides water through a fairly basic supply and delivery system. It consists of a in stream collection inlet, a sand-filter treatment plant, gravity flow to a storage tank serving 17 residences, one distribution line, and a gravity flow distribution system from the storage tank to two service areas , Relief Hill Road and the ‘Downtown’ area.

The District diverts water from Canyon Creek near Bowman Lake Reservoir under a water right granted prior to 1960. Water is collected from an impoundment located on Canyon Creek at the South Yuba River. The dam on Canyon Creek is a concrete and wood structure. Water levels behind the dam range from four to six feet. The elevation of the dam is 2852 feet with the water level typically at 2856 feet.

A twelve-inch PVC pipe takes water from the dam to the treatment plant using gravity feed. Water is piped to the slow-sand filter and chlorination system housed on Maybert Road. The treatment plant has a design capacity of 288,000 gallons per day at 100 percent capacity. Currently, the system operates at capacity producing approximately 200 gallons per minute in the summer and 90 to 120 gallons per minute in the winter.

From the treatment plant there is a three-mile section of pipe that conveys the water to the Relief Hill Road Storage tank via gravity flow. The elevation of the base of the sand filter is 2,849 feet and the maximum inlet water level in the sand filter is 2,856 feet, while the elevation of the base of the Relief Hill Storage Tank is 2,811 feet and the maximum storage tank water level is 2,834 feet. This gradient allows for a gravity flow to the Relief Hill Road Tank.

Along the way to the storage tank there are 17 residences that draw water. Currently, water in the system is not considered fully treated until it reaches the storage tank. Therefore, the 17 connections between the treatment facility and the storage tank are currently under a boil order due to insufficient contact time with chlorine during treatment. A project is currently under construction that will provide fully treated water to the 17 connections.

The Relief Hill Road Storage Tank holds 200,000 gallons of treated water. The 24-foot-tall, 38-foot-wide tank is of steel construction and sits on a concrete pad. The storage tank provides a buffer if the plant experiences operational problems (e.g., summer demand exceeding treatment capacity). It also equalizes flow, provides fire control storage, and provides water during peak demand.

The storage tank currently experiences substantial seasonal overflow. As part of the original design, an altitude valve to control flow into the tank was installed. The altitude valve was to open when tank water levels dropped and close when the tank was full. However, operational experience has shown that the elevation difference between water in the tank and the outflow is inadequate to open the altitude valve until the storage tank is dangerously low. During summer periods of high demand, the maximum system capacity of 200 gallons per minute may not be able to replenish the level in the storage tank during overnight periods of lowered demand and therefore a low storage capacity may exist for extended periods of time.

As a temporary solution to this problem, the altitude valve has been bypassed and flow control to the storage tank is controlled by the operator. Installation of a more advanced and more accurate inlet flow control could eliminate the overflow. Water exiting the tank moves into two lines: an 8-inch line that serves the town of Washington (currently 80 hook-ups) by gravity feed. A second 4-inch line serves Relief Hill Road for 30 hook-ups. Since the lateral lines serving Relief Hill Road are very close to the elevation of the water in the storage tank, minimum pressures to prevent backflow are difficult to achieve during peak use periods.

This is the only storage tank in the entire system. The lack of sufficient local/on-site water storage is especially problematic during peak water use. The storage tank currently spills considerable amounts of water during high-demand summer months, due to outdated technology. The main and lateral connections in the town of Washington are currently poorly mapped and the loss through undetected leaks is likely to be considerable, though currently undocumented.

Distribution System

The current distribution line was installed using a route that was originally laid out during the mining era of the 1850's. The line was originally a wooden flume that distributed water to both mining operations and domestic encampments along the route. The flume was replaced with a PVC line in 1980. The Washington distribution system relies on a single, eight-inch PVC pipe that takes water from the treatment plant down Maybert Road to a storage tank that serves as the distribution hub for both the Relief Hill Road residences and the town of Washington. As noted above there are seventeen customers that draw water from this main distribution line before its connection to the storage tank. Currently efforts are underway to increase chlorine contact time for the system.

The PVC line was placed above grade due to underlying granite outcroppings or because it was the least expensive construction strategy. PVC deteriorates when exposed to sunlight; therefore, much of the line has become brittle and fragile resulting in both small-scale and occasional catastrophic line breaks. Additionally, the prepared bed on which the line was installed has experienced differential settling and erosion. Finally, the pipe joints have deteriorated over time and it is not uncommon for the joints to separate causing both small- and large-scale leaks. Replacement of this line is a high priority for the District; however, there are insufficient funds to install and replace the distribution line, or to repair and upgrade the alignment where it has experienced erosion.

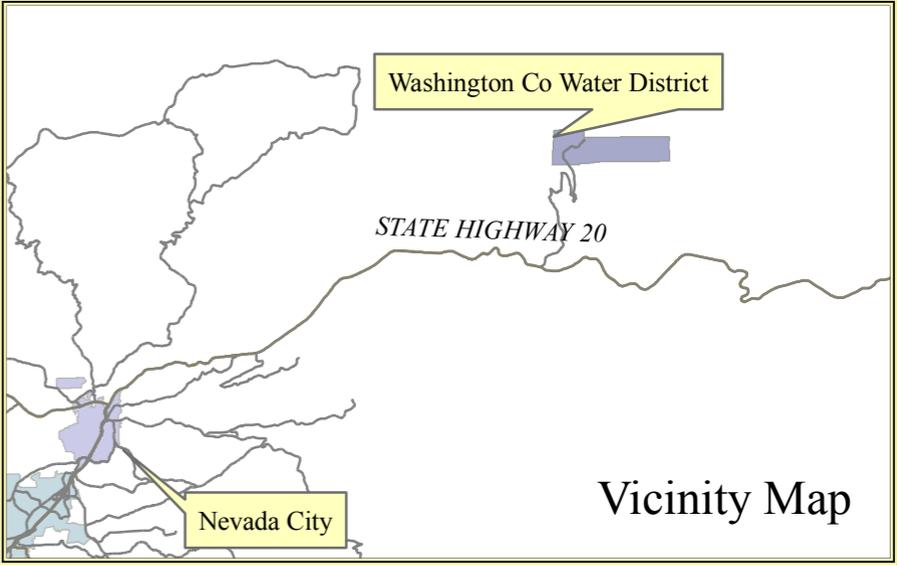
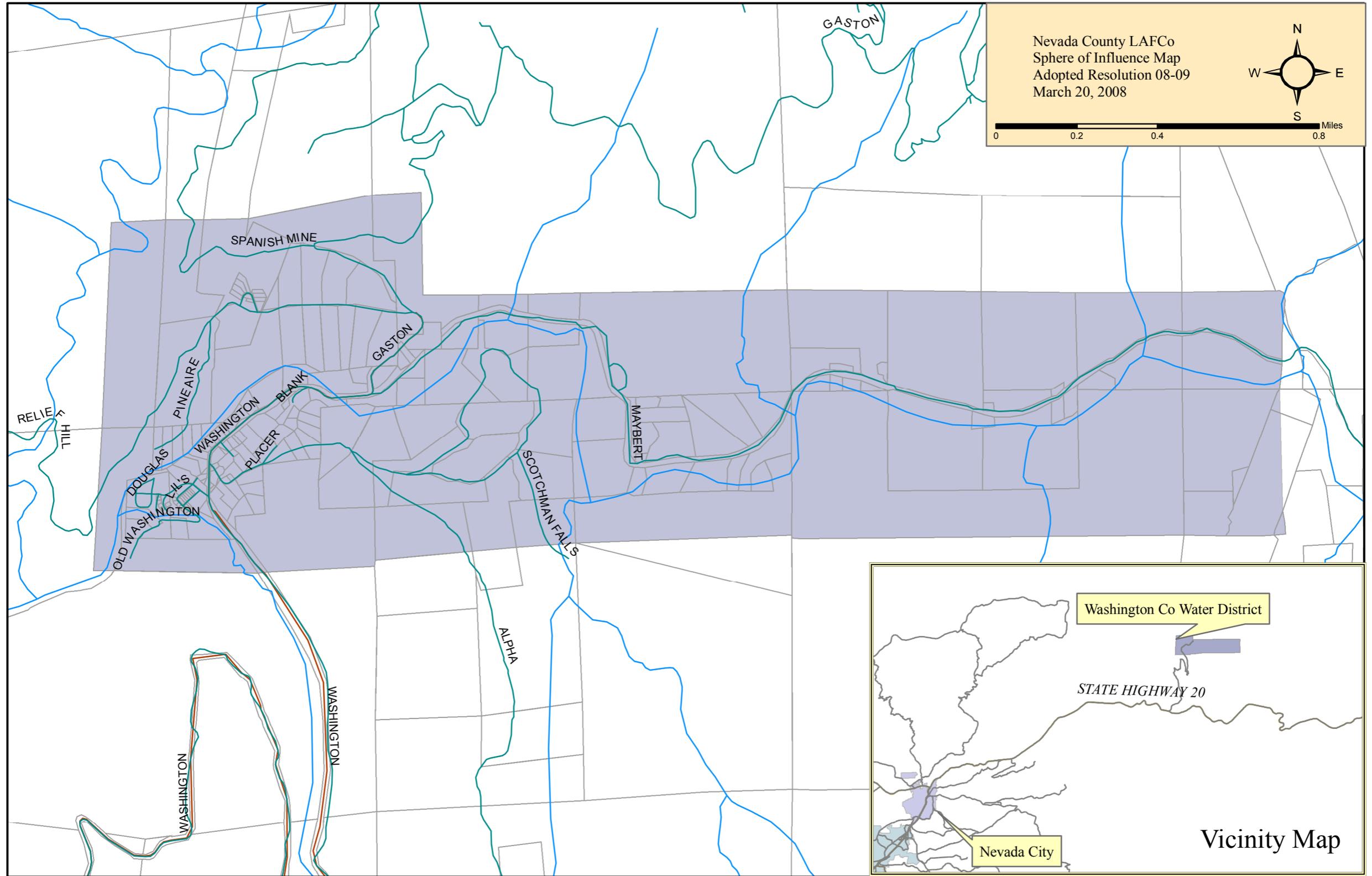
There is only capacity for providing water on a scheduled basis to current customers. No more than 10 new connections are possible within the existing service area.

The District currently lacks a method for monitoring actual water use, as opposed to the amount of water treated, so WCWD has no way to locate or repair either small scale or large scale system leaks. There is no effective program in place for the detection of leaks, nor the ability to conduct residential water audits. In addition, the absence of a high headwater storage facility and/or pump-supported water distribution system has resulted in below-standard water pressure across the higher elevation portions of the system. During the summer months, tourist traffic and activities in the community greatly increase water demands, as do the landscaping irrigation practices in the community. Irrigation efficiency strategies and hardware have not been provided to the community, leaving local residents unable to improve the peak summer water demands. Many of these issues will be resolved by the installation of water meters through the DWR Proposition 84 grant.

Determinations:

- 7.3.1:** The treatment plant has a design capacity of 288,000 gallons per day at 100 percent capacity. Currently, the system is operating at capacity.
- 7.3.2:** The main distribution system for Washington relies totally on a single, rapidly deteriorating, eight-inch distribution line. Replacement of this line has been a high priority for the District.
- 7.3.3:** The infrastructure that serves the District is aging and was installed prior to development of modern conservation standards. Washington has not had the resources to map its infrastructure system, conduct systematic leak detection and repair activities on its aging pipelines, upgrade water storage and distribution systems, engage in community level water conservation, or meter any portion of its system. The District has almost no capacity to adapt to low-flow scenarios. Additionally, residents are not financially able to retrofit aging plumbing.
- 7.3.4:** The District received a DWR Proposition 84 grant for the installation of water meters that will allow the District to monitor actual water use and help determine the location of leaks. The DWR grant will also provide funding to resolve many of the problems of the water system.

Exhibit 7 1: Washington County Water District Boundary Map



Source: Nevada County LAFCo 2008

7.4 – Financial Ability to Provide Services

The District has an annual budget of approximately \$100,000 for its water services. Water sales and property taxes account for a majority of the revenues, while administration and water treatment are the major expenses.

Table 7-1 shows actual revenues and expenses for five fiscal years FY 2007-08 to FY 2011-12. The table shows administration was a significant cost for the District. In FY 2010-11, a staffing review was conducted that showed there were several staff without clearly defined needs for the level of support they provided. The review indicated that there was the need for an operator, a bookkeeper and a secretary. The operator takes mandatory water tests and monitors system operational performance. This operator works under the direction of the Board with coordination of Rose Water System Management (in terms of general activities). The secretarial duties are contracted out. The rest of the work of the District is performed for no charge by the various Board members.

Consequently, administration costs were reduced, which resulted in a positive fund balance where in previous years there was a deficit. For example, in FY 12-13 revenues increased to \$107,697 while expenses were \$64,339. In the same year the District paid \$9,118 in debt service. Even with the debt payment the difference between revenues and expenses was positive, \$34,240. In addition the District is now building reserves.

Table 7-1: WCWD Revenues and Expenditures

ACCOUNT	2007-08	2008-09	2009-10	2010-11	2011-12
REVENUES					
Water sales	\$58,076	\$66,357	\$51,232	\$63,580	\$67,373
Fees for Services	\$4,598	\$4,385	\$4,352	—	\$925
Property Tax	\$26,599	\$27,137	\$26,542	\$25,040	\$24,918
Interest	\$1,355	\$495	55	\$38	\$114
Other	\$391	\$3,284	\$2,551	\$275	\$281
Total Revenues	\$91,019	\$101,658	\$84,732	\$88,933	\$93,611
EXPENDITURES					
Water Source	\$12,398	\$12,798	\$6,435	—	—
Administration	\$70,970	\$98,760	\$75,112	\$41,578	\$51,093
Water Treatment	5,578	6,836	\$6,436	\$11,364	\$6,503
Total Expenditures	\$88,946	\$118,394	\$87,983	\$52,942	\$57,596
Difference	\$2,073	(\$16,736)	(\$3,251)	\$35,991	\$36,015
Source: California State Controller, 2010, 2011a, 2011b, 2012, 2013, 2014.					

The table also shows costs for water were eliminated. The District holds a Senior Water Right that NID administers. Each year, NID releases the District's allocation at no charge. In a sense, the water is free so the cost of water primarily lies with water treatment.

Rate Schedule

The District charges a flat rate of \$50 per month. Rates were raised two years ago by \$10. The increase revenues were tempered by higher delinquency rate. The District has reduced delinquent accounts from \$50,000 to less than \$10,000. The District is currently preparing a Cost of Services Study with the help of the Rural Community Assistance Corporation (RCAC) as part of the Proposition 84 funded Drought Action Plan. The RCAC provides technical assistance, training, and financing to rural communities.

Long Term Debt

The District has two outstanding long term debts. In August 2008, the district issued a promissory note to an individual for \$25,000. The loan bears an interest rate of 1% and calls for 60 fixed monthly payments totally \$415 annually. In 2012 the loan was modified to extend payments through April 2015. The other debt was acquired as part of a loan and grant assistance from the USDA. The District received a loan of \$96,983 at 4.5% in June 2002. The payments of \$5,272 are due annually extending from June 2003 to June 2043.

As of June 30, 2012 the District owed \$98,597. Over the last four fiscal years the District has paid \$9,972 in even years and \$9,118 in odd years to pay off the debt. However as of July 1, 2014, the USDA loan was under default due to the failure to deliver audited financial statements within 180 days of year end for the fiscal years ended June 30, 2010, 2011, 2012 and 2013. This default has been addressed by the recent completion of audits for the years in question, which have been forwarded to the USDA. The schedule for the next audit is on time and the funds to support the audit are now part of the annual budget.

Capital Improvements

The District is a member of CABY which makes the District eligible for grant funding to upgrade its system. CABY is a collaborative planning effort that adopted an Integrated Regional Water Management Plan (IRWMP) in December 2006, in response to the passage of Proposition 50 and SB 1672. CABY comprises more than 45 organizations representing water supply, conservation, recreation, agriculture, and community interests, as well as federal and local governments.

CABY functions as a vehicle to bring DWR funding into the region, as well as bringing diverse stakeholders together to discuss and plan for long-term water management across the region. Proposition 50 and the IRWMP served as a catalyst for the creation of the collaborative group, but the projects, initiatives, and partnerships continue to expand. The IRWMP was recently revised to comply with Proposition 84 grant funding requirements.

Priorities are water quality (maintaining and restoring), water quantity (for both people and the environment, in CABY and statewide), and environmental quality (restoration and preservation).

The District with assistance from Nevada City received a DWR Proposition 84 River Basins Grant this year for the following projects:

- Maybert Road Transfer and Distribution Line Replacement
- Relief Hill Road Flow Control Pressure System Improvements
- Level-Control Altitude Valve Improvements
- System-Wide Installation of Water Meters
- SCADA system
- Downtown Leak Detection and Repair -Needs Assessment and Feasibility Study with Repair of Critical Leaks
- Integrated Water Shortage Contingency, Drought Preparedness, and Comprehensive Water Conservation Planning Program

The purpose of this project package is to enable the WCWD to more efficiently manage its water resources and assume a proactive relationship to long-term infrastructure management and improvement. A key component of this package will be preparation of a GIS/GPS-supported mapping of the entire Washington infrastructure and water distribution system. Improvements to the Relief Hill Road water-pressure, implementation of a leak detection and repair program, replacement of old deteriorating PVC pipes, and installation of water conserving plumbing fixtures will reduce overall water use and increase system efficiency. The installation of water meters and the preparation of a water conservation and efficiency plan will enable the District and its customers to plan for future infrastructure improvements and efficiencies, as well as educate consumers on irrigation and residential water conservation. The creation of an integrated water conservation plan will enable the District to implement a systematic and prioritized upgrade of system infrastructure with an emphasis on durable water conservation technologies and methodologies. The DWR grant was awarded in 2011, but it has taken 18 months to actually receive the funding authorization.

The Project Team has been reviewing the project components and objectives for cost effectiveness factors. They have come to the conclusion that several adjustments are needed to the system improvements and timing of them to optimize the project funds and benefits. The plans are being revised to install the water use meters in two phases and to be able to begin tracking the use of water by customers to identify user volumes and unbilled water. The second phase will to be a systems analysis, installation of the transmission main at Wilderness Hill Road, and monitoring use in the town area. Third phase will be the installation of the ductile steel pipeline to improve flows and customer uses through the new meters. Once these steps are completed, usage and water consumption will be analyzed to develop a conservation and commodity rate structure. It is anticipated physical improvements will be underway in the summer of 2014 and completed in late summer 2015.

Determinations:

- 7.4.1:** The District's water budget is approximately \$100,000 annually. The major revenue sources are water sales and property taxes. Water sales account for two-thirds of revenues, while property taxes average 29 percent of total revenues. Expenses are primarily water treatment and administration. Water treatment accounts for an average of 10 percent of expenditures, while administration which includes operations accounts for an average of 85 percent of expenses.
- 7.4.2:** The District received a \$1.3 million DWR Proposition 84 grant for capital improvements. The grant will fund the Maybert Road transfer and distribution line replacement, Relief Hill road flow control pressure system improvements, level-control altitude valve improvements, system-wide installation of water meters, downtown leak detection and repair, and strategic planning for water shortages, drought, and conservation.

7.5 – Status and Opportunities for Shared Facilities

The District works with a number of local agencies to improve services. The District worked with the City of Nevada City to complete the DWR grant application. The District also works with the RCAC for training and financial assistance. The District is working with DWR on its CIP and drought plan.

At present, the District has no strategic plan, but it is in the process of conducting a Cost of Services Study to allow for planning future revenue needs and, as part of the DWR Proposition 84 Grant will also conduct a Capital Improvement Plan analysis with identification of a phased infrastructure improvement needs and budgets.

Cost Avoidance Opportunities

Cost avoidance opportunities through either functional or full consolidation with NID are limited due terrain considerations and the District's remote location.

Determinations:

- 7.5.1:** The District works cooperatively with local agencies that include the City of Nevada City, RCAC, and the Department of Water Resources. One example is the DWR grant that was completed in conjunction with the City of Nevada City.
- 7.5.2:** The District has no strategic plan but is working on a Cost of Services Study to allow for planning future revenue needs as a DWR Proposition 84 grant funded Capital Improvement Plan.

7.6 – Government Structure and Accountability

The District is governed by a five-member board of directors elected at large to four-year staggered terms. According to the by-laws board members may receive \$100 per meeting day, up to six days per month however no Board member since 2005 has accepted compensation. The Board meets

on the third Tuesday of the month at the Washington School. Meetings are posted locally according to the Brown Act.

The District does not have the resources to provide a web site, newsletter, or other regular and formal outreach. Workshops are scheduled on an as-needed basis and generally experience low attendance. Because of the size of the District, residents can communicate directly with board members, as board members are often recognized in town.

Determinations:

7.6.1: The District is governed by a five-member board elected at large to four-year staggered terms. Meetings are posted locally according to the Brown Act.

7.6.2: The District does not have the resources to provide a web site, newsletter, or other regular and formal outreach. Because of the size of the District, residents can communicate directly with board members, as board members are often recognized in town.

7.7 – Matters Related to Effective or Efficient Service Delivery Required by Commission Policy

Because the District is surrounded by USFS land, there are no plans to expand or room for expanding District boundaries. With the help of the DWR Proposition 84 grant the District will have the opportunity to make capital improvements to keep the system functioning. In addition, it appears that water sales and property taxes are sufficient to cover expenses, so it is likely the District will be able to provide services through the time frame of this service review and beyond. Therefore, it is unlikely that LAFCo policies will have an effect on the ability to provide services.

Determinations:

7.7.1: There are no LAFCo policies that will affect service delivery of the Washington County Water District.

7.8 – Summary of Determinations

7.1.1: The population of the Washington County Water District is 185. Little to no growth is expected in the next five years. The population of the District in 2020 is expected to be the same.

7.1.2: There are no anticipated changes in the service area and there are only 10 additional connections possible.

7.2.1: The entire community of Washington is considered a Disadvantaged Unincorporated Community. The WCWD provides water and fire protection. Municipal wastewater services are unavailable so residents and businesses rely on septic systems.

- 7.3.1:** The treatment plant has a design capacity of 288,000 gallons per day at 100 percent capacity. Currently, the system is operating at capacity.
- 7.3.2:** The main distribution system for Washington relies totally on a single, rapidly deteriorating, eight-inch distribution line. Replacement of this line has been a high priority for the District.
- 7.3.3:** The infrastructure that serves the District is aging and was installed prior to development of modern conservation standards. Washington has not had the resources to map its infrastructure system, conduct systematic leak detection and repair activities on its aging pipelines, upgrade water storage and distribution systems, engage in community level water conservation, or meter any portion of its system. The District has almost no capacity to adapt to low-flow scenarios. Additionally, residents are not financially able to retrofit aging plumbing.
- 7.3.4:** The District received a DWR Proposition 84 grant for the installation of water meters that will allow the District to monitor actual water use and help determine the location of leaks. The DWR grant will also provide funding to resolve many of the problems of the water system.
- 7.4.1:** The District's water budget is approximately \$100,000 annually. The major revenue sources are water sales and property taxes. Water sales account for two-thirds of revenues, while property taxes average 29 percent of total revenues. Expenses are primarily water treatment and administration. Water treatment accounts for an average of 10 percent of expenditures, while administration which includes operations accounts for an average of 85 percent of expenses.
- 7.4.2:** The District received a \$1.3 million DWR Proposition 84 grant for capital improvements. The grant will fund the Maybert Road transfer and distribution line replacement, Relief Hill road flow control pressure system improvements, level-control altitude valve improvements, system-wide installation of water meters, downtown leak detection and repair, and strategic planning for water shortages, drought, and conservation.
- 7.5.1:** The District works cooperatively with local agencies that include the City of Nevada City, RCAC, and the Department of Water Resources. One example is the DWR grant that was completed in conjunction with the City of Nevada City.
- 7.5.2:** The District has no strategic plan but is working on a Cost of Services Study to allow for planning future revenue needs as a DWR Proposition 84 grant funded Capital Improvement Plan.
- 7.6.1:** The District is governed by a five-member board elected at large to four-year staggered terms. Meetings are posted locally according to the Brown Act.

- 7.6.2:** The District does not have the resources to provide a web site, newsletter, or other regular and formal outreach. Because of the size of the District, residents can communicate directly with board members, as board members are often recognized in town.
- 7.7.1:** There are no LAFCo policies that will affect service delivery of the Washington County Water District.

CHAPTER 8: RECOMMENDATIONS

The forecast in Nevada County is for limited growth of 0.5% over the next ten years. With limited growth the question is whether the five agencies have adequate supply to meet demand and the financial resources to provide services.

NID is the major service provider in the region, supplying treated and untreated water to the western portions of Nevada County, portions of Placer County and a small area of Yuba County. The NID Raw Water Master Plan indicates NID has capacity through 2032. Nevertheless NID has encouraged conservation during the recent drought that yielded a savings of 16%. NID continues to plan for additional capacity and has recently filed an application with the state for the right to store 110,000 acre-feet of water from the Bear River upstream from Combie Reservoir, and to divert another 112,000 acre-feet of water from the river at the same location for use in the NID system.

Owing in part to its influence in the region, NID falls under the scrutiny of the Grand Jury. At their urging NID has recently simplified its rate structure and completed a rate study. One of the outcomes of that study is a model that assists the District in determining the need and the effect of rate increases. Review of NID's financial statements has shown that operating revenues derived from water rates and non-operating revenues from property taxes are sufficient to cover expenses. The new rate structure will allow NID to reduce dependence on property taxes to cover expenses.

The cities of Grass Valley and Nevada City have service agreements with Nevada Irrigation District that establish service areas for each agency. In general, the service agreements provide that lands annexed to the two cities will remain in Nevada Irrigation District boundaries and service area. The two cities continue to provide service to the residents of their core areas. As noted in the MSR the cities have the capacity and the financial ability to provide water to their respective service areas.

The smaller districts of San Juan Ridge and Washington face several challenges. In San Juan Ridge there has been a vacant seat on the board that has been difficult to fill. This situation is not uncommon for small districts. However the residents of the area like their district. They routinely volunteer their time for work details to maintain the system. Even with limited resources the district continues to function. The district's southern border is adjacent to NID, however, there does not appear to be any interest by either district in pursuing any type of reorganization. Based on San Juan Ridge's capacity and financial and economic circumstances, there is little opportunity for expansion of the District's service. In terms of the SOI we would recommend a coterminous sphere.

Similarly the Washington CWD is rather isolated. It would be difficult for NID to provide service due the condition of the infrastructure and the costs to bring it up to standards. The Washington CWD is supported by Nevada City who assisted in obtaining a DWR grant to upgrade the infrastructure and assist in long term planning. Given limitations on capacity, infrastructure and anticipated limited or no growth we would also recommend a coterminous sphere for Washington County Water District.

CHAPTER 9: REFERENCES

- Boler & Associates. 2009. Nevada Irrigation District California Annual Financial Report for the Year Ended December 31, 2008. March 27.
- Boler & Associates. 2010. Nevada Irrigation District California Annual Financial Report for the Year Ended December 31, 2009. March 26.
- Boler & Associates. 2011. Nevada Irrigation District California Annual Financial Report for the Year Ended December 31, 2010. March 29.
- Boler & Associates. 2012. Nevada Irrigation District California Annual Financial Report for the Year Ended December 31, 2011. April 24.
- Boler & Associates. 2013. Nevada Irrigation District California Annual Financial Report for the Year Ended December 31, 2012. March 20.
- Brenner, Keri. 2014. NID Readies for new Reservoir on Bear River. The Union. August 30.
- Brown and Caldwell. 2011. Nevada Irrigation District 2010 Urban Water Management Plan. June 24.
- Browning, Nita. 2014. Personal communications: telephone. August 12.
- Burdick, Kate. 2014c. Personal communication: telephone. October 23.
- Burdick, Kate. 2014b. Personal communication: telephone. July 11.
- Burdick, Kate. 2014a. Personal communication: study questionnaire. April 2.
- CABY Grant Application. 2010. Attachment 3 Work Plan. January.
- CABY. 2013. IRWMP Update 2013.
- CABY. 2014b. IRWMP Update 2014. Chapter 4 Governance. May 30.
- CABY. 2014a. IRWMP Update 2014. Chapter 1 Introduction. May 30.
- CABY-Integrated Regional Water Management Plan. 2014. What is CABY? Website: <http://cabyregion.org/about-caby/what-is-caby>. Accessed June 27, 2014.
- California Department of Finance. 2013. Report P-1 (County) State and County Population Projections July 1, 2010-2060. Website: <http://www.dof.ca.gov/research/demographic/reports/projections/P-1/>. Accessed July 27, 2014.
- California Department of Finance, E-1 Population Estimates for Cities, Counties and the State with Annual Percent Change — January 1, 2013 and 2014. Sacramento, California, May 2014.
- California Department of Water Resources Division of Safety of Dams. 2015. Website: www.water.ca.gov/damsafety/docs/Current Practices.pdf. Accessed January 15, 2015.
- California Department of Water Resources Division of Safety of Dams. 2015. Website: www.water.ca.gov/damsafety/docs/regulations.pdf. Accessed January 15, 2015.
- California Department of Water Resources Division of Safety of Dams. 2015. Website: www.water.ca.gov/damsafety/docs/statutes.pdf. Accessed January 15, 2015.
- California State Controller. 2010. Cities Annual Report Fiscal Year 2007-08. April 20.
- California State Controller. 2011a. Cities Annual Report Fiscal Year 2008-09. February 3.
- California State Controller. 2011b. Cities Annual Report Fiscal Year 2009-10. November 11.
- California State Controller. 2012. Cities Annual Report Fiscal Year 2010-11. September 11.

- California State Controller. 2014. Cities Annual Report Fiscal Year 2011-12. April 23.
- City of Grass Valley. 2010. City of Grass Valley Housing Element. January.
- City of Grass Valley. 2012. City of Grass Valley Charter Amended 2012. November 4.
- City of Grass Valley. 2013. City of Grass Valley Fiscal Year 2013-14 Adopted Budget. June 25.
- City of Grass Valley. 2014a. Consumer Confidence Report. April 3.
- City of Grass Valley. 2014b. 2020 General Plan Draft EIR. Website: http://www.cityofgrassvalley.com/services/departments/cdd/gen_general_plan.php. Accessed July 27, 2014.
- City of Grass Valley. 2014c. 2009-2014 Housing Element. Website: http://www.cityofgrassvalley.com/services/departments/cdd/gen_general_plan.php. Accessed July 27, 2014.
- City of Grass Valley. 2014d. Water Rates. Website: http://www.cityofgrassvalley.com/services/departments/finance/gen_utility_billing_rates.php. Accessed July 30, 2014.
- City of Grass Valley. 2014e. Boards and Commissions. Website: http://www.cityofgrassvalley.com/services/departments/admin/commissions_committees/members_directory.php. Accessed July 30, 2014.
- City of Nevada City. 2008. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2008. November 17.
- City of Nevada City. 2009. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2009. November 5.
- City of Nevada City. 2010a. Water Rate Recommendations. August 25.
- City of Nevada City. 2010b. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2010. November 24.
- City of Nevada City. 2011. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2011. November 29.
- City of Nevada City. 2012. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2012. November 30.
- City of Nevada City. 2013a. City of Nevada City General Plan Background Data Report Appendices. August.
- City of Nevada City. 2013b. Financial Statements Together with Independent Auditor's Reports for the Year Ended June 30, 2013. December 27.
- City of Nevada City. 2013c. Water Rate Information. Website: [www.http://nevadacityca.gov/content/water-rate-information](http://nevadacityca.gov/content/water-rate-information). Accessed July 19, 2014.
- City of Nevada City. 2014. Website: <http://www.nevadacityca.gov>. Accessed July 26, 2014.
- Crough, Tim. 2014. Personal Communication: email. November 26.
- Falconi, Bill. 2015. Personal Communication: email. January 8.
- Fechter & Company. 2014. Washington County Water District Financial Statements for the Years Ended June 30, 2013 and June 30, 2012. September 9.
- Kleinschmidt. 2011. City of Grass Valley Sphere of Influence Plan. April.
- Michael Hinz, CPA, Inc. 2009. San Juan Ridge County Water District. Financial Statements. June 30, 2009. October 18.

- Michael Hinz, CPA, Inc. 2010. San Juan Ridge County Water District. Financial Statements. June 30, 2010. October 16.
- Michael Hinz, CPA, Inc. 2011. San Juan Ridge County Water District. Financial Statements. June 30, 2011. October 31.
- Michael Hinz, CPA, Inc. 2013a. San Juan Ridge County Water District. Financial Statements. June 30, 2012. May 31.
- Michael Hinz, CPA, Inc. 2013b. San Juan Ridge County Water District. Financial Statements. June 30, 2013. November 27.
- Nevada County. 2014. Nevada County General Plan Volume 1: Goals, Objectives, Policies, and Implementation Measures. Section 2: Community Development. Chapter 1: Land Use. January 28, .
- Nevada County Grand Jury.2014.Nevada County Water Quality.
- Nevada County Grand Jury.2014.Nevada Irrigation District Rate Increase.
- Nevada County LAFCo.2008. Sphere of Influence Updates 2008 San Juan Ridge County Water District Washington County Water District. March.
- Nevada County LAFCo. 2014a. Nevada LAFCo Policies. January 16.
- Nevada County LAFCo. 2014b. Personal communication: email. July 17.
- Nevada County LAFCo. 2014c. Personal communication: email. August 18.
- Nevada County Planning Department.2010.North San Juan Rural Center Area Plan. April.
- Nevada Irrigation District. 2012.2012 Agricultural Water Management Plan. January 12.
- Nevada Irrigation District. 2014. Nevada Irrigation District 2014 Budget. January 22.
- North San Juan Fire Protection District.2014. website: www.nsjfire.org. Accessed October 11, 2014.
- Organizations for Rural Quality of Nevada County. Western Nevada County Water. Website: [www.ruralquality.org/Docs/PPRqcFactSheetPDFs/PPA Western NevCoWater. pdf](http://www.ruralquality.org/Docs/PPRqcFactSheetPDFs/PPA%20Western%20NevCoWater.pdf). Accessed July 15, 2014.
- Penn Valley Fire Protection District.2014. website: www.pennvalleyfire.com. Accessed October 8, 2014.
- Placer County.1994.Placer County General Plan Land Use Map. Website <http://www.placer.ca.gov/~media/cdr/Admin/GIS/PCGPM1994.pdf>: Accessed October 10, 2014.
- Roderick, Doug. 2014. Personal communication: telephone. August 6.
- Rough and Ready Volunteer Fire Protection District. 2014. Website: www.rrvfd.com. Accessed October 8, 2014.
- Sauers Engineering, Inc. 2003. Municipal Service Review Nevada County Service Providers. December.
- Sauers Engineering, Inc. 2004. Grass Valley-Nevada Irrigation District Water System Collaboration and Partnering Study Report of Findings. September.
- Smith & Newell CPA's. 2009. City of Grass Valley Financial Statements Together With Independent Auditors' Report for the Year Ended June 30, 2008. January 23.
- Smith & Newell CPA's. 2010. City of Grass Valley Financial Statements Together With Independent Auditors' Report for the Year Ended June 30, 2009. January 26.

Smith & Newell CPA's. 2011. City of Grass Valley Financial Statements Together With Independent Auditors' Report for the Year Ended June 30, 2010. January 4.

Smith & Newell CPA's. 2012. City of Grass Valley Financial Statements Together With Independent Auditors' Report for the Year Ended June 30, 2011. April 18.

Smith & Newell CPA's. 2013. City of Grass Valley Financial Statements Together With Independent Auditors' Report for the Year Ended June 30, 2012. January 25.

Sorensen, John M. 1996. Water for French Corral. Nevada County Historical Society. Volume 50 No. 4. October.

The Georgetown Divide. 2009. What is a miner's inch? October 19. Website: <http://georgetowndivide.wordpress.com/2009/10/19/whats-a-miners-inch/>. Accessed August 11, 2014.

Thomas Parilo & Associates and Denis Cook. 2007. Nevada Irrigation District Sphere of Influence Plan 2006 Update. January 18.

US Census 2010. Website: http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml#none.

Washington County Water District. 2010. Bylaws Washington County Water District.

Yuba Net.com. 2014. NID Seeks \$2. 6 Million in State Drought Funding. July 9.