NID
NEVADA IRRIGATION DISTRICT

Nevada Irrigation District

2010 Urban Water Management Plan

WATER DEMAND • WATER CONSERVATION • SURFACE WATER • AGRICULTURE

June 2011

Brown AND Caldwell

10540 White Rock Road, Suite 180
Rancho Cordova, California 95670
Tel: 916-444-0123
Fax: 916-635-8805
www.brownandcaldwell.com

June 24, 2011

Mr. Vern Smith
Supervising Engineer
Nevada Irrigation District
1036 W. Main Street
Grass Valley, California 95945-5424

1017-139620

Subject: 2010 Urban Water Management Plan

Dear Mr. Smith:

We are pleased to submit to you the 2010 Urban Water Management Plan (UWMP) for the Nevada Irrigation District (NID). This UWMP was adopted by your Board of Directors. A Board resolution of adoption is included in the UWMP. We have updated your 2005 UWMP to incorporate more recent data and information as well as new requirements in the law and from the California Department of Water Resources (DWR).

Please let me know if you have any questions.

Very truly yours,

Brown and Caldwell,
a California Corporation

Christina Brown, P.E.
Project Manager

Melanie Holton, P.E.
Project Engineer

MH/CB:ds

Enclosure (1):

1. 2010 Urban Water Management Plan for the Nevada Irrigation District

Nevada Irrigation District
2010 Urban Water Management Plan

Prepared for
Nevada Irrigation District,
June 24, 2011

Brown AND Caldwell
10540 White Rock Road, Suite 180
Rancho Cordova, California 95670

Table of Contents

1. Introduction 1-1
   1.1 Urban Water Management Planning Act 1-1
   1.2 Public Participation and Plan Adoption 1-1
   1.3 Agency Coordination 1-2
   1.4 Plan Implementation 1-4
   1.5 Plan Organization 1-4
2. Description of Existing Water System 2-1
   2.1 Description of Service Area 2-1
   2.2 Local Climate 2-1
   2.3 Water Supply Facilities 2-5
   2.4 Historical and Projected Population 2-5
3. Historical and Projected Water Use 3-1
   3.1 Historical Water Use 3-1
   3.2 GPCD Baseline and Targets 3-2
   3.3 Projected Water Demands 3-4
      3.3.1 Projected Normal-Year Water Demands 3-5
      3.3.2 Water Demands for Lower Income Households 3-9
4. Water Supplies 4-1
   4.1 Surface Water 4-1
      4.1.1 Description 4-1
      4.1.2 Physical Constraints 4-4
      4.1.3 Legal Constraints 4-4
   4.2 Groundwater 4-4
   4.3 Transfer and Exchange Opportunities 4-4
   4.4 Desalinated Water Opportunities 4-4
   4.5 Water Quality 4-5
   4.6 Current and Projected Normal Year Water Supplies 4-6
   4.7 Resource Maximization and Import Minimization 4-8
   4.8 Water Supply Reliability 4-9
   4.9 Future Water Projects 4-11
5. Recycled Water 5-1
   5.1 Recycled Water Plan Coordination 5-1
   5.2 Wastewater Quantity, Quality, and Current Uses 5-1
      5.2.1 Wastewater Generation 5-1
      5.2.2 Wastewater Collection and Treatment 5-2
   5.3 Current Uses of Recycled Water 5-2
   5.4 Potential and Projected Use of Reclaimed Water 5-3

5.4.1 Potential Use of Reclaimed Water 5-4
5.4.2 Projected Future Use of Reclaimed Water 5-4
5.5 Optimizing the Use of Reclaimed Water 5-5
6. Water Conservation Best Management Practices 6-1
6.1 Current Water Conservation Program 6-2
6.2 Economic Analysis Results 6-14
6.3 Additional Issues 6-14
6.4 Additional Conservation Programs 6-15
6.5 Water Use Reduction Plan 6-15
7. Water Supply versus Demand Comparison 7-1
7.1 Current and Projected Water Supplies vs. Demand 7-1
7.1.1 Current and Projected Normal Year Water Supplies vs. Demand 7-1
7.1.2 Current and Projected Single Dry Year Water Supplies vs. Demand 7-1
7.1.3 Projected Multiple-Dry Year Water Supplies vs. Demand 7-2
7.2 Water Shortage Expectations 7-3
8. Water Shortage Contingency Plan 8-1
8.1 Stages of Action 8-1
8.2 Three-Year Minimum Water Supply 8-2
8.3 Catastrophic Supply Interruption Plan 8-2
8.4 Prohibitions, Consumption Reduction Methods, and Penalties 8-3
8.5 Analysis of Revenue Impacts of Reduced Sales During Shortages 8-4
8.6 Reduction Measuring Mechanisms 8-5
9. References 9-1
Appendix A: Documentation of City/County Notification ..... A
Appendix B: Notice of Public Hearing ..... B
Appendix C: Adoption Resolution C
Appendix D: DWR UWMP Checklist ..... D
Appendix E: SBX7-7 GPCD Target Analysis ..... E
Appendix F: Census Block Tracks within NID Boundaries ..... F
Appendix G: Drought Contingency Plan ..... G
Appendix H: Water Conservation Evaluation ..... H
Appendix I: NID Rate Structures I
Appendix J: NID Water Conservation Educational Materials ..... J
Appendix K: NID Water Regulations ..... K
Appendix L: NID Water Shortage Financial Analysis L

List of Figures

Figure 2-1. Nevada Irrigation District and Neighboring Utilities 2-3
Figure 2-2. NID Water Systems 2-4
Figure 2-3. NID Retail Service Area with Census Block Groups 2-7
Figure 2-4. Historical Population and Number of Connections 2-9
Figure 2-5. Historical and Projected Population 2-10
Figure 3 1. Historical and Projected Retail Water Demand 3-7
Figure 4-1. NID Historic Watershed Runoff 4-2
Figure 4-2. NID Historic Reservoir Carryover Storage 4-3

List of Tables

Table 1-1. (DWR Table 1) Coordination with Appropriate Agencies 1-3
Table 2-1. NID Service Area Climate Characteristics 2-2
Table 2-2. NID Water Treatment Plants 2-5
Table 2-3. Historical Population 2-8
Table 2-4. (DWR Table 2) Projected Population 2-9
Table 3-1. Historical Retail Treated Water Production 3-2
Table 3-2. (DWR Table 13) Zone 41 Retail Base Period Ranges 3-3
Table 3-3. (DWR Table 14) Zone 41 Retail Base Daily per Capita Water Use - 10- to 15-year range 3-4
Table 3-4. (DWR Table 15) Base Daily per Capita Water Use - 5-year range 3-4
Table 3-5. (DWR Table 3) Water System Projected Water Demands and Number of Accounts, Actual 2005 3-5
Table 3-6. (DWR Table 4) Water System Projected Water Demands and Number of Accounts, Actual 2010 3-5
Table 3-7. (DWR Table 5) Water System Projected Water Demands and Number of Accounts, Projected 2015 3-6
Table 3-8. (DWR Table 6) Water System Projected Water Demands and Number of Accounts, Projected 2020 3-6
Table 3-9. (DWR Table 7) Water System Projected Water Demands and Number of Accounts, 2025 - 2035 3-7
Table 3-10. (DWR Table 9) Sales to Other Water Agencies, ac-ft/yr 3-8
Table 3-11. (DWR Table 10) Additional Water Uses and Losses, ac-ft/yr 3-9
Table 3-12. (DWR Table 11) Total Water Use, ac-ft/yr 3-9
Table 3-13. (DWR Table 8) Low-Income Projected Water Demands, ac-ft/yr 3-10

Table 4-1. NID Water Supply Reservoirs 4-3
Table 4-2. (DWR Table 20) Transfer and Exchange Opportunities 4-4
Table 4-3. (DWR Table 30) Current and Projected Water Supply Impacts Due to Water Quality, ac-ft/yr 4-6
Table 4-4. (DWR Table 16) Current and Projected Normal Year Water Supplies, ac-ft/yr 4-7
Table 4-5. (DWR Table 12) Retail Agency Demand Projections Provided to Wholesalers, ac-ft/yr 4-7
Table 4-6. (DWR Table 17) Wholesale Supplies – Existing and Planned Sources of Water, ac-ft/yr 4-8
Table 4-7. (DWR Table 29) Factors Resulting in Inconsistency of Supply 4-9
Table 4-8. (DWR Table 27) Basis of Water Year Data 4-10
Table 4-9. (DWR Table 28) Supply Reliability – Historic Conditions – Watershed Runoff[(a)] 4-10
Table 4-10. (DWR Table 31) Water Supply Reliability – Current Water Sources, ac-ft/yr 4-11
Table 4-11. (DWR Table 26) Future Water Supply Projects 4-12
Table 5-1. (DWR Table 21) Wastewater Collected and Treated, ac-ft/yr 5-2
Table 5-2. (DWR Table 22) Disposal of Wastewater, ac-ft/yr 5-2
Table 5-3. Existing Recycled Water Uses 5-3
Table 5-4. (DWR Table 23)Potential Recycled Water Uses, ac-ft/yr 5-4
Table 5-5. Projected Future Use of Recycled Water, ac-ft/yr 5-5
Table 5-6. (DWR Table 24) Recycled Water Uses – 2005 UWMP Use Compared to 2010 Actual, ac-ft/yr 5-5
Table 5-7. (DWR Table 25) Methods to Encourage Recycled Water Uses 5-6
Table 6-1. Water Conservation Demand Management Measures 6-2
Table 6-2. Actual Conservation Activities and Water Savings, DMM 1. Water survey programs for single-family residential and multi-family residential connections 6-3
Table 6-3. Projected Conservation Activities and Water Savings, DMM 1. Water survey programs for single-family residential and multi-family residential connections 6-3
Table 6-4. Actual Conservation Activities and Water Savings, DMM 3. System Water Audits, Leak Detection, and Repair 6-4
Table 6-5. Projected Conservation Activities and Water Savings, DMM 3. System Water Audits, Leak Detection, and Repair 6-5
Table 6-6. Large Meter Testing 6-5
Table 6-7. Actual Conservation Activities, and Water Savings, DMM 5. Large Landscape Conservation Programs 6-6
Table 6-8. Projected Conservation Activities, and Water Savings, DMM 5. Large Landscape Conservation Programs 6-6
Table 6-9. Actual Conservation Activities, DMM 7. Public Information Programs 6-8
Table 6-10. Projected Conservation Activities, DMM 7. Public Information Programs 6-8
Table 6-11. Actual Conservation Activities, DMM 8. School Education Programs 6-9
Table 6-12. Projected Conservation Activities, DMM 8. School Education Programs 6-9

Table 6-13. Actual Conservation Activities, DMM 10. Wholesale Agency Programs 6-10
Table 6-14. Projected Conservation Activities, DMM 10. Wholesale Agency Programs 6-11
Table 6-15. Description of NID Rate Structures, DMM 11. Conservation Pricing 6-12
Table 6-16. Actual Conservation Activities, DMM 12. Water Conservation Coordinator 6-12
Table 6-17. Projected Conservation Activities, DMM 12. Water Conservation Coordinator 6-13
Table 6-18. Actual Conservation Activities, DMM 13. Water Waste Prohibition 6-13
Table 6-19. Projected Conservation Activities, DMM 13. Water Waste Prohibition 6-13
Table 6-20. Results of Economic Analysis for DMMs not Implemented by NID 6-14
Table 7-1. (DWR Table 32) Normal Year Water Supply and Demand Comparison, ac-ft/yr 7-1
Table 7-2. (DWR Table 33) Single Dry Year Water Supply and Demand Comparison, ac-ft/yr 7-2
Table 7-3. (DWR Table 34) Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr 7-2
Table 8-1. (DWR Table 35) Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages 8-1
Table 8-2. (DWR Table 36) Water Shortage Contingency – Mandatory Prohibitions 8-3
Table 8-3. (DWR Table 37) Water Shortage Contingency – Consumption Reduction Methods 8-4
Table 8-4. (DWR Table 38) Water Shortage Contingency – Penalties and Charges 8-4
Table 8-6. Reduction Measuring Mechanisms 8-5

List of Abbreviations

°F	degrees Fahrenheit
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Act	Urban Water Management Act
AWWA	American Water Works Association
B/C	benefit/cost
BMPs	Best Management Practices
CABY	Cosumnes American Bear Yuba
CDPH	California Department of Public Health
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
DOF	Department of Finance
DMMs	Demand Management Measures
DWR	Department of Water Resources
ETo	evapotranspiration
ft	feet/foot
GPCD	gallons per capita per day
gpd	gallons per day
HCF	hundred cubic feet
ICC	Incident Command Center
ICE	Irrigation Consultation and Evaluation
IRWMP	Integrated Regional Water Management Plan
kW	kilowatt
MCLs	Maximum Contaminant Levels
MG	million gallons
MOU	Memorandum of Understanding
NID	Nevada Irrigation District
PCWA	Placer County Water Agency
PG&E	Pacific Gas and Electric Company
Plan	Urban Water Management Plan
psi	pounds per square inch
RWMP	Raw Water Master Plan
TAF	thousand acre feet
UAW	unaccounted-for water
ULFTs	ultra low flush toilets
USEPA	United Stated Environmental Protection Agency
WRCC	Western Regional Climate Center
WTP	water treatment plant
WWTP	wastewater treatment plant

Section 1

Introduction

This Urban Water Management Plan (Plan) was prepared for the Nevada Irrigation District (NID) in cooperation with the NID staff. This Plan addresses NID's water system and includes a description of the water supply sources, magnitudes of historical and projected water use, and a comparison of water supply water demands during normal, single dry, and multiple-dry years. Also described is NID's water conservation program. NID was organized in 1921 under the California Irrigation District Act of 1897 as a nonprofit water agency, and operates under Division 11 of the State Water Code. This Plan is the year 2010 Urban Water Management Plan as required by the Urban Water Management Planning Act (Act) (California Water Code Division 6, Part 2.6, Sections 10610 through 10657).

The remainder of this section provides an overview of the Urban Water Management Planning Act, public participation, agency coordination, plan implementation and organization. In order to aid the reader in understanding the context of the Plan content, at the beginning of some sections and subsections in this Plan is italicized text quoting specific portions of the Act that are relevant to the particular Plan sections.

1.1 Urban Water Management Planning Act

One of the purposes of this Plan is to ensure the efficient use of available water supplies, as required by the Act. The Act became part of the California Water Code with the passage of Assembly Bill 797 during the 1983–1984 regular session of the California legislature. Subsequently, assembly bills between 1990 and 2003 amended the Act. The Act was most recently amended in November 2009 with the adoption of SB7. The most significant revision is the requirement for establishing per capita water use targets and an option to delay Plan adoption to July 1, 2011.

The Act requires every urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to adopt and submit an urban water management plan every five years to the California Department of Water Resources (DWR). According to DWR, the Act states that these urban water suppliers should make every effort to assure the appropriate level of reliability in its water service is sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Act describes the contents of the Plan as well as how urban water suppliers should adopt and implement the Plan.

1.2 Public Participation and Plan Adoption

10621(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

10635(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which is provides water supplies no later than 60 days after the submission of its urban water management plan.

10642 Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its own service area.

The Act requires the encouragement of public participation and a public hearing as part of the Urban Water Management Plan development and approval process. As required by the Act, prior to adopting this Plan, NID made the Plan available for public inspection and held a public hearing. NID notified cities and counties within the service area 60 days before the public hearing. Appendix A provides documentation that the city and counties within which NID provides water supplies was notified at least 60 days prior to the UWMP public hearing. This hearing provided an opportunity for NID's customers including social, cultural, and economic community groups to learn about the water supply situation and the plans for providing a reliable, safe, high-quality water supply for the future. The hearing was an opportunity for people to ask questions regarding the current situation and the viability of future plans.

Per the requirements of Government Code Section 6066 a Notice of Public Hearing was published twice in the Nevada Union to notify all customers and local governments of the public hearing and copies of the draft Plan were made available for public inspection at NID's Administration Building, at local public libraries, and on the NID website, www.nid.dst,ca.us . A copy of the published Notice of Public Hearing is included in Appendix B. This Plan was adopted by NID's Board of Directors on June 8, 2011. A copy of the adopted resolution is provided in Appendix C. The adopted plan will be provided to DWR and the appropriate cities and counties within 30 days of adoption. The adopted UWMP will also be available for public review during normal business hours at the NID administrative building.

1.3 Agency Coordination

10620(d)(2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies to the extent practicable.

10642 Each urban water suppler shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of its plan.

The Act requires NID to coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable. NID sent a copy of this Plan to the agencies listed in Table 1-1. Table 1-1 provides a summary of the plan coordination with the appropriate agencies.

Table 1-1. (DWR Table 1) Coordination with Appropriate Agencies

Coordinating Agencies	Was notified 60 days prior to Plan adoption	Participated in developing the Plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft Plan	Was sent a notice of intention to adopt	Not Involved / No Information
Nevada County	X					X	X	
Placer County	X				X	X	X	
Yuba County	X					X	X	
Nevada County Local Agency Formation Commission	X					X	X	
City of Auburn	X				X	X	X	
City of Grass Valley	X				X	X	X	
City of Nevada City	X				X	X	X	
City of Lincoln	X					X	X	
Placer County Water Agency	X					X	X	
Placer Nevada Wastewater Authority						X	X	
Pacific Gas and Electric						X	X	
General public	X					X	X	
California Department of Health Services						X	X	
State Water Resources Control Board						X	X	
Regional Water Quality Control Board						X	X	
California Department of Water Resources	X						X	
California Department of Fish and Game							X	

1.4 Plan Implementation

10643 An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

This 2010 Plan updates the water conservation implementation plan and projected schedules in the 2005 Plan. The Plan describes the availability of water and discusses water use, reclamation, and water conservation activities. The Plan concludes that the water supplies available to NID's treated water customers are adequate over the next 25-year planning period through 2035.

This 2010 UWMP will be implemented so that the projected water conservation activities are fulfilled. In addition, NID will work to meet the gallons per capita per day (GPCD) interim and final targets set forth in this Plan. Actual recycled water use will also be tracked and compared to the projected use in this Plan. NID implemented the 2005 UWMP in close accordance with the information that was projected in that plan.

1.5 Plan Organization

This section provides a summary of the sections in this Plan.

- Section 2 provides a description of the service area, climate, water supply facilities, distribution system, and historical and projected population.
- Section 3 presents historical and projected water use.
- Section 4 describes the water supplies.
- Section 5 describes recycled water.
- Section 6 addresses water conservation.
- Section 7 provides a comparison of future water supply to demand.
- Section 8 describes NID's water shortage contingency plan.
- Section 9 provides a list of references.
- Appendices A through L provide relevant supporting documents.

DWR has provided a checklist of the items that must be addressed in each Plan based upon the Act. This checklist makes it simple to identify exactly where in the Plan each item has been addressed. The checklist is completed for this Plan and provided in Appendix D. It references the sections and page numbers where specific items can be found.

Section 2

Description of Existing Water System

This section describes NID's system. It contains a description of the service area and its climate, and the water supply facilities, including surface water supply facilities, booster pumping stations, reservoirs, and the piping system.

2.1 Description of Service Area

10631(a) Describe the service area of the supplier.

Located on the western slope of the Sierra Nevada Mountain Range, NID encompasses 287,000 acres and covers portions of three counties: Nevada, Placer, and Yuba. Defined as "a special district operated by and for the people who own land within its 287,000 acre boundary", NID was established as an irrigation district in 1921. NID also supplies water for municipal, domestic, and industrial purposes. 66,500 acres of the NID service area is within Placer County, generally the area between Auburn and Lincoln to the north. In Lincoln, NID is responsible for water service to outlying areas and to some sections of Lincoln where the City of Lincoln and NID boundaries overlap. Municipal customers include Grass Valley, Nevada City, and a portion of Lincoln. A small portion of treated water production is delivered through master meters to select areas under jurisdiction of other municipalities. The water is then resold for both commercial and non-commercial use.

NID's retail potable water system consists of seven service areas as listed below. The retail water system connections are predominantly single-family, but also consist of multi-family, commercial, industrial, and institutional customers.

- Loma Rica
- North Auburn
- Smartville
- E. George
- Lake of the Pines
- Lake Wildwood
- Cascade Shores

Figure 2-1 illustrates the location of NID and the neighboring water agencies. The service areas within NID are shown on Figure 2-2.

2.2 Local Climate

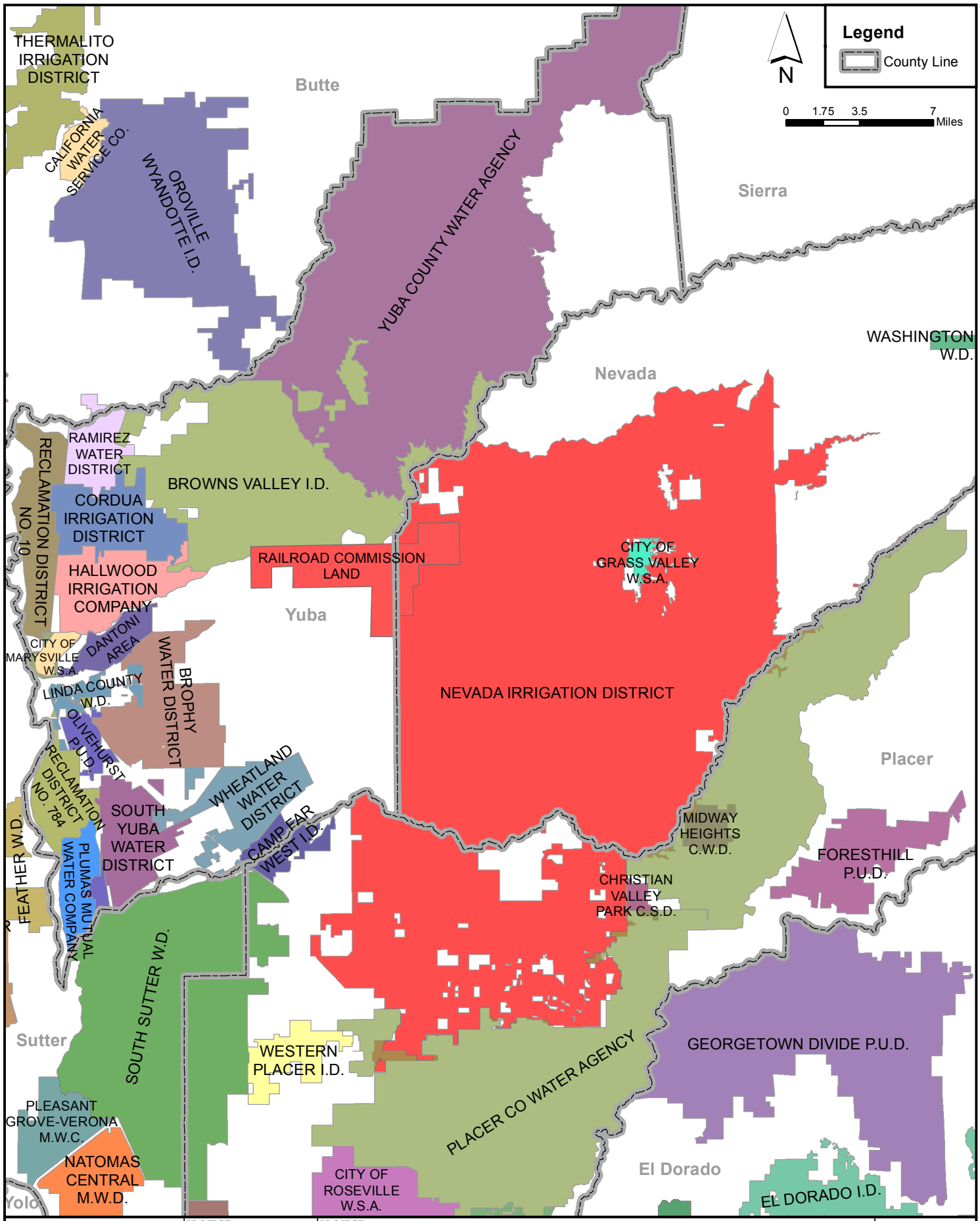
10631(a) (Describe the service area) climate.

Ground elevations within NID's boundaries range from approximately 3,900 feet on Banner Mountain above Nevada City at the eastern edge of NID, down to about 200 feet (ft) near the City of Lincoln. Summers are generally dry with mild to hot temperatures. Winters are relatively wet, especially in the upper elevations around Nevada City and Grass Valley, with snow levels usually around 3,500 ft and occasionally as low as 1,000 ft. Based on the historical data obtained from the California Irrigation Management Information System (CIMIS) and the Western Regional Climate Center (WRCC), NID's service area average minimum and maximum monthly temperature ranges from 28 to 87 degrees Fahrenheit. Table 2-1 summarizes NID's climate conditions based on the CIMIS and WRCC databases.

Table 2-1. NID Service Area Climate Characteristics

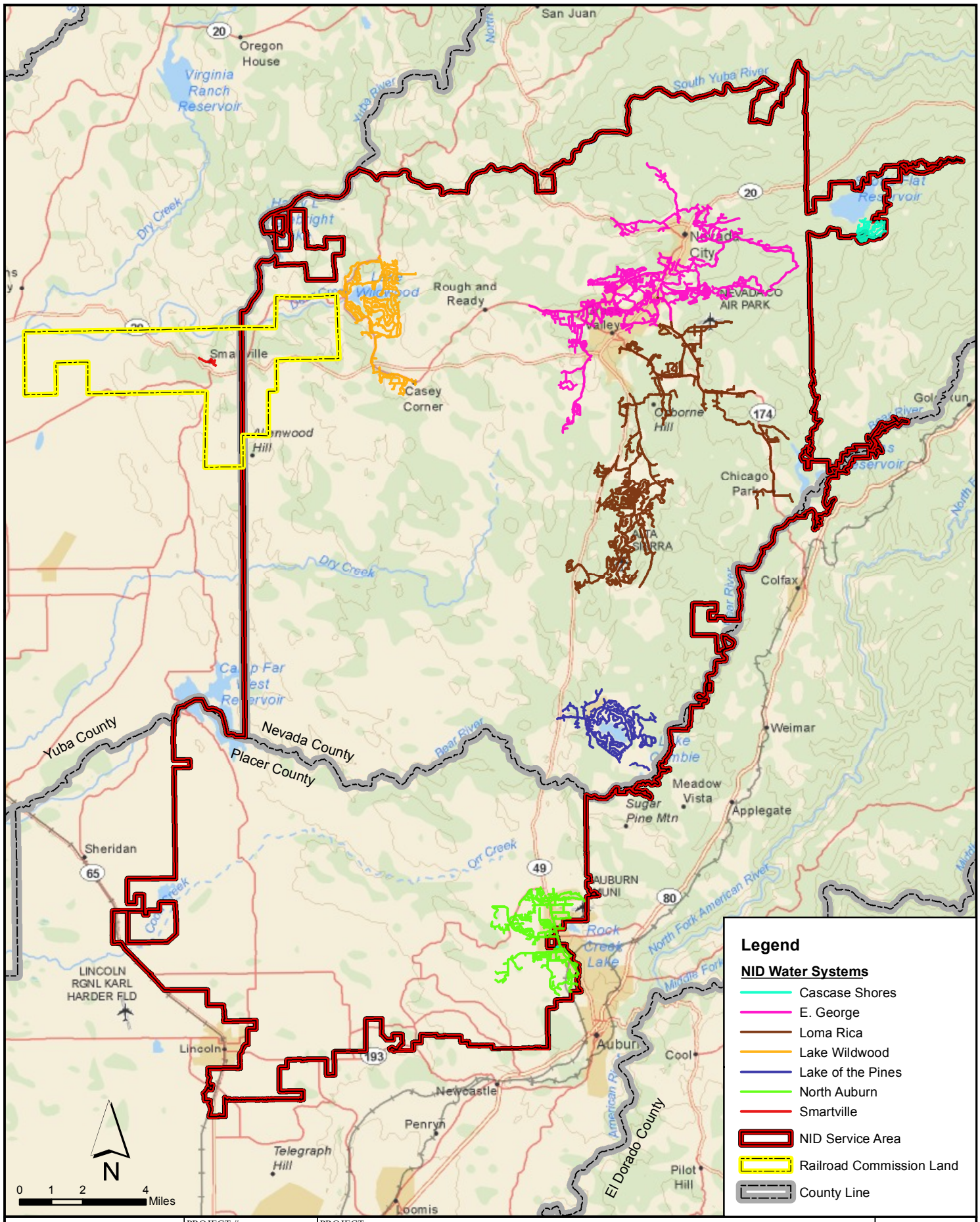
Location	Elevation, ft	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Auburn (CIMIS Station no.195) 2009	935													
Standard average ETo, in		1.4	1.9	3.0	4.5	5.9	7.5	9.0	8.2	6.2	4.2	1.8	1.4	55.0
Total rainfall, in		2.5	6.4	3.1	1.3	3.5	0.0	0.0	0.0	0.4	2.3	1.6	4.4	25.5
Maximum temperature, °F		58.5	58.4	62.5	69.6	81.8	83.9	94.3	91.5	89.1	72.2	64.0	53.7	--
Minimum temperature, °F		38.2	41.7	42.0	44.5	55.3	57.0	63.3	62.6	62.0	48.8	41.8	37.0	--
Grass Valley (WRCC Station No. 043573)	2,400													
Standard average ETo, in		NA												
Average Maximum temperature, °F		53.4	55.2	57.8	62.1	71.2	79.6	87.5	87.1	82.0	72.2	59.7	53.1	68.4
Average Minimum temperature, °F		32.0	33.7	36.0	38.8	45.5	51.3	56.1	54.8	50.3	42.8	36.2	31.6	42.4
Total rainfall, in		9.9	8.7	7.8	4.0	1.9	0.6	0.1	0.2	0.9	2.5	6.8	9.5	53.0
Average total snowfall, in		2.2	2.5	2.4	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.0	10.1
Period of Record : 10/1/1966 to 4/30/2010														
Nevada City (WRCC Station No. 046136)	2,780													
Standard average ETo, in		NA												
Average Maximum temperature, °F		50.7	53.3	56.8	63.2	71.1	79.9	88.4	87.5	81.5	71.1	58.8	51.4	67.8
Average Minimum temperature, °F		30.3	31.7	33.7	36.8	42.5	48.1	52.6	51.2	46.8	40.9	34.6	30.8	40.0
Total rainfall, in		10.3	9.4	7.9	4.3	2.2	0.6	0.1	0.1	0.8	2.8	6.2	9.4	54.0
Average total snowfall, in		8.1	5.8	5.6	0.9	0.1	0.0	0.0	0.0	0.0	0.0	0.6	3.7	24.8
Period of Record : 2/ 1/1893 to 4/30/2010														
Bowman Dam (WRCC Station No. 041018)	5,390													
Standard average ETo, in		NA												
Average Maximum temperature, °F		44.8	46.1	49.6	55.3	63.7	72.1	80.0	79.7	73.7	64.1	52.8	46.2	60.7
Average Minimum temperature, °F		26.4	26.6	28.6	32.5	39.2	46.8	53.4	53.2	48.3	41.2	33.4	28.4	38.2
Total rainfall, in		11.7	10.1	9.1	4.6	3.5	1.2	0.2	0.4	0.9	4.0	8.1	10.7	64.5
Average total snowfall, in		53.1	49.8	48.1	21.2	7.0	0.3	0.0	0.0	0.3	2.6	19.0	39.9	241.3
Period of Record : 6/ 1/1896 to 4/30/2010														

NA = not available ETo = evapotranspiration °F = degrees Fahrenheit CIMIS = California Irrigation Management and Information System WRCC = Western Regional Climate Center



BROWN AND CALDWELL	PROJECT 139620	PROJECT Urban Water Management Plan	Figure 2-1
	DATE 1-17-2011	TITLE Location of NID and Neighboring Water Utilities	

FILE: P:\39000\139620 - NID 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Figure 2-1 Location Map.mxd



BROWN AND CALDWELL	PROJECT # 139620	PROJECT Urban Water Management Plan	Figure 2-2
	DATE 11-23-2010	TITLE NID Water Systems	

FILE: P:\39000\139620 - NID 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Figure 2-2 NID Service Area.mxd

2.3 Water Supply Facilities

Water supply for NID is currently derived from mountain snowpack from Northern California's Sierra Nevada Mountains, and is stored in an extensive system of ten reservoirs that provide water surface water supply to NID's seven water treatment plants as well as the raw water supply for NID's raw water system. This section describes the surface water facilities.

NID began treating water in the late 1950s by injecting gaseous chlorine into open canals at the head of irrigation pipes serving isolated pockets of the area's population. The first conventional water treatment plant (WTP) was built in 1963 at the Forest Knolls subdivision. Today, NID holds permits from the California Department of Public Health (CDPH), Office of Drinking Water, for seven treatment plants with a combined capacity of 33.4 million gallons (MG), serving over 18,000 connections. Each WTP complies with applicable state and federal regulations including the Surface Water Treatment Rule and the Safe Drinking Water Act. Table 2-2 lists the water treatment plants, their existing capacity, proposed expansion capacity, and proposed expansion date.

Table 2-2. NID Water Treatment Plants

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	10	8	18	2011
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	--
Smartville WTP	0.085	0	0.085	--
Lincoln Service Area	-- [a]	10	10	2015
TOTAL	33.725	30	63.725	--

[a] *NID raw water is treated in Placer County Water Agency's treatment plant to serve NID customers in Lincoln. An NID treatment plant is proposed in approximately 2015.*

2.4 Historical and Projected Population

10631(a) (Describe the service area) current and projected population…The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier…(population projections) shall be in five-year increments to 20 years or as far as data is available.

Historical population for NID's urban centers supplied by NID's distribution system is presented in Table 2-3. Year 2000 total population is based on the year 2000 census. Per DWR's Methodology for Calculating Baseline and Compliance Urban Per Capita Water Use (DWR Methodology) (DWR, October 1, 2010), Methodology 2: Service Area Population (Part II, Section M), NID falls into Category 2, a water supplier who has an electronic GIS map of their distribution area, but whose actual distribution area does not overlap substantially (>= 95%) with city boundaries. As a Category 2 water supplier who does not belong to an association of governments that develops population estimates for its members, NID must develop population estimates using either a per-connection or per-housing unit methodology

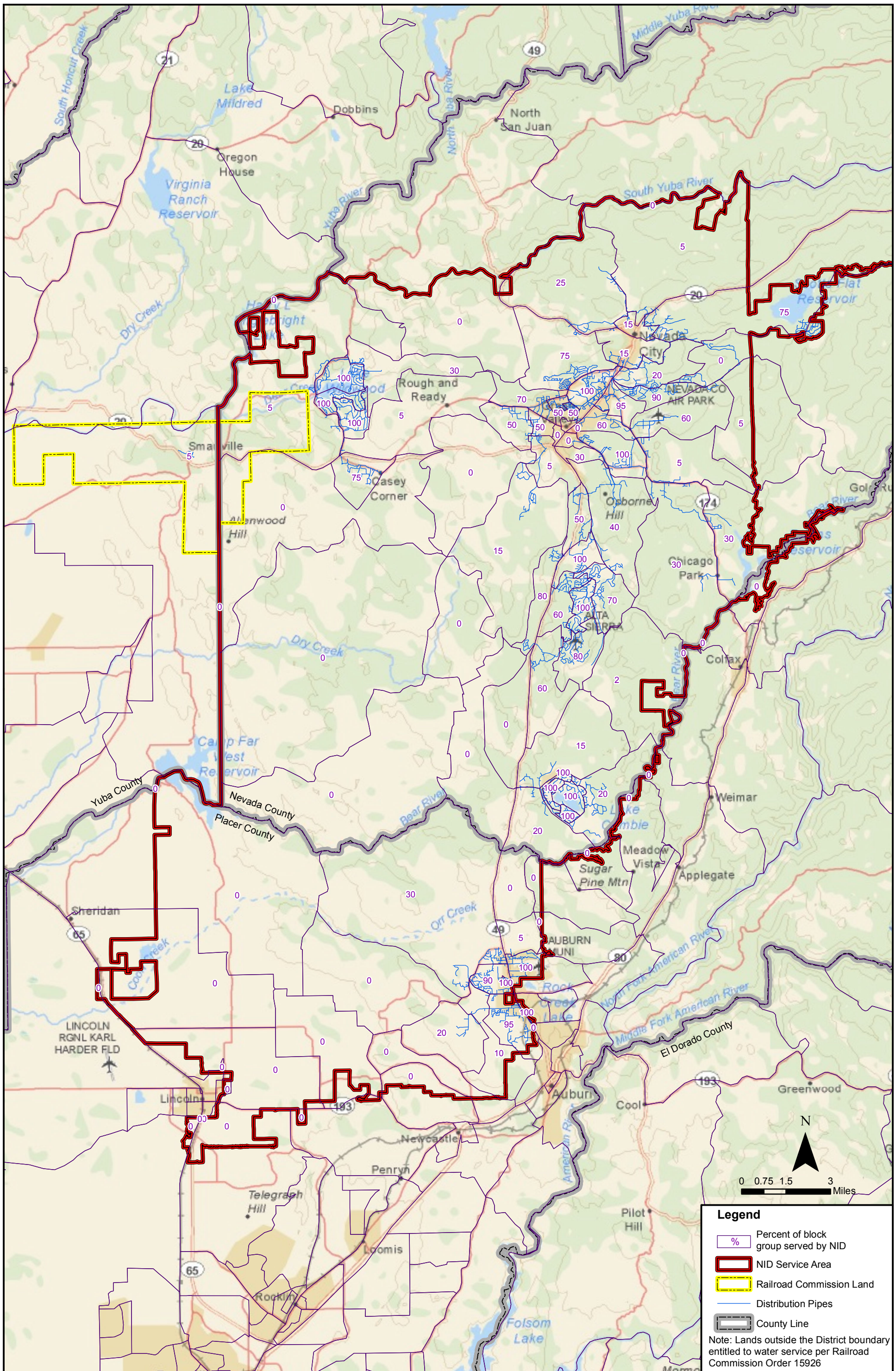
described in Appendix A of the DWR Methodology guidelines or another equivalent method that uses data either from the Department of Finance (DOF) or the US Census Bureau as its basis.

The alternative methodology for service area population described in Appendix A of the DWR Methodology was followed for estimating NID's service area population from 1995 through 2009. This section describes the determination of NID's historical population for the retail service area. The detailed calculations to estimate the historical population is provided in Appendix E of this Plan.

The year 2000 census population estimate is based on the total population by census block group. A census block is the smallest geographical unit used by the Census Bureau. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, county limits, and property lines. Census blocks are grouped into block groups. NID's GIS boundary map of the distribution area was overlayed on the 2000 census block group map to identify the census block groups located within NID's service area.

Because there are dwelling units with NID's service area boundary that are served by private wells, an additional step was taken to estimate only the population served by NID's potable water distribution system so as not to include those served by private water supplies. This step included estimating the portion of the census blocks within NID's service area that are served by NID (versus the portion of the population in the census blocks served by private water supplies). NID's potable distribution system pipelines shapefile in conjunction with aerial photos were used to estimate the portion of the census block served by NID, in order to adjust for private wells within the service area.

Figure 2-3 shows NID's retail service area, the 2000 census block groups, NID's distribution system, and the estimated percentage of each block group served by NID's retail water system. Appendix F contains a table of the 2000 census block groups and correlating estimated percentage of each block group served by NID's retail water system.



BROWN AND CALDWELL	PROJECT # 139620	PROJECT Urban Water Management Plan	Figure 2-3
	DATE 3-8-2011	TITLE 2000 Census Block Groups Served by NID Retail Water System	

FILE: P:\39000\139620 - NID 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Block Groups with Percentages.mxd

Once the portion of the census blocks within NID's service area that are served by NID's retail water system was identified including adjustment for private well supplies, each block's total population and population by structure type in 2000 was obtained from the Census Bureau's website. The population in single family and multi-family residences correlated with single family and multi-family connections, respectively, for the census year 2000, were used to develop a ratio of persons per residential connection for the year 2000. These ratios were applied to active residential connections data for non-census years to estimate non-census-year population. Table 2-3 provides the resulting historical population estimate of potable water system customers within NID from 1995 through 2010.

Table 2-3. Historical Population

Year	Population [a]
1995	36,536
1996	37,004
1997	37,420
1998	37,953
1999	38,686
2000	39,374
2001	41,431
2002	41,479
2003	42,465
2004	43,072
2005	44,001
2006	44,477
2007	44,947
2008	45,191
2009	44,552
2010	44,761

[a] *Source:*
Year 2000 Census data by census block correlated to historical NID residential connections.
Appendix E and Appendix F contain the detailed information used to calculate the historical population.

Figure 2-4 presents the historical population and number of connections or customers that are served by the NID's retail water system.

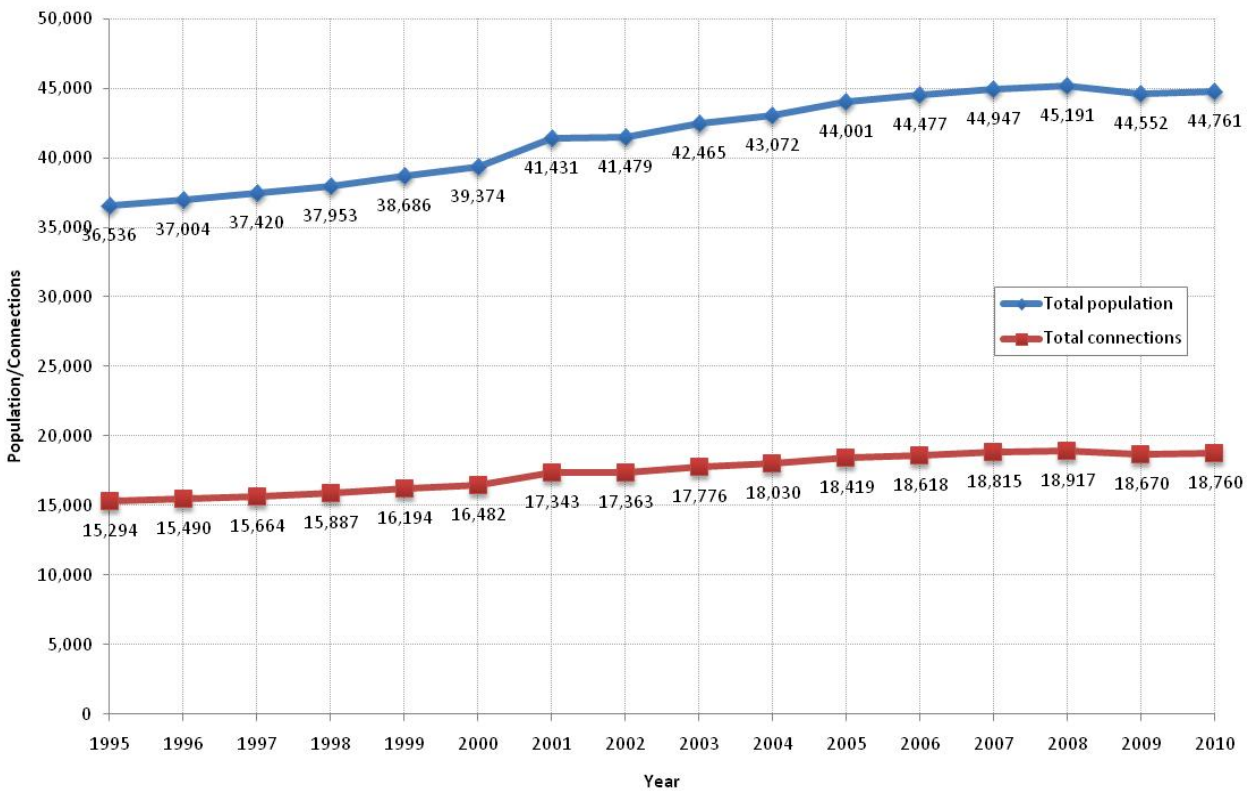


Figure 2-4. Historical Population and Number of Connections

NID's potable water distribution system population is projected as a range based on a projected low customer growth rate and projected high customer growth rate. The average annual growth rates for both the low and high scenarios are shown in Table 2-4. These growth rates are based on customer growth projections estimated for each of NID's seven potable water service areas as estimated by NID staff. The projected connections by customer category are presented in Section 3 of this UWMP. For the purposes of the demand projections provided in Section 3 of this UWMP, the high population growth projection is utilized.

Table 2-4. (DWR Table 2) Projected Population

Year	Population [(a)]	
	Low Growth	High Growth
2010	44,761	44,761
2015	48,620	50,422
2020	52,813	56,799
2025	57,366	63,982
2030	62,312	72,073
2035	67,685	81,188

Source: Projected population is based on customer growth projections within each of the seven service areas.

Note: For the purposes of the demand projections provided in Section 3 of this UWMP, the high population growth projection is utilized.

[(a)] Service area population is defined as the population served by the distribution system.

NID population is expected to reach approximately 81,188in 2035 based on the high growth projection rate. The historical and projected population for NID are illustrated on Figure 2-5. The population growth rate from 2000 to 2010 was approximately 1.3 percent per year. The change in population from approximately 44,761 in 2010 to 81,188 in 2035, is a 2.4 percent average annual growth rate per.

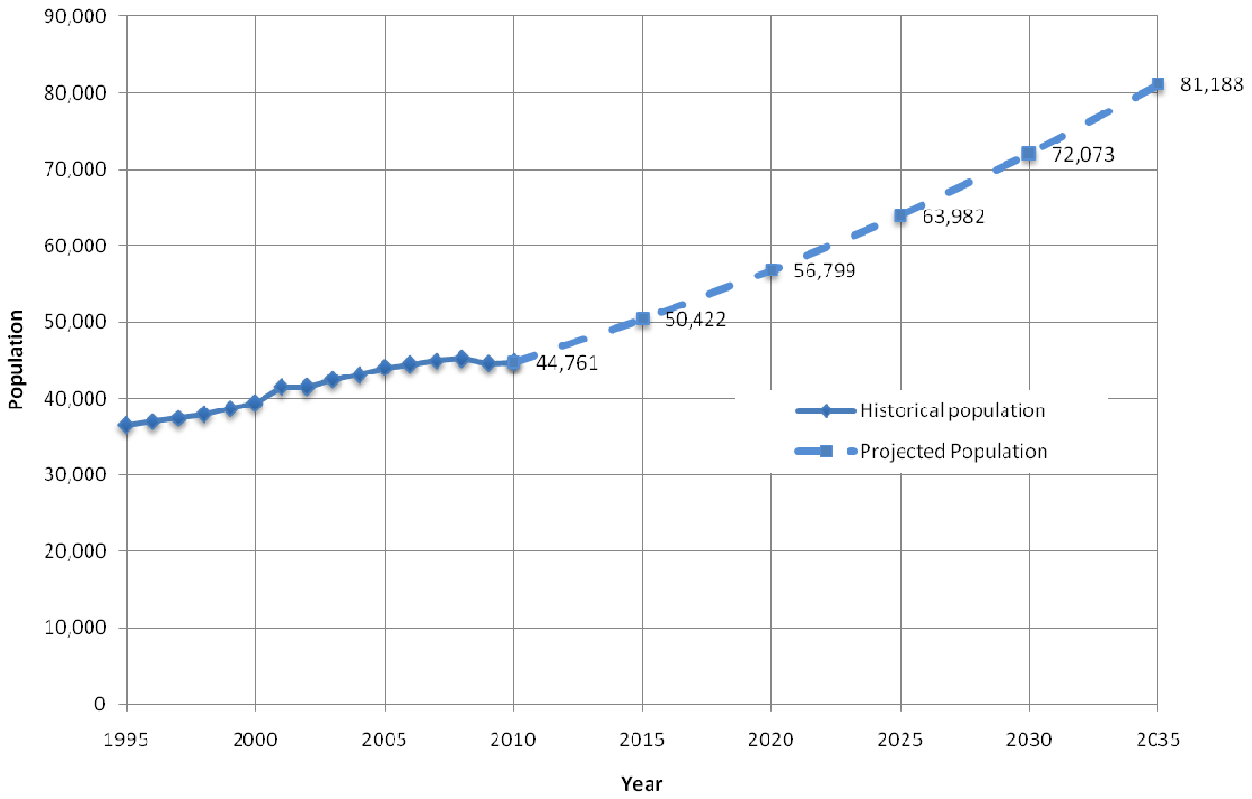


Figure 2-5. Historical and Projected Population

Section 3

Historical and Projected Water Use

10631(e)(1) and(2) Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to , all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; (I) Agricultural.

Water demand projections along with fire flow requirements provide the basis for sizing and staging future water facilities. This section describes the urban water system demands and presents an analysis of GPCD target water use and the resulting projections for future water supply needs for NID.

3.1 Historical Water Use

Water production is the volume of water measured at the source, which includes all water delivered to residential, commercial, and public authority customers, as well as unaccounted-for water.

Historical average annual and average daily treated water production is shown in Table 3-1. Total retail treated water production in 2009 was 11,863 acre-feet (ac-ft). This is the gross water use by NID. Per DWR's Methodology (DWR, October 1, 2010), gross water use is defined as the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier excluding the following:

1. Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier
2. The net volume of water that the urban retail water supplier places into long-term storage
3. The volume of water the urban retail water supplier conveys for use by another urban water suppler
4. The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24 of the Act.

Table 3-1. Historical Retail Treated Water Production		
Year	Annual Average Production	
	ac-ft/yr	mgd
1990	8,878	7.9
1991	8,415	7.5
1992	9,294	8.3
1993	8,990	8.0
1994	--	--
1995	9,216	8.2
1996	9,861	8.8
1997	10,326	9.2
1998	9,574	8.5
1999	11,396	10.2
2000	11,364	10.1
2001	12,505	11.2
2002	12,654	11.3
2003	11,941	10.7
2004	11,841	10.6
2005	11,275	10.1
2006	11,310	10.1
2007	13,198	11.8
2008	13,285	11.9
2009	11,863	10.6

Note: *Based on WTP meters. This is considered NID's gross water use according to the definition of gross water use per DWR's Methodology (DWR, October 1, 2010).*

3.2 GPCD Baseline and Targets

10608.20(e) An urban retail water supplier shall include in its urban water management plan…due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the basis for determining those estimates, including references to supporting data.

Per the law as adopted in SBx7-7, NID must establish per capita water use targets using one of four methods

1. Method 1 - Eighty percent of the urban retail supplier's baseline per capita daily water use.
2. Method 2 - The per capita daily water use that is estimated using the sum of several defined performance standards.
   a) 55 gallons per day (gpd) for indoor residential water use.
   b) Water efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance for landscape irrigated through dedicated or residential meters or connections.

c) A 10 percent reduction in commercial, industrial, and institutional (CII) uses from the baseline CII water use by 2020.

3. Method 3 - Ninety-five percent of the applicable state hydrologic region target, as set forth in the State's draft 20x2020 Water Conservation Plan.
4. Method 4 - Calculated water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Provisional Method 4 for Calculating Urban Water Use Targets, released February, 2011.

Tables 3-2, 3-3, and 3-4 provide base period ranges and base daily per capita water use for 5-, 10-, and 15-year ranges used to estimate the Method 1 target. Regardless of which of the four methods is adopted by NID, the target may need to be adjusted further to achieve a minimum reduction in water use. If the five-year baseline water use is more than 100 GPCD, it must compare two values:

1. 95 percent of the five-year baseline daily per capita water use and
2. The target determined by the target method it adopted from the four methods allowed.

The 2020 target is the lower of the two values. For NID, 95 percent of the five-year baseline daily per capita use is 232 GPCD (95% x 245 GPCD).

NID has selected Method 1 to determine their urban water use target. Based on Method 1, NID's 2020 target is 203 GPCD with a 2015 interim target of 229 GPCD. NID's target using Method 1 will not have to be adjusted since it is lower than 95 percent of the five-year baseline.

A detailed analysis of the GPCD target methods is provided in Appendix E.

Table 3-2. (DWR Table 13) Zone 41 Retail Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	13,285	ac-ft/yr
	2008 total volume of delivered recycled water	-	ac-ft/yr
	2008 recycled water as a percent of total deliveries	-	percent
	Number of years in base period [(a)]	10	years
	Year beginning base period range	1999	
	Year ending base period range [(b)]	2008	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2004	
	Year ending base period range [(c)]	2008	

[(a)] Per DWR Methodology, if the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first base period is a continuous 10- to 15-year period.

[(b)] Per DWR Methodology, the ending year must be between December 31, 2004 and December 31, 2010.

[(c)] Per DWR Methodology, the ending year must be between December 31, 2007 and December 31, 2010.

Table 3-3. (DWR Table 14) Zone 41 Retail Base Daily per Capita Water Use - 10- to 15-year range				
Base period year		Distribution System Population	Daily system gross water use, ac-ft/yr	Annual daily per capita water use, GPCD
Sequence Year	Calendar Year			
Year 1	1999	38,686	11,396	263
Year 2	2000	39,374	11,364	258
Year 3	2001	41,431	12,505	269
Year 4	2002	41,479	12,654	272
Year 5	2003	42,465	11,941	251
Year 6	2004	43,072	11,841	245
Year 7	2005	44,001	11,275	229
Year 8	2006	44,477	11,310	227
Year 9	2007	44,947	13,198	262
Year 10	2008	45,191	13,285	262
Year 11				
Year 12				
Year 13				
Year 14				
Year 15				
Base Daily Per Capita Water Use				254

Table 3-4. (DWR Table 15) Base Daily per Capita Water Use - 5-year range				
Base period year		Distribution System Population	Daily system gross water use, ac-ft/yr	Annual daily per capita water use, GPCD
Sequence Year	Calendar Year			
Year 1	2004	43,072	11,841	245
Year 2	2005	44,001	11,275	229
Year 3	2006	44,477	11,310	227
Year 4	2007	44,947	13,198	262
Year 5	2008	45,191	13,285	262
			Base Daily Per Capita Water Use	245

3.3 Projected Water Demands

This section presents the projected water demands for three water year scenarios: normal year, single dry year, and multiple dry years. The demands for all water year scenarios are projected through 2035.

3.3.1 Projected Normal-Year Water Demands

Normal-year water demands through the year 2035 are estimated based on the selected GPCD target chosen by NID as described in Section 3.3 and the projected population (see Table 2-4). These water demand projections for NID's retail customers are shown in Table 3-5 through Table 3-9 and are illustrated on Figure 3-1. The projected demand breakdown by customer category is based on the year 2009 demand breakdown by customer category. In summary, from 2005 to 2009, NID total water demands fluctuated, with an overall increase of 2.7 percent, which is an average annual growth rate of approximately 0.7 percent per year. Annual average total NID treated water retail demands are expected to increase at an approximate average annual growth rate of 0.5 percent per year from 2009 to 2035.

Table 3-5. (DWR Table 3) Water System Projected Water Demands and Number of Accounts, Actual 2005

Water Use Category	2005				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr	
Single-family	17,268	6,648	--	--	6,648
Multi-family	341	1,145	--	--	1,145
Commercial	341	687	--	--	687
Industrial	46	93	--	--	93
Institutional	221	594	--	--	594
Landscape irrigation	203	862	--	--	862
Total	18,419	10,029	--	--	10,029

Table 3-6. (DWR Table 4) Water System Projected Water Demands and Number of Accounts, Actual 2010

Water Use Category	2010				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr	
Single-family	17,561	5,714	--	--	5,714
Multi-family	347	1,088	--	--	1,088
Commercial	374	753	--	--	753
Industrial	47	95	--	--	95
Institutional	225	605	--	--	605
Landscape irrigation	206	878	--	--	878
Total	18,760	9,134	--	--	9,134

Table 3-7. (DWR Table 5) Water System Projected Water Demands and Number of Accounts, Projected 2015					
Water Use Category	2015				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr	
Single-family	19,586	6,662	--	--	6,662
Multi-family	387	1,084	--	--	1,084
Commercial	417	840	--	--	840
Industrial	52	105	--	--	105
Institutional	251	675	--	--	675
Landscape irrigation	230	980	--	--	980
Total	20,923	10,346	--	--	10,346

Table 3-8. (DWR Table 6) Water System Projected Water Demands and Number of Accounts, Projected 2020					
Water Use Category	2020				
	Metered		Not metered		Total volume, ac-ft/yr
	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr	
Single-family	22,031	6,523	--	--	6,523
Multi-family	435	1,073	--	--	1,073
Commercial	469	840	--	--	840
Industrial	59	105	--	--	105
Institutional	282	696	--	--	696
Landscape irrigation	259	1,102	--	--	1,102
Total	23,535	10,339	--	--	10,339

Table 3-9. (DWR Table 7) Water System Projected Water Demands and Number of Accounts, 2025 - 2035						
Water Use Category	2025		2030		2035	
	Metered		Metered		Metered	
	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr	# of accounts	Volume, ac-ft/yr
Single-family	24,817	7,348	27,996	8,271	31,628	9,301
Multi-family	490	1,209	553	1,363	625	1,540
Commercial	528	946	596	1,067	673	1,206
Industrial	66	119	75	134	84	151
Institutional	318	784	359	884	405	999
Landscape irrigation	292	1,241	329	1,400	372	1,582
Total	26,512	11,647	29,908	13,120	33,788	14,780

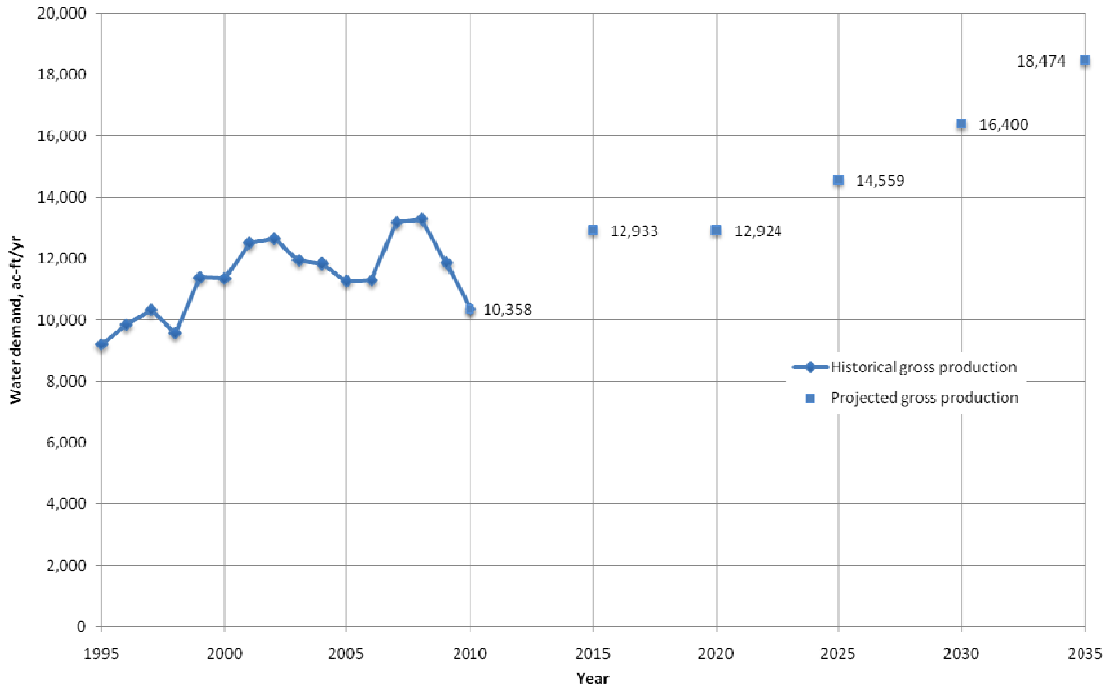


Figure 3 1. Historical and Projected Retail Water Demand

Note: Retail water demand includes sales to retail customers plus retail system losses.

Table 3-10 provides the water sold to other agencies. This includes actual projected water demand from City of Grass Valley, Nevada City, Bitney Springs, Lake Vera Mutual Water Company, and Placer County Water Agency.

Table 3-10. (DWR Table 9) Sales to Other Water Agencies, ac-ft/yr							
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
Nevada City Raw	208	248	400	400	400	400	400
Bitney Springs LLC Raw	4	7	6	6	6	6	6
Lake Vera Mutual Water Company Treated	55	16	20	20	20	20	20
Placer County Water Agency Raw [(a)]	730	1,490	0	0	0	0	0
City of Lincoln Treated [(a)]	-	-	1,800	2,484	3,300	4,116	4,932
TOTAL	2,355	2,997	3,626	4,310	5,126	5,942	6,758

[(a)] *By the year 2015 NID will no longer provide raw water to Placer County Water Agency for City of Lincoln, but rather will provide treated water directly to City of Lincoln.*

System losses or unaccounted-for water (UAW) use is unmetered water use such as for fire protection and training, system and street flushing, sewer cleaning, construction, system leaks, and unauthorized connections. UAW can also result from meter inaccuracies. In addition to being unaccounted for purposes of water supply, it is also water that is not billed and does not add to the revenue stream. Because NID is completely metered, data is available for determining the percent of UAW, as shown in Table 3-9.

The actual and projected water demand for other uses including raw water, recycled water, and system losses (unaccounted-for water) are shown in Table 3-11.

Table 3-11. (DWR Table 10) Additional Water Uses and Losses, ac-ft/yr							
Water Distributed	2005	2010	2015	2020	2025	2030	2035
Saline barriers	0	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0	0
Raw water (agricultural) [a]	117,629	114,039	160,987	167,626	173,544	175,804	175,804
Recycled water	3,025	2,500	2,500	2,500	2,500	2,500	2,500
System losses (retail water system) [b]	1,245	1,224	2,587	2,585	2,912	3,280	3,695
TOTAL	121,899	117,763	166,074	172,711	178,956	181,584	181,999

[a] *Raw water is from Table 6-2 in the Raw Water Master Plan Update-Phase 1 Technical Analysis, Final Report dated September 2005. Raw water use includes the raw water system losses.*

[b] *Unaccounted-for water assumed to be 20% of total retail treated water production.*

Table 3-12 provides a summary of the total water use for NID including retail water deliveries, sales to other water agencies, and additional water uses and losses.

Table 3-12. (DWR Table 11) Total Water Use, ac-ft/yr							
Water Distributed	2005	2010	2015	2020	2025	2030	2035
Total water deliveries (from DWR Tables 3 to 7)	10,029	9,134	10,346	10,339	11,647	13,120	14,780
Sales to other water agencies (from DWR Table 9)	2,355	2,997	3,626	4,310	5,126	5,942	6,758
Additional water uses and losses (from DWR Table 10)	121,899	117,763	166,074	172,711	178,956	181,584	181,999
Total Water Use	134,284	129,894	180,046	187,360	195,729	200,646	203,536

3.3.2 Water Demands for Lower Income Households

10631.1(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

Based on the Housing Element of the Nevada County General Plan (Nevada County Planning Department, May 11, 2010), 40 percent of the new housing units will be low-income dwelling units. These include very-low and low income dwelling units which are up to 80 percent of the median income.

Based on this, an estimate of the projected single-family and multi-family water demands is provided in Table 3-13. The projections are included in Table 3-3 through 3-7.

Table 3-13. (DWR Table 8) Low-Income Projected Water Demands, ac-ft/yr					
Low Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	2,665	2,609	2,939	3,308	3,720
Multi-family residential	434	429	483	545	616
TOTAL	3,099	3,038	3,423	3,854	4,337

Section 4
Water Supplies

This section describes the surface water sources, quantities, supply constraints, and the water quality of the water supply sources. In addition, this section describes current and projected water supplies and water supply reliability and vulnerability. Recycled water is discussed in Section 5 of this Plan. Groundwater is not an existing or planned source of water available to NID.

4.1 Surface Water

This section provides a description of NID's surface water supply as well as the physical and legal constraints of this supply.

4.1.1 Description

NID depends on surface water for its supply for both irrigation and urban water demands. The supply falls into four main categories:

- Runoff from the watershed
- Carryover storage in surface reservoirs
- Contract purchases
- Recycled water

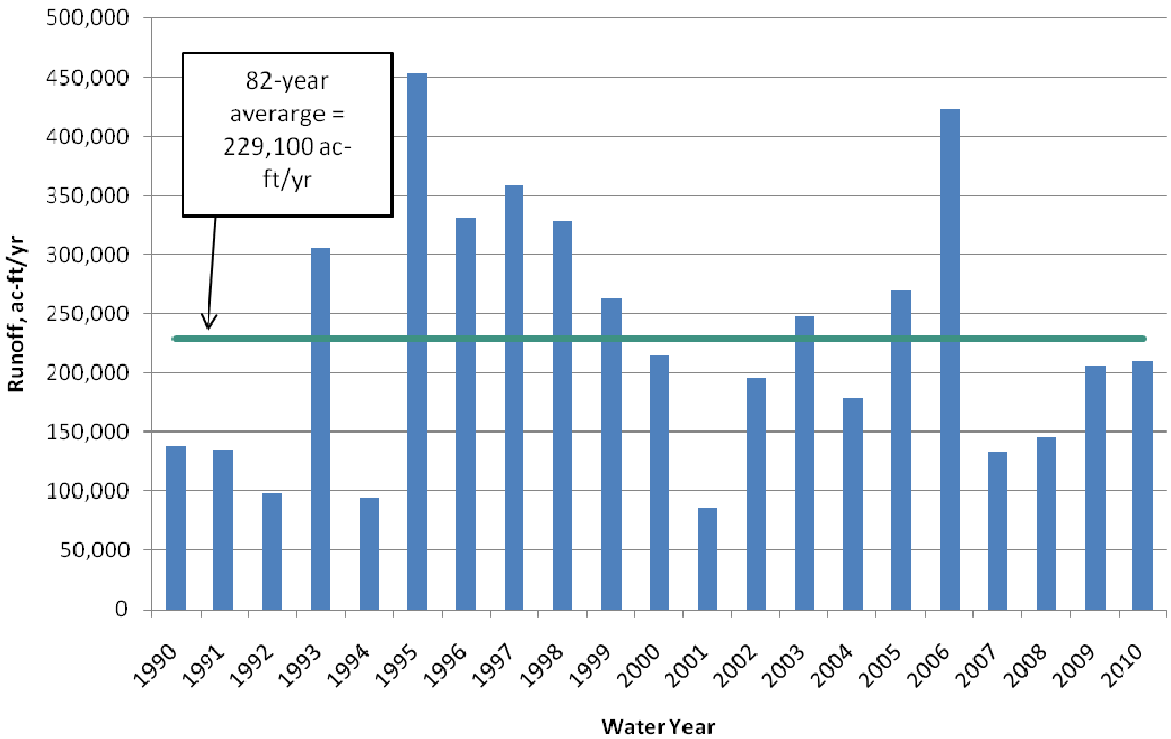
NID was originally organized for the purpose of storing and delivering irrigation water to farmers and ranchers. NID's water supplies are derived principally from the Yuba River, Bear River, and Deer Creek watersheds. In the early 1920's NID acquired storage and regulating facilities in the upper reaches of the Middle and South Yuba Rivers. In 1926, NID acquired most of its Canyon Creek holdings including the Bowman, Sawmill, French, and Faucherie Reservoirs. Associated water rights were also obtained. Deer Creek rights were obtained in the 1920's for the development of Scott's Flat Reservoir. In 1963, NID partnered with Pacific, Gas, and Electric (PG&E) to develop additional storage and conveyance capacity and generate power from water derived from the Yuba and Bear River watersheds through the Yuba-Bear Project.

Watershed Runoff: This category of supply includes all runoff produced by NID's watershed during the water year. The amount of runoff and the manner in which it is used, depends upon the amount of water contained in the snow pack and the rate at which the snow pack melts. NID water rights include pre-1914 rights acquired from mining interests, along with post-1914 rights filed with the State of California to provide for domestic, municipal, industrial, recreational, power, and irrigation uses. Typically, melting snow provides runoff lasting into June or July.

The system of storage reservoirs and conduits used to transport water to NID's service area boundary are referred to as the Upper Division. The Upper Division is operated in conjunction with PG&E under the terms of a joint agreement. In periods of normal precipitation, ample runoff is available for power production. Conversely, power production is sacrificed to avoid supply deficiencies during dry years. Figure 4-1 shows the recorded watershed runoff since 1990 and compares it to the 82-year average.

Due to provisions in the PG&E Contract, hydrologic variability, and NID not being the senior water right holder the runoff data does not include supply from the Bear River and the South Yuba River. NID is

likely to receive some water from these sources in dry years. Due to the uncertainty of the amount of supply available from these two sources, it has not been quantified in this Plan



Note: Includes Middle Yuba River, Canyon Creek, Texas Creek, Fall Creek and Deer Creek. Does not include Bear River or South Yuba due to PG&E contract provisions, and hydrological and water rights considerations. Water year is from October 1 of previous year to September 30.

Figure 4-1. NID Historic Watershed Runoff

Carryover Storage: NID has ten main storage reservoirs totaling a maximum of 280,390 acre-feet. Table 4-1 shows the capacity, the maximum water surface elevation, and the minimum pool or dead storage of each reservoir. Carryover storage is the amount of water left in these reservoirs at the end of the normal irrigation season, usually at the end of September. Experience has shown that carryover storage should be held at a level not less than 78,000 ac-ft. This figure includes a total 39,675 ac-ft of minimum pool requirements reserved for environmental needs and dead storage volume (includes siltation estimates) that cannot be counted upon as a supply. Figure 4-2 shows the usable carryover storage since 1990 and compares it to the 43-year average.

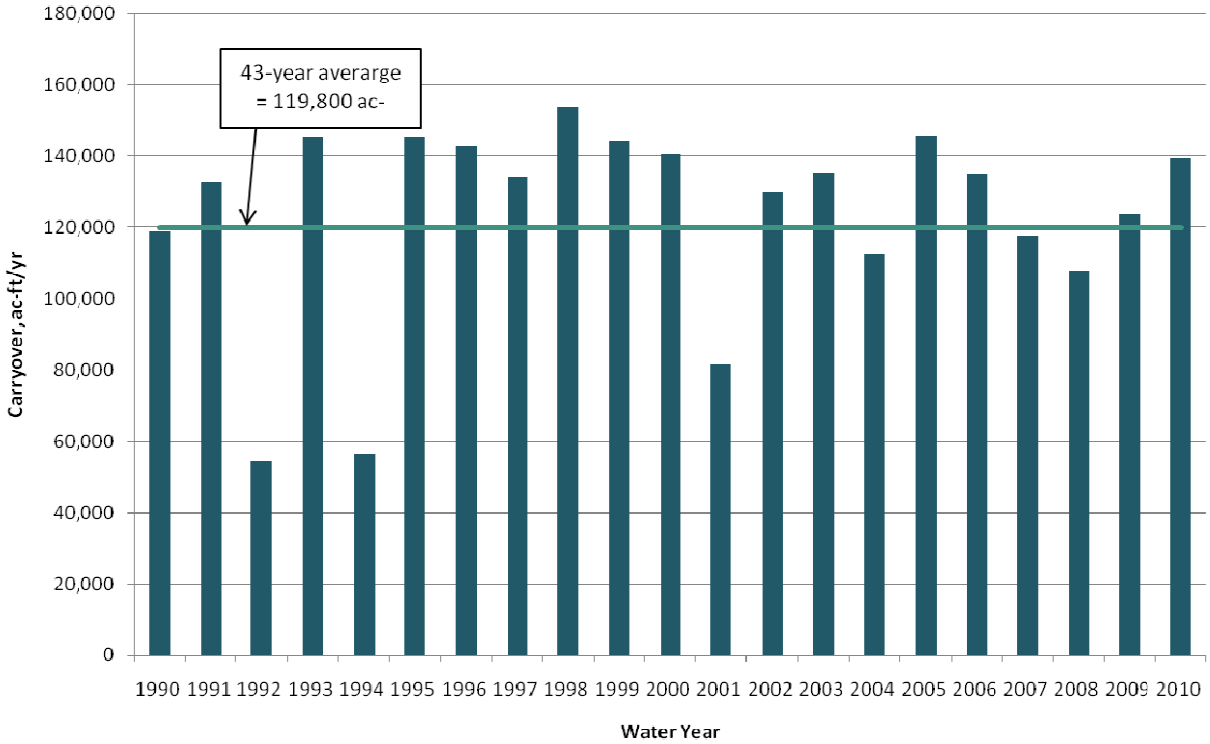


Figure 4-2. NID Historic Reservoir Carryover Storage

TAF = thousand acre feet

Table 4-1. NID Water Supply Reservoirs

Name	Capacity[(a)], ac-ft	Spill elevation, ft	Minimum Pool/Dead Storage, ac-ft
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

[(a)] *Reservoir capacities in this Plan differ from the draft RWMP because the draft RWMP uses the latest numbers from the re-licensing bathymetric analysis.*

Contract Purchases: The power potential of its water led NID to enter into an agreement with PG&E in 1924 for use of a portion of NID's water through PG&E facilities. Over the years, this agreement has been modified to meet the changing conditions and requirements of both organizations. In 1963, NID and PG&E agreed to develop additional storage capacity on both Middle Yuba and the Bear River. Also, additional water was made available by improved and new facilities in the upper Yuba Basin. Contract water purchases were available each year through the 1963 agreement with PG&E. In years of at least normal precipitation, the maximum amount available is 59,361 ac-ft. This maximum amount is reduced in dry years to 23,591 ac-ft. It should be noted that the contract expires in 2013. A renegotiated contract has the potential of affecting NID's overall water supply. However, NID staff does not foresee any major changes to present operations once negotiations have been concluded. For the purpose of this Plan, supply projections for contract purchases are based on historic records.

4.1.2 Physical Constraints

There are no physical constraints on the current surface water supplies that limit the ability to meet current demands. The capacities of the WTPs and the backbone transmission main system in the water system are sufficient to treat and convey the current surface water needs.

4.1.3 Legal Constraints

The legal constraints on the current surface water entitlements are NID's water rights and PG&E contract requirements.

4.2 Groundwater

10631(b) (Is) groundwater…identified as an existing or planed source of water available to the supplier(?)

NID does not utilize groundwater as an existing or planned source of water due to limited groundwater availability and no groundwater aquifer per California Department of Water Resources Bulletin 118.

4.3 Transfer and Exchange Opportunities

*10631(d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.*NID does not have any planned water exchanges on either a short-term or long-term basis, as shown in Table 4-2. NID's own water supplies come from the upper elevations of the watershed and the geographic location of NID's service area limits the opportunities for NID to exchange water with others. PG&E also has developed supplies in the same watersheds as NID. NID already has a contract with PG&E which allows for the purchase of water from PG&E. NID does not plan to transfer water in the near future.

Table 4-2. (DWR Table 20) Transfer and Exchange Opportunities

Transfer Agency	Transfer or Exchange	Short Term or Long Term	Proposed Volume
None	0	0	0
Total	0	0	0

4.4 Desalinated Water Opportunities

10631(i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

NID has no sources of ocean water, brackish water, or groundwater that provide viable opportunities for development of desalinated water as a long term supply. There are no opportunities for the development of desalinated water within NID's service area as a future supply source.

4.5 Water Quality

10634 The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

This section describes the water quality of the existing water supply sources within NID and the manner in which water quality affects water management strategies. In addition, this section describes the manner in which water quality affects the water supply.

Regulations governing drinking water quality that NID must comply with are established at the federal and state levels, with each setting Maximum Contaminant Levels (MCLs) that must not be exceeded. Regulations at the federal level are promulgated by the United States Environmental Protection Agency (USEPA) which is responsible for setting standards and assuring compliance. Regulations at the state level are maintained by the California Department of Public Health (CDPH) which carries out similar responsibilities. CDPH sets both primary and secondary water quality standards for drinking water. Primary standards are health-based. Secondary standards are related to palatability issues such as taste and odor, and scaling and corrosion of pipes.

As a result of preparing NID's Watershed Sanitary Survey Update and Source Water Assessment, several hundred photographs and extensive video documentation of the watershed were taken during the inventory process. From the Source Water Assessment NID expects a 0% loss of water used for urban purposes due to water quality impacts. The following primary observations were made during the field assessment of the watershed.

- Areas in the upper watersheds are, in general, minimally impacted by human activities
- Current and historic mining operations distributed over large areas in the watersheds have a combined high potential to impact raw water quality. As a result of the extensive use of mercury for amalgamation during gold recovery and its subsequent loss, elemental mercury is commonly present in watersheds throughout the region of historic gold mining operations. Elemental mercury has not been detected in any treatment plant source water. During summer months, recreation in the upper watersheds, including body contact recreation, motorized recreation, camping and hiking, bring large numbers of visitors into the area. This increases the potential for source water contamination.
- Major highways, local access roads and railroads are located throughout the watersheds increasing the risks to source water quality.
- Nevada City's wastewater treatment plant discharges into Deer Creek upstream of the Smartville Water Treatment Plant intake. In addition, the intake for the Smartville plant is located downstream from grazing lands and cattle have access to the canal.
- Various pesticides and herbicides are used for weed control around NID canals, however, during the maintenance period, the treatment plants are bypassed.
- Most areas 2,500 ft from the intakes are impacted by low density housing with septic tanks, some wildlife and domestic animal activity and occasional hikers
- Most canals are open; they receive untreated drainage from the uphill slopes and are not protected from vandalism or other sources of contamination

Natural disasters can also impact water quality. The quality of water supplies can be dramatically affected by fire. Storm damage to NID water collection systems may consist of the following elements:

- Damage to parts of canal intakes,
- Collapse or weakening of some sections of canal flumes,
- Erosion and sedimentation of, and landslides into, sections of the canals,

The above-listed damages can cause some temporary adverse water quality effects, and some short-term losses of NID water supplies in extreme cases. Of greater concern to overall water quality are flood--and precipitation-related damage occurrences that could cause longer term adverse water quality impacts such as excessive runoff and loading of surface contaminants (such as livestock manure, petroleum products, pesticides, and mineral wastes).

Water quality affects NID's water management strategies through NID's efforts to be in compliance with Federal and State regulations. These regulations require rigorous water quality testing, source assessments, and treatment compliance. No other special water management strategies due to water quality effects are necessary.

A summary of the current and projected water supply changes due to water quality is provided in Table 4-3. Since the potential water quality impacts are predominantly short-term, storm-related impacts, NID's water treatment capabilities result in no expected supply impacts due to water quality.

Table 4-3. (DWR Table 30) Current and Projected Water Supply Impacts Due to Water Quality, ac-ft/yr

Water Supply Sources	Description of Condition	2010	2015	2020	2025	2030	2035
Surface Water							
Watershed Runoff	No impacts	0	0	0	0	0	0
Carryover Storage	No impacts	0	0	0	0	0	0
Contract Purchase (PG&E)	No impacts	0	0	0	0	0	0
Supplier produced groundwater	No impacts	--	--	--	--	--	--
Recycled water	No impacts	0	0	0	0	0	0
Desalination water	No impacts	--	--	--	--	--	--

4.6 Current and Projected Normal Year Water Supplies

The current and projected normal year water supplies, based upon the water supply discussion in this section, are presented in Table 4-4. The recycled water supply is described in Section 5.

Table 4-4. (DWR Table 16) Current and Projected Normal Year Water Supplies, ac-ft/yr							
Water Supply Sources	Wholesaler Supplied Volume (Yes/No)	2010	2015	2020	2025	2030	2035
Wholesaler - Contract Purchase (PG&E) [c]	yes	59,361	59,361	59,361	59,361	59,361	59,361
Supplier-produced groundwater	no	0	0	0	0	0	0
Supplier-produced surface water							
Watershed Runoff [a]	no	209,377	229,124	229,124	229,124	229,124	229,124
Carryover Storage [b]	no	139,395	119,843	119,843	119,843	119,843	119,843
Transfers in		0	0	0	0	0	0
Exchanges in		0	0	0	0	0	0
Recycled water [d]	no	2,500	2,500	2,500	2,500	2,500	2,500
Desalination water	no	0	0	0	0	0	0
TOTAL		410,633	410,828	410,828	410,828	410,828	410,828

Note: Units of Measure: ac-ft/yr

[a] *Includes Middle Yuba River above Milton Diversion, Canyon Creek above Bowman Reservoir, Texas Creek, Fall Creek and Deer Creek. Does not include Bear River, or South Yuba due to PG&E contract provisions, and hydrological and water rights considerations. Water year is from October 1 of previous year to September 30. Projected normal year supply is assumed to equal the 82-year average runoff.*

[b] *Storage recorded at end of September of previous year and reduced by 39,675 ac-ft unusable minimum pool requirements and dead storage.*

[c] *Full entitlement of PG&E contract 59,361 ac-ft usually not purchased during normal and above normal runoff years due to conduit conveyance restrictions. Normally 7,500 to 8,000 ac-ft/yr is purchased perfrom PG&E as shown in Tables 4-5 and 4-6. NID purchases restricted to 23,591 ac-ft during dry year conditions. The Consolidated Contract expires in 2013 and NID expects to renew.*

[d] *Recycled water is discussed in Section 5 of this Plan.*

NID receives wholesale raw water supply from its contract with PG&E. Historically that demand has ranged from 1, 500 acre feet to 23,000 acre feet. The average demand has been 8,000 acre feet. Table 4-5 shows NID's demand projections based on the historical average to its wholesaler, PG&E. Table 4-6 shows PG&E's water supply available to NID.

Table 4-5. (DWR Table 12) Retail Agency Demand Projections Provided to Wholesalers, ac-ft/yr							
Wholesale Sources	Contracted Volume	2010	2015	2020	2025	2030	2035
Wholesaler (PG&E)	59,3618	7,500	8,000	8,000	8,000	8,000	8,000

Full entitlement of PG&E contract 59,361 ac-ft usually not purchased during normal and above normal runoff years due to conduit conveyance restrictions. Normally 7,500 to 8,000 ac-ft/yr is purchased perfrom PG&E as shown in Tables 4-5 and 4-6. NID purchases restricted to 23,591 ac-ft during dry year conditions. The Consolidated Contract expires in 2013 and NID expects to renew.

Table 4-6. (DWR Table 17) Wholesale Supplies – Existing and Planned Sources of Water, ac-ft/yr						
Wholesale Sources	Contracted Volume	2015	2020	2025	2030	2035
Wholesaler (PG&E)	59,3618	59,361	59,361	59,361	59,361	59,361

Full entitlement of PG&E contract 59,361 ac-ft usually not purchased during normal and above normal runoff years due to conduit conveyance restrictions. Normally 7,500 to 8,000 ac-ft/yr is purchased perfrom PG&E as shown in Tables 4-5 and 4-6. NID purchases restricted to 23,591 ac-ft during dry year conditions. The Consolidated Contract expires in 2013 and NID expects to renew.

4.7 Resource Maximization and Import Minimization

10620(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

Water management tools have been used by NID to maximize water resources. NID utilizes only resources within its watershed and does not need to import water from other regions. NID is a member of the Cosumnes American Bear Yuba (CABY) integrated regional water management group. 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. Diverse stakeholder involvement was a priority from the beginning, and CABY comprises more than 30 organizations, representing water supply, conservation, recreation, agriculture, and community interests, as well as federal and local government.

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).

In 2008 and beyond, CABY has been improving water management in the Sierra foothills by increasing communication and coordination and seeking funding to implement projects throughout the region. The guiding principles for CABY are summarized as follows:

- Achieve the consumptive, environmental, power and recreational requirements of the region in a balanced manner.
- Encourage implementation of water management policies in support of CABY goals and objectives.
- Manage and protect the resources in the face of climate change and variability through water policy, monitoring, assessment, restoration, and infrastructure development and operations.
- Address the increase in population and demand through water and watershed management.
- Inform and educate the current and future generations on the value and methods of a watershed approach and water management consistent with CABY goals and objectives.
- Build and maintain constructive relationships with multiple stakeholders and the public to foster collaboration and communication in our region.
- Engage elected officials within the CABY region and other regions that could affect NID's operations through an advisory council about CABY activities that may affect their constituents.
- Build organizational and community capacity to aid in achieving our vision in the watersheds of the CABY region.

The benefits of the CABY program described above and the documents developed as a result of this program are water management tools that NID uses to maximize their water resources.

4.8 Water Supply Reliability

10631(c)(2) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality or climatic factors, describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable 10631(c)(2).

10631(c)(1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single dry water year, (C) multiple dry water years.

This section describes the reliability of the water supply and vulnerability to seasonal or climatic shortage. A summary of the factors resulting in inconsistency of the surface water supply sources is provided in Table 4-7.

Table 4-7. (DWR Table 29) Factors Resulting in Inconsistency of Supply

Water Supply Sources	Specific Source Name, if Any	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
Wholesaler Contract Purchase (PG&E)			X	X		X	
Supplier-produced groundwater							
Supplier-produced surface Water							
Watershed Runoff			X	X		X	
Carryover Storage			X	X		X	
Transfers in							
Exchanges in							
Recycled water				X			
Desalination water							

The water shortage contingency plan would be implemented when there is a need to reduce demands significantly on a short-term basis. Section 6 of this Plan describes NID's current demand management measures. The water shortage contingency plan is presented in Section 8.

The basis of the water year data to develop the water supply reliability is provided in Table 4-8. The actual watershed runoff for each of the years identified and the percent of average/normal years is shown in Table 4-9. These base years are based on runoff data from the water supply in the NID watershed including Middle Yuba River, Canyon Creek, Texas Creek, Fall Creek and Deer Creek. The definitions of the three water supply scenarios as described by DWR (DWR, 2010) are provided below.

1. Average year is a year in the historical sequence that most closely represents median runoff levels and patterns. Average is defined as the median runoff over the previous 30 years or more. This median is recalculated every ten years.
2. Single dry year is generally considered to be the lowest annual runoff for a watershed since the water year beginning in 1903.
3. Multiple-dry year period is generally considered to be the lowest average runoff for a consecutive multiple year period (three years or more) for a watershed since 1903.

Table 4-8. (DWR Table 27) Basis of Water Year Data

Water Year Type	Base Year(s)
Average water year	2000 [a]
Single dry water year	1977
Multiple-dry water years	1987-1990[b]

[a] *Per DWR methodology, average water year is median runoff over the past 30 years.*

[b] *Due to potential inconsistencies in runoff data prior to 1980, multi-dry water year data is based on runoff data from 2010 to 1980.*

Table 4-9. (DWR Table 28) Supply Reliability – Historic Conditions – Watershed Runoff[a]

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years [b]			
		Year 1	Year 2	Year 3	Year 4
214,857	34,864	102,687	99,784	232,493	137,324
Percent of average/normal year	16%	0.48	0.46	1.08	0.64

[a] *The historic watershed runoff in this table does not include supply from the Bear River and the South Yuba River, which NID is likely to receive in dry years.*

[b] *Multiple year period selected for this analysis is based on a 4-year period. These values differ from NID's draft RWMP because they are based on the driest 4-year period whereas the draft RWMP is based on the driest 3-year period.*

A water supply reliability comparison is made in Table 4-10, considering the three water supply scenarios: average/normal water year; single dry water year; and multiple dry water 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 4-10. (DWR Table 31) Water Supply Reliability – Current Water Sources, ac-ft/yr						
Sources	Normal Water Year	Single Dry Year	Multiple Dry Water Year Supply			
			Year 1	Year 2	Year 3	Year 4
Wholesaler - Contract Purchase (PG&E)	59,361	23,591	23,591	23,591	23,591	23,591
Supplier-produced groundwater	0	0	0	0	0	0
Supplier-produced surface Water						
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	410,828	183,113	255,439	192,422	333,944	232,455
Percent of Normal	100%	45%	62%	47%	81%	57%

Units of measure: ac-ft/yr

The historic watershed runoff in this table does not include supply from the Bear River and the South Yuba River, which NID is likely to receive in dry years.

4.9 Future Water Projects

10631(h) (Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of water supply available to the urban water supplier in average, single dry, and multiple dry years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

This section provides a description of NID's water supply projects that will and may be undertaken to meet the total projected water use and provide system reliability. There are water treatment plant expansion projects currently in progress or planned for the near future, as shown in Table 4-11. This table also provides a schedule of the future water supply projects and a quantification of each project's normal-year yield, single dry-year yield, and multiple dry-year yield.

These projects do not increase NID's raw water supply; however, they do increase the amount of treated water available for NID treated water customers. The annual increase in treated water available as a result of the water treatment plant capacity expansions is assumed to be equal to the expansion capacity divided by 2.

Table 4-11. (DWR Table 26) Future Water Supply Projects							
Project Name	Projected Start Date	Projected Completion Date	Potential Project Constraints	Normal Year Supply [b], ac-ft/yr	Multiple Dry Year Supply, ac-ft/yr		
					First Year	Second Year	Third Year
Loma Rica WTP 4 mgd expansion	2020			1,792	1,792	1,792	1,792
E. George WT 8 mgd expansion	2011			3,584	3,584	3,584	3,584
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
Total				13,441	13,441	13,441	13,441

[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 the water treatment plan capacity expansions is assumed to equal to the expansion capacity divided by 2.5.*

Section 5

Recycled Water

The purpose of this section is to provide information on recycled wastewater and its potential for use as a water resource in NID. The elements of the section are (1) the quantity of wastewater generated in the service area, (2) description of the collection, treatment, and disposal/reuse of that wastewater, (3) the current plans for water recycling, and (4) the potential for water recycling in the service area.

10633 Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of this plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.

5.1 Recycled Water Plan Coordination

There are four agencies responsible for collecting, treating, and discharging treated wastewater within NID's service area: Nevada City, Grass Valley, Auburn, and Placer County. NID has no authority or control over municipal wastewater generated in NID's service area. NID is currently receiving recycled water from these four municipal wastewater treatment plants. NID understands that reuse is an important element of integrated water supply planning, and supports the development of a reuse supply component

5.2 Wastewater Quantity, Quality, and Current Uses

10633(a) (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

10633(b) (Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

The following section describes the estimated wastewater generated in NID's service area. NID is currently receiving recycled water from four municipal wastewater treatment plants that discharge treated effluent into area streams. This section provides a description of each of the plant treatment processes and current reuse in the NID service area.

5.2.1 Wastewater Generation

Municipal wastewater is generated in NID from a combination of residential and commercial sources. Estimates of the wastewater flows generated within NID for the present and future conditions are presented in Table 5-1. The source of the estimates is the low growth population projection in Section 3 and an average per capita unit flow rate of 120 gallons per capita per day from the four municipal wastewater treatment service areas within NID including commercial use. The per capita wastewater generation unit flow rate is the weighted average of the 2009 unit flow rate from each of the four municipalities based on the proportion of 2009 wastewater treatment plant average annual dry weather flow from each municipality. Table 5-1 also lists the projected effluent that will meet reuse water quality, estimated from discussions with the municipalities.

Table 5-1. (DWR Table 21) Wastewater Collected and Treated, ac-ft/yr						
	2005	2010	2015	2020	2025	2030
Wastewater collected and treated in service area [a]	5,903	6,005	6,764	7,620	8,583	9,669
Volume that meets recycled water standard	7,982	8,073	8,757	9,506	10,325	11,223

Note:

[a] *Per capita projections and water conservation based on historically recorded values (and do not reflect any new or planned water conservation measures).*

5.2.2 Wastewater Collection and Treatment

The wastewater is collected by gravity and force mains in a series of main, trunk, and interceptor sewers owned and operated by the four municipalities within the NID service area: the City of Grass Valley, Nevada City, Placer County, and City of Auburn.

- **City of Grass Valley:** The City of Grass Valley operates a tertiary wastewater treatment plant, treating 2.8 MGD. Grass Valley maintains 55 miles of pipeline within the collection system and six wastewater lift stations. Treated wastewater is discharged to Wolf Creek.
- **Nevada City:** Nevada City collects and treats an average dry weather flow of 0.4 MGD. The plant went through a multi million dollar upgrade which was completed in 2007. It is a tertiary treated activated sludge plant. The Nevada City Wastewater Treatment Plant's treated wastewater is discharged to Deer Creek.
- **Placer County:** Placer County collects and treats an average dry weather wastewater flow of 1.7 MGD for discharge to Rock Creek, just above its confluence with Dry Creek. The waste water treatment plant (WWTP) currently provides tertiary treatment when influent flows are 3.5 mgd or less and a mixture of secondary and tertiary treatment when flows are greater than 3.5 mgd.
- **City of Auburn:** The City of Auburn's treatment plant is located west of Auburn in the Ophir area. The plant is permitted to discharge its treated effluent into Auburn Ravine to a maximum flow of 1.65 MGD. The effluent is treated to what is commonly referred to as tertiary treatment. The City of Auburn also maintains over 65 miles of wastewater collection lines throughout Auburn. This network of pipes collects sewage from residences and businesses within the City of Auburn and transports it to the treatment plant.

Projected disposal methods and quantities are presented in Table 5-2.

Table 5-2. (DWR Table 22) Disposal of Wastewater, ac-ft/yr							
Method of Disposal	Treatment Level	2010	2015	2020	2025	2030	2035
River discharge	Tertiary	6,429	6,877	7,213	7,437	7,773	8,109
Reuse	Title 22	0	0	0	0	0	0

5.3 Current Uses of Recycled Water

10633(c) (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

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 a canal. This supply of water augments NID's overall water supply. NID uses recycled water exclusively for agricultural uses with the exception of Smartville, since they currently do not have any alternate distribution system for recycled water installed. Below is a description of the use of recycled water from each of the four wastewater treatment municipalities within the NID service area.

Nevada City: NID utilizes recycled sewage effluent from the Nevada City sewage treatment plant. The sewage effluent is diverted from Deer Creek. Some gets treated and re-used at the Smartville Water Treatment Plant and the remainder gets re-used as agricultural irrigation water.

Grass Valley: NID utilizes recycled sewage effluent from the Grass Valley sewage treatment plant. The sewage effluent is diverted from Wolf Creek and gets re-used as agricultural irrigation water.

City of Auburn: NID utilizes recycled sewage effluent from the Auburn sewage treatment plant. The sewage effluent is diverted from local drainage and gets re-used as agricultural irrigation water.

Placer County: NID utilizes recycled sewage effluent from the Placer County sewage treatment plant that discharges to Rock Creek, just above its confluence with Dry Creek for agricultural.

NID is already using recycled water for the largest water user group (agricultural) in its service area. NID expects its projected recycled water use to match its future projected recycled water use. Current recycled water uses are presented in Table 5-3.

Table 5-3. Existing Recycled Water Uses

Type of Use	Treatment Level	2009, ac-ft
Agriculture irrigation	Tertiary	2,550
Landscape irrigation	--	0
Commercial irrigation	--	0
Golf course irrigation	--	0
Wildlife habitat	--	0
Wetlands	--	0
Industrial reuse	--	0
Groundwater recharge	--	0
Seawater barrier	--	0
Geothermal/Energy	--	0
Indirect potable reuse	--	0
TOTAL	--	2,550

5.4 Potential and Projected Use of Reclaimed Water

10633(d) (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

This section presents the projected potential use and methods to optimize reuse in the future.

5.4.1 Potential Use of Reclaimed Water

The potential recycled water use within the NID service area is limited by the discharge volume during the agricultural season from the four WWTPs. It is assumed that there is no potential recycled water use for landscape, wildlife habitat enhancement, wetlands, industrial reuse, and groundwater recharge due to the limitations of the available recycled water supply from the WTTPs as well as the high cost to construct recycled water distribution facilities within the service area.

The potential recycled water demand is assumed to increase in proportion to the wastewater generation growth in Table 5-1. Available recycled water in the future could be reduced as a result of the potential future consolidation of WWTPs through the Placer Nevada Wastewater Authority. Consolidation of the WWTPs will reduce effluent available to NID due to reduced river discharge upstream of NID's service area from the City of Auburn and Placer County WWTPs. Table 5-4 shows the projected recycled water demand for the planning period.

Table 5-4. (DWR Table 23)Potential Recycled Water Uses, ac-ft/yr

Type of Use	Description	Feasibility	2015	2020	2025	2030	2035
Agriculture irrigation	Tertiary	Feasible	2,712	2,944	3,197	3,475	3,780
Landscape irrigation	--		0	0	0	0	0
Commercial irrigation	--		0	0	0	0	0
Golf course irrigation	--		0	0	0	0	0
Wildlife Habitat	--		0	0	0	0	0
Wetlands	--		0	0	0	0	0
Industrial reuse	--		0	0	0	0	0
Groundwater recharge	--		0	0	0	0	0
Seawater barrier	--		0	0	0	0	0
Geothermal/Energy	--		0	0	0	0	0
Indirect potable reuse	--		0	0	0	0	0
TOTAL	--		2,712	2,944	3,197	3,475	3,780

5.4.2 Projected Future Use of Reclaimed Water

10633(e) (Describe) the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.

Table 5-5 presents the projected future reuse water demands in NID's service area. The extent to which recycled water is available in the future is dependant upon the capacity of the four WWTPs.

Table 5-5. Projected Future Use of Recycled Water, ac-ft/yr						
Type of Use	2010	2015	2020	2025	2030	2035
Agriculture irrigation	2,500	2,712	2,944	3,197	3,475	3,780
Landscape irrigation	0	0	0	0	0	0
Commercial irrigation	0	0	0	0	0	0
Golf course irrigation	0	0	0	0	0	0
Wildlife habitat	0	0	0	0	0	0
Wetlands	0	0	0	0	0	0
Industrial reuse	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0
Seawater barrier	0	0	0	0	0	0
Geothermal/energy	0	0	0	0	0	0
Indirect potable reuse	0	0	0	0	0	0
TOTAL	2,500	2,712	2,944	3,197	3,475	3,780

Table 5-6 provides a comparison of the recycled water use projected to occur in 2010 in the 2005 UWMP with the actual 2009 recycled water use.

Table 5-6. (DWR Table 24) Recycled Water Uses – 2005 UWMP Use Compared to 2010 Actual, ac-ft/yr		
Method of Disposal	2005 UWMP Projection for 2010	2009 Actual Use
Agriculture irrigation	3,200	2,550
Landscape irrigation	0	0
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/energy	0	0
Indirect potable reuse	0	0
TOTAL	3,200	2,550

5.5 Optimizing the Use of Reclaimed Water

10633(f) (Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water use per year.

10633(g) (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

NID does not have the authority or control to optimize the use of reclaimed water, therefore, NID does not have an optimization reuse plan. NID utilizes recycled water to meet agricultural water demands outside of the potable distribution service area. This is more cost effective than installation of a dual distribution system within its retail potable water system. Recirculating uses of water occur within the NID service area. This is demonstrated in NID's Water Shortage Contingency Plan (Appendix G) which requires commercial car washes to use fully recycled water as a mandatory requirement during water shortages. NID does not maintain incentives to use reclaimed water as shown in Table 5-7.

Table 5-7. (DWR Table 25) Methods to Encourage Recycled Water Uses

Actions	Ac-ft/yr of use projected to result from this action				
	2015	2020	2025	2030	2035
Financial incentives	0	0	0	0	0
Other	0	0	0	0	0
Total	0	0	0	0	0

Section 6

Water Conservation Best Management Practices

10631(f)(1) and (2) Describe and provide a schedule of implementation for each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (A) water survey programs for single-family residential and multifamily residential customers; (B) residential plumbing retrofit; (C) system water audits, leak detection, and repair, (D) metering with commodity rates for all new connections and retrofit of existing connections; (E) large landscape conservation programs and incentives; (F) high-efficiency washing machine rebate programs; (G) public information programs; (H) high-efficiency washing machine rebate programs; (G) public information programs; (H) school education programs; (I) conservation programs for commercial, industrial, and institutional accounts; (J) wholesale agency programs; (K) conservation pricing; (L) water conservation coordinator; (M) water waste prohibition; (N) residential ultra-low-flush toilet replacement programs.

10631(f)(3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented for described under the plan.

10631(f)(4) An estimate, if available, of existing conservation savings on water use within the suppliers service area, and the effect of the saving on the supplier's ability to further reduce demand.

10631(g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors: (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implemented any planned water supply project that would provide water at a higher units costs; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and share the cost of implementation.

Water conservation is an available method to reduce water demands, thereby reducing water supply needs for NID. This section presents a description of NID's water conservation program, an economic analysis of demand management measures (DMMs) 2, 5, 6, 9, and 14, and a description of the methods and assumptions used to conduct the analysis.

The unpredictable water supply and ever increasing demand on California's complex water resources have resulted in a coordinated effort by the DWR, water utilities, environmental organizations, and other interested groups to develop a list of urban best management practices (BMPs) (equivalent to the Act's list of DMMs) for conserving water. This consensus-building effort resulted in a Memorandum of Understanding Regarding Urban Water Conservation in California, which formalizes an agreement to implement these BMPs and makes a cooperative effort to reduce the consumption of California's water resources. The BMPs as defined in the Memorandum of Understanding (MOU) are generally recognized as standard definitions of water conservation measures. If a BMP is not economically feasible, the utility

may request an economic exemption for that BMP. The MOU is administered by the California Urban Water Conservation Council (CUWCC). NID is not currently an MOU signatory.

Because NID is not a member of the CUWCC this UWMP must describe NID's implementation program for each DMM, current implementation schedule and planned schedule through 2015, and the methods used to evaluate the measure's effectiveness. For those DMMs not currently being implemented or scheduled for implementation, an evaluation is conducted as part of this Plan. The DMMs as stated in the Act are presented in Table 6-1.

Table 6-1. Water Conservation Demand Management Measures

No.	DMM Name
1.	Water survey programs for single-family residential and multi-family residential connections.
2.	Residential plumbing retrofit.
3.	System water audits, leak detection and repair.
4.	Metering with commodity rates for all new connections and retrofit of existing connections.
5.	Large landscape conservation programs and incentives.
6.	High-efficiency washing machine rebate programs.
7.	Public information programs.
8.	School education programs.
9.	Conservation programs for commercial, industrial, and institutional accounts.
10.	Wholesale agency assistance programs.
11.	Conservation pricing.
12.	Conservation coordinator.
13.	Water waste prohibition.
14.	Residential ULFT replacement programs.

6.1 Current Water Conservation Program

NID conducts an ongoing water conservation program. NID is committed to implementing water conservation measures for all customer sectors. Water conservation can be achieved through managing the water supply and water demand. Supply management is used to improve the overall system efficiency and reduce waste within the production and delivery facilities. NID uses demand management to encourage water conservation by the consumer. NID generally prefers supply management to demand management because it can reduce water loss and waste without the need to depend on consumers for implementation of water management measures. NID chooses to primarily focus on supply management, although demand management measures are also implemented. A description of each DMM that is currently being implemented or scheduled for implementation, a schedule of implementation, and a method to evaluate effectiveness is provided in this section. The existing conservation savings are also discussed.

DMM 1. Water survey programs for single-family residential and multi-family residential connections.

Description: Audits identify water-use problems, recommend repairs, provide instruction in landscape principles, irrigation timer use and, when appropriate, meter reading. Customers are provided with information packets that include the evaluation results and water savings recommendations. NID automatically performs a computerized check on all customer sector billings to compare current water usage to the corresponding period in the prior year. If a large difference is noted, the customer is notified of a possible leak on their side of the meter.

Schedule: This survey program is conducted annually and began in 1985.

Evaluation of DMM Effectiveness: Effectiveness of this DMM is evaluated by program penetration and by comparison of prior audited customer water use to future water use. The past number of actual surveys and the projected number of surveys including estimated water savings are provided in Tables 6-2 and 6-3, respectively.

Table 6-2. Actual Conservation Activities and Water Savings, DMM 1. Water survey programs for single-family residential and multi-family residential connections

Year	2006	2007	2008	2009	2010
Single family surveys	980	980	980	980	980
Multi-family surveys	60	60	60	60	60
Water savings, ac-ft/yr	37	110	221	368	515

Notes:

Water savings are cumulative savings based on the activities starting in 2006 and the water savings life of this DMM.

Water savings calculations are provided in Appendix H.

Table 6-3. Projected Conservation Activities and Water Savings, DMM 1. Water survey programs for single-family residential and multi-family residential connections

Year	2011	2012	2013	2014	2015
Single family surveys	980	980	980	980	980
Multi-family surveys	60	60	60	60	60
Water savings, ac-ft/yr	662	809	956	1,103	1,250

Notes:

Water savings are cumulative savings based on the water savings life of the DMM and starting in 2006.

Water savings calculations are provided in Appendix H.

DMM 2. Residential plumbing retrofit.

Description: Because this DMM is not cost effective for NID, NID is not currently implementing this program. NID has offered low-flow devices in the past during the 1977 drought. Retrofits are being implemented by customers due to natural replacement. Annual water savings would be minimal if NID initiated a new retrofit program and, therefore, no such program will be implemented since this DMM is not cost effective to NID. An economic evaluation of this DMM is provided in Appendix H of this plan and discussed in Section 6.2 of this section.

Schedule: Not applicable. NID is not currently implementing this DMM.

Evaluation of DMM Effectiveness: Not applicable. NID is not currently implementing this DMM.

DMM 3. System water audits, leak detection and repair.

Description: A system water audit, leak detection and repair program consists of ongoing leak detection and repair within the system, focused on the high probability leak areas. This also includes an ongoing meter calibration and replacement program for all production and distribution meters. NID conducts water audits and leak detection and repair on an ongoing basis. NID maintains records on all leaks repaired on its treated water system. The information is reviewed each year to determine which pipelines should be considered for replacement as part of the annual budgeted project list.

Schedule: The program to implement DMM 3 began in 1985. NID will continue to audit their water distribution systems by comparing water produced and water delivered. Each system is audited at least annually. NID will continue its leak detection program and will schedule surveys on high water loss systems as determined by the annual water audits and leak history records. NID will continue rehabilitating its water distribution system by replacing water mains with extensive leak histories.

Evaluation of DMM Effectiveness: Effectiveness of this DMM is evaluated by tracking leak detection and leak repair and comparison of prior water use to future water use. NID maintains records of numbers and locations of leaks that are detected and repaired each year.

The past and projected number of miles of distribution lines surveyed and the miles of distribution lines repaired including expenditures and estimated water savings are provided in Tables 6-4 and 6-5, respectively.

Table 6-4. Actual Conservation Activities and Water Savings, DMM 3. System Water Audits, Leak Detection, and Repair

Year	2006	2007	2008	2009	2010
Percent unaccounted-for water	7%	28%	21%	20%	20%
Miles of distribution lines surveyed	10	10	10	10	10
Miles of distribution lines repaired	2.1	1.2	1.8	1.1	0.3
Number of leaks repaired	183	170	189	172	170
Water savings, ac-ft/yr	679	1,310	2,011	2,649	3,279

Notes:

Water Savings are cumulative savings are beginning in 2006 and are based on the water savings life of this DMM.

Water savings calculations are provided in Appendix H.

A leak repair is estimated to reduce water usage by 2.3 gallons per minute (gpm) for every leak. This savings is based on Table 4-3 of American Water Works Association (AWWA) manual M36, Water Audits and Leak Detection, using an assumed average leak size of 0.2 in and 100 pounds per square inch (psi) pressure. Water savings per leak given in this table range from 2.3 gpm for 0.1 inch diameter hole to 38 gpm for a 0.4 inch diameter hole, thus 2.3 gallons per minute is a conservative estimate (on the lower end of the range). Over the course of one year, the water savings per leak with a 0. 1 inch diameter hole is 3.7 ac-ft. The life span of water savings from leak repair is estimated to be five years.

Table 6-5. Projected Conservation Activities and Water Savings, DMM 3. System Water Audits, Leak Detection, and Repair					
Year	2011	2012	2013	2014	2015
Percent unaccounted-for water	20%	20%	20%	20%	20%
Miles of distribution lines surveyed	10	10	10	10	10
Miles of distribution lines repaired	1.3	1.3	1.3	1.3	1.3
Number of leaks repaired	170	170	170	170	170
Water savings, ac-ft/yr	3,231	3,231	3,161	3,153	3,153

Notes:

The projection of program activity from 2011 through 2015 is estimated based on the average activity occurring from 2005 through 2010.

Water savings calculations are provided in Appendix H.

A leak repair is estimated to reduce water usage by 2.3 gallons per minute (gpm) for every leak. This savings is based on Table 4-3 of AWWA manual M36, Water Audits and Leak Detection, using an assumed average leak size of 0.2 in and 100 pounds per square inch (psi) pressure. Water savings per leak given in this table range from 2.3 gpm for 0.1 inch diameter hole to 38 gpm for a 0.4 inch diameter hole, thus 2.3 gallons per minute is a conservative estimate (on the lower end of the range). Over the course of one year, the water savings per leak with a 0. 1 inch diameter hole is 3.7 ac-ft. The life span of water savings from leak repair is estimated to be five years.

DMM 4. Metering with commodity rates for all new connections and retrofit of existing connections.

Description: NID is fully metered and all treated water connections are billed based on the volume of water used. The program started in 1968. NID has an inclining block rate structure. For rate information, see DMM 11 or Appendix I.

NID began a 5-year retrofit program in 2000 to replace the aging meters in their system. The new meters will provide more accurate readings of water use within NID.

NID has established a program for testing and replacing large water meters. Table 6-6 shows the meter size and the schedule time for testing of meters. Any meters that require repair will be tested the following year.

Table 6-6. Large Meter Testing	
Meter Size	Scheduled Testing
2"	4 years
3"	3 years
4"	2 years
6" and larger	Annually

Schedule: This DMM is fully implemented and NID will continue to install and read meters on all new services.

Evaluation of DMM Effectiveness: Meters allow NID to track customer water use and compare current use to historic data. Since NID is fully metered no additional water savings will be realized nor additional expenditures incurred from installing meters due to being fully metered.

DMM 5. Large landscape conservation programs and incentives.

Description: In order to encourage landscape conservation, NID employees promote landscape water management and NID has a Demonstration Garden at the Grass Valley office which is maintained and operated by the Master Gardeners of Nevada County. NID has prepared and makes available irrigation educational information for all customers. NID also offers free computer programs to the public that help to educate users on ways to improve their irrigation efficiency. NID's newsletter is published four times a year and informs the public of the Demonstration Garden and the free computer programs. The large landscape conservation program consists of actions for dedicated irrigation accounts as well as mixed metered or non-metered CII accounts. NID promotes and hosts irrigation seminars annually to reduce water usage, improve irrigation scheduling, planting drought tolerant plants and more efficient irrigation system. The educational seminars are applicable to raw water and treated water large landscape customers. Appendix J contains information on past and upcoming irrigation seminars provided by NID.

Accounts with dedicated meters – NID has identified 206 accounts with dedicated irrigation meters and will be assigning ETo-based water use budgets equal to no more than 70 percent of ETo of annual average local ETo per square foot of landscape area to 9 percent of these accounts (19 accounts) per year beginning in 2013. NID will offer site specific technical assistance to reduce water use to those accounts that are 20 percent over budget.

CII accounts without meters or with mixed use meters – All of NID's 646 CII accounts are metered. NID has sorted these accounts to market and target those with the largest meters and highest consumption. In 2008 NID hired Irrigation Consultation and Evaluation (ICE) to provide water audits to 10 large landscape institutional customers within the service area. NID will offer surveys to 1.5 percent of the CII accounts (10 accounts) per year beginning in 2013.

Schedule: NID is currently implementing this program and will continue to implement this program annually. Beginning in 2013 NID will begin developing budgets for accounts with dedicated meters and offer landscape surveys for CII accounts with mixed use meters. NID is in the process of refining and updating their customer classification and identification database. Following this process, NID will be able to more accurately identify the customers required to be addressed under this DMM. NID will use this more accurate customer information to target the appropriate customers for developing budgets and completing surveys starting in 2013.

Evaluation of DMM Effectiveness: Effectiveness of this BMP is evaluated by comparison of landscape customer and CII large landscape prior water use to future water use. An estimate of water saved as a result of budgets and surveys to-date and projected are provided in Tables 6-7 and 6-8, respectively.

Table 6-7. Actual Conservation Activities, and Water Savings, DMM 5. Large Landscape Conservation Programs

Year	2006	2007	2008	2009	2010
Budgets developed	--	--	--	--	--
Surveys completed	--	--	10	--	--
Water savings, ac-ft/yr	--	--	3	3	3

Note: Water Savings are cumulative savings based on the water savings life of this BMP.

Table 6-8. Projected Conservation Activities, and Water Savings, DMM 5. Large Landscape Conservation Programs

Year	2011	2012	2013	2014	2015
Budgets developed	--	--	19	19	19
Surveys completed	--	--	10	10	10
Water savings, ac-ft/yr	--	--	15	29	44

Note: The projection of program activity from 2013 through 2015 is estimated based on requirements in the CUWCC MOU. Water Savings are cumulative savings based on the water savings life of the BMP and starting in 2013.

DMM 6. High-efficiency washing machine rebate programs.

Description: Although NID does not offer rebates, NID's water efficiency webpage does provide links to any available rebates and related programs. NID is not currently implementing this DMM since this DMM is not cost effective to NID. An economic evaluation of this DMM is provided in Appendix H of this plan and discussed in Section 6.2 of this section.

Schedule: Not applicable. NID is not currently implementing this DMM.

Evaluation of DMM Effectiveness: Not applicable. NID is not currently implementing this DMM.

DMM 7. Public information programs.

Description: Public information is an ongoing component of NID's water conservation program. NID promotes water conservation and awareness through a variety of methods. NID prepares and distributes public information through bill inserts, newsletters, brochures, community speakers, advertising, web page, library, and many special events throughout the year. NID's booth at the Nevada County Fair has over 97,000 people visit annually and serves people also from outside of Nevada County. Appendix J displays samples of public information distributed by NID.

NID publishes a newsletter four times a year that is sent through the mail to all customer sectors. The periodical often contains articles on water conservation. NID routinely prints water conservation messages on water billings and return payment envelopes. In 1986, NID published a booklet entitled "Water Conservation Gardening" to assist its customers in conserving water. Another conservation article entitled "Lawn Watering Guide" was published by NID in 1989 and is updated or reprinted, as needed. NID partners with the UC Cooperative Extension Master Gardeners which produce "Water Wise Landscaping" periodicals annually. NID provides this information to customers and make the information available on NID's water efficiency webpage.

A water conservation library has been established in NID's main office. Customers have been advised of the availability of the library material that includes information on drip irrigation, efficient lawn irrigation, low water use landscape and household water conservation measures. Videotapes on water conservation are loaned to interested customers; a list of available material is included in Appendix J. NID has prepared news releases and made public announcements on local radio stations relating to water conservation issues. NID has a booth promoting water conservation at the fair annually, as well.

NID provides irrigation management practices classes for the public. They have conducted these classes at ranches including Powers Ranch in Nevada County and Bachmann Ranch in Placer County in addition to hosting workshops at the demonstration garden at NID's Grass Valley location. NID also conducts an ambassador program designed for public outreach and good will.

Schedule: NID's public information program is an ongoing, annual program. NID began providing its customer sectors with information on water conservation in 1985 and will continue to do so. This effort will be at or near existing levels, but will intensify at the onset of a dry-year cycle.

Evaluation of DMM Effectiveness: Savings from this program cannot be directly quantified. The activities performed in this program to-date and projected are provided in Tables 6-9 and 6-10, respectively. NID tracks any comments received regarding the usefulness of the information distributed.

Table 6-9. Actual Conservation Activities, DMM 7. Public Information Programs					
Year	2006	2007	2008	2009	2010
a. Paid advertising	Yes	Yes	Yes	Yes	Yes
b. Public service announcement	Yes	Yes	Yes	Yes	Yes
c. Bill inserts/newsletters/brochures	Yes	Yes	Yes	Yes	Yes
d. Bill showing water usage	Yes	Yes	Yes	Yes	Yes
e. Demonstration gardens	Yes[a]	Yes[a]	Yes[a]	Yes[a]	Yes[a]
f. Speaker events, media events	Yes	Yes	Yes	Yes	Yes
g. Speaker's bureau	Yes	Yes	Yes	Yes	Yes
h. Program to coordinate with other government agencies, industry, and public interest groups and media	Yes	Yes	Yes	Yes	Yes

[a] *NID maintains a Demonstration Garden operated by the Master Gardeners of Nevada County, located at NID, 1036 W Main St, Grass Valley, at the main office location.*

Table 6-10. Projected Conservation Activities, DMM 7. Public Information Programs					
Year	2011	2012	2013	2014	2015
a. Paid advertising	Yes	Yes	Yes	Yes	Yes
b. Public service announcement	Yes	Yes	Yes	Yes	Yes
c. Bill inserts/newsletters/brochures	Yes	Yes	Yes	Yes	Yes
d. Bill showing water usage	Yes	Yes	Yes	Yes	Yes
e. Demonstration gardens	Yes[a]	Yes[a]	Yes[a]	Yes[a]	Yes[a]
f. Speaker events, media events	Yes	Yes	Yes	Yes	Yes
g. Speaker's bureau	Yes	Yes	Yes	Yes	Yes
h. Program to coordinate with other government agencies, industry, and public interest groups and media	Yes	Yes	Yes	Yes	Yes

[a] *NID maintains a Demonstration Garden operated by the Master Gardeners of Nevada County*

DMM 8. School education programs.

Description: School education is an ongoing component of NID's water conservation program. NID's Ambassador Program coordinates school visits with trained employees. NID staff routinely visits elementary, intermediate, and high schools with informative talks and handouts. Information and age appropriate materials are distributed for school students at the NID booth at the annual Nevada County Fair. Subject matter occasionally includes conservation. The educational material targets several grade levels. Appendix J shows samples of educational handout material used by NID. NID offers tours of its facilities to schools and scout troops.

NID has donated analytical equipment and supplies to Nevada Union High School for use in their Agricultural Department. Students routinely test raw water quality at selected areas of the watershed, as well as study non-point source pollution in order to isolate the source(s) of contamination. The program increases student awareness of the importance of water.

The education material used by NID is provided by The Partnership for Safe Water (Elizabeth George Water Treatment Plant Tour Guide), and Channing L. Bete Co., Inc. A Scriptographic Product (Coloring Book).

Schedule: NID's school education program is an ongoing, annual program. NID began providing the school system with educational programs in 1994 and continues to do so at the levels described. Historic classroom visits total four planned visits per year. NID plans to continue to perform four planned classroom visits per year for the next five years.

Evaluation of DMM Effectiveness: Savings from this program cannot be directly quantified. The activities performed in this program are provided in Tables 6-11 and 6-12, respectively.

Table 6-11. Actual Conservation Activities, DMM 8. School Education Programs

Year	2006	2007	2008	2009	2010
Grades K-3rd	4	4	4	4	4
Grades 4th-6th	--	--	--	--	--
Grades 7th-8th	--	--	--	--	--
High School	--	--	--	--	--

Table 6-12. Projected Conservation Activities, DMM 8. School Education Programs

Year	2011	2012	2013	2014	2015
Grades K-3rd	4	4	4	4	4
Grades 4th-6th	--	--	--	--	--
Grades 7th-8th	--	--	--	--	--
High School	--	--	--	--	--

DMM 9. Conservation programs for commercial, industrial, and institutional (CII) accounts.

Description: NID does not currently conduct surveys for CII customers. An economic evaluation of this DMM is provided in Appendix H of this plan and discussed in Section 6.2 of this section.

Schedule: Not applicable. NID is not currently implementing this DMM.

Evaluation of DMM Effectiveness: Not applicable. NID is not currently implementing this DMM since this DMM is not cost effective.

DMM 10. Wholesale agency assistance programs.

Description: NID wholesales a limited amount of raw water and treated water to the cities of Grass Valley and Nevada City as well as South Sutter, Bitney Springs, and Lake Vera Mutual Water Company. NID began supplying water to Placer County Water Agency (PCWA) for the City of Lincoln in 2004. The cities generally follow recommendations from NID for implementing DMMs. NID does not have legal authority to require the implementation of DMMs by its wholesale water purchasers. PCWA and the City of Grass Valley are members of CUWCC. It is unknown what DMMs Nevada City performs for water conservation for the water it purchases from NID. Table 6-11 and 6-12 show the actual conservation activities for this DMM in the past and projected, respectively.

Schedule: NID implements this DMM on an annual and ongoing basis.

Evaluation of DMM Effectiveness: Savings from this program cannot be directly quantified. The activities performed in this program as well as expenditures to-date and projected are provided in Tables 6-13 and 6-14, respectively.

Table 6-13. Actual Conservation Activities, DMM 10. Wholesale Agency Programs

Program Activities	Number of Agencies Assisted				
	2006	2007	2008	2009	2010
DMM 1: Water Surveys	2	2	2	2	2
DMM 2: Residential Retrofit	0	0	0	0	0
DMM 3: System Audits	0	0	0	0	0
DMM 4: Metering-Commodity Rates	6	6	6	6	6
DMM 5: Landscape Programs	0	0	0	0	0
DMM 6: Washing Machines	0	0	0	0	0
DMM 7: Public Information	5	5	5	5	5
DMM 8: School Education	2	2	2	2	2
DMM 9: CII Conservation Programs	0	0	0	0	0
DMM 12: Water Conservation Coordinator	0	0	0	0	0
DMM 14: UFLT Replacement	0	0	0	0	0

Table 6-14. Projected Conservation Activities, DMM 10. Wholesale Agency Programs					
Program Activities	Number of Agencies Assisted				
	2011	2012	2013	2014	2015
DMM 1: Water Surveys	2	2	2	2	2
DMM 2: Residential Retrofit	0	0	0	0	0
DMM 3: System Audits	0	0	0	0	0
DMM 4: Metering-Commodity Rates	6	6	6	6	6
DMM 5: Landscape Programs	0	0	0	0	0
DMM 6: Washing Machines	0	0	0	0	0
DMM 7: Public Information	5	5	5	5	5
DMM 8: School Education	2	2	2	2	2
DMM 9: CII Conservation Programs	0	0	0	0	0
DMM 12: Water Conservation Coordinator	0	0	0	0	0
DMM 14: UFLT Replacement	0	0	0	0	0

DMM 11. Conservation pricing.

Implementation Description: NID began implementing an inclining block rate structure for all urban water customer sectors in 1996. All customer sectors and meter sizes receive a base block of 10 hundred cubic feet (HCF). Usage above the base amount is billed at a higher block rate. NID's inclining rate structure has three blocks. NID's 2010 rate schedules are included as Appendix I and summarized in Table 6-15. NID is not a sewer service provider and therefore does not have a sewer rates structure.

Schedule: The implementation of this DMM is ongoing. NID plans to continue implementing its inclining block rate.

Evaluation of DMM Effectiveness: Effectiveness of this DMM will be evaluated by comparison of NID water use prior to and following the implementation of conservation pricing. NID is able to monitor the number of violators who use water in excess of their established allotment.

Table 6-15. Description of NID Rate Structures, DMM 11. Conservation Pricing	
Account Type	Define
Residential	
Water rate structure	Inclining block rate structure with a 10hcf base
Year rate effective	January 1,2010
Commercial, Industrial, Institutional	
Water rate structure	Inclining block rate structure with a 10hcf base
Year rate effective	January 1,2010
Irrigation (dedicated meter)	
Water rate structure	Inclining block rate structure with a 10hcf base
Year rate effective	January 1,2010
Wholesale	
Water rate structure	Block
Year rate effective	1998

DMM 12. Conservation coordinator.

Description: NID has recently hired a full time water conservation coordinator water efficiency technician. In the past, NID was filling this position with staff that also had other responsibilities. Conservation coordinator information is provided in Tables 6-16 and 6-17.

The conservation coordinator performs a variety of highly responsible technical duties in support of NID's water conservation program and water distribution and production activities. The conservation coordinator plans, organizes, tracks, implements and reports on various NID water efficiency, distribution and production programs, conducts public outreach/education activities regarding NID water efficiency, distribution and production programs, and investigates complaints of water waste. The conservation coordinator identifies, recommends, and implements programs and activities that will improve water use efficiency by NID customers.

Schedule: Beginning in 2011 the implementation of this DMM is ongoing.

Evaluation of DMM Effectiveness: Water savings from this DMM cannot be directly quantified. Effectiveness of this DMM will be evaluated by the success of NID's water conservation program.

Table 6-16. Actual Conservation Activities, DMM 12. Water Conservation Coordinator					
Year	2006	2007	2008	2009	2010
Full-time positions	0	0	0	0	0
Part-time staff	0	0	0	0	0
Position supplied by other agency	--	--	--	--	--

Table 6-17. Projected Conservation Activities, DMM 12. Water Conservation Coordinator					
Year	2011	2012	2013	2014	2015
Full-time positions	1	1	1	1	1
Part-time staff	0	0	0	0	0
Position supplied by other agency	--	--	--	--	--

Note: A Water Conservation Coordinator Water Efficiency Technician was hired in 2011.

DMM 13. Water waste prohibition.

Description: Water waste prohibition is an ongoing component of NID's water conservation program. NID has adopted regulations, which state that "a water user who wastes water, either willfully, carelessly, or due to defective or inadequate private facilities, may be refused further water service until the user takes corrective action (Water Service Rules and Regulations, Section 3.05 Water Conservation). Offenders are first written a letter calling their attention to the wasteful practice and asking for a schedule of correction. Continued violation is discussed before the Board's Water and Hydro Operations Committee and a recommendation is made to the full Board. Service may be refused, if necessary. Metered commodity rates are usually enough incentive for a corrective action by a customer. In addition, the computerized checked discussed in DMM 1 alerts customers to unusual increases in usage patterns. This warning has historically been sufficient to prompt immediate corrective actions for most customers.NID has adopted its own set of water conservation regulations. Tables 6-18 and 6-19 summarize NID's water waste ordinance historical and projected activity.

A copy of NID's regulations is provided in Appendix K. Section 7 of this plan provides a description of the prohibited water uses in NID's water waste regulations.

Schedule: The implementation of this DMM is ongoing. NID will continue to enforce this regulation.

Evaluation of DMM Effectiveness: Water savings from this program cannot be directly quantified.

Table 6-18. Actual Conservation Activities, DMM 13. Water Waste Prohibition					
Year	2006	2007	2008	2009	2010
Waste ordinance in effect	Yes	Yes	Yes	Yes	Yes
On-site visits	Yes	Yes	Yes	Yes	Yes
Water softener ordinance	No	No	No	No	No

[(a)] *Data not available.*

Table 6-19. Projected Conservation Activities, DMM 13. Water Waste Prohibition					
Year	2011	2012	2013	2014	2015
Waste ordinance will be in effect	Yes	Yes	Yes	Yes	Yes
On-site visits	Yes	Yes	Yes	Yes	Yes
Water softener ordinance	No	No	No	No	No

DMM 14. Residential ULFT replacement programs.

Description: NID is not currently implementing this DMM since this DMM is not cost effective to NID. Customers are replacing their toilets with ultra low flush toilets (ULFTs) through natural replacement. Also, there is new legislation being developed that will require toilets to be replaced upon resale of housing units. An economic evaluation of this DMM is provided in Appendix H of this plan and discussed in Section 6.2 of this section.

Schedule: Not applicable. NID is not currently implementing this DMM.

Evaluation of DMM Effectiveness: Not applicable. NID is not currently implementing this DMM.

6.2 Economic Analysis Results

Table 6-20 summarizes the results of the economic analysis in terms of the benefit/cost (B/C) ratio, total benefits, and water savings for DMMs 2, 6, 9, and 14. Economic analyses are not provided for the remaining DMMs because they are currently being implemented. The economic analysis shows that DMMs 2, 6, 9, and 14 yield B/C ratios of less than 1.0. The per ac-ft value of saved water assumed for this analysis is $254/ac-ft. The detailed economic analysis for these DMMs are provided in Appendix H.

Table 6-20. Results of Economic Analysis for DMMs not Implemented by NID

Economic Analysis	DMM 2: Residential plumbing retrofit	DMM 6: High Efficiency Washing Machine Rebate program	DMM 9: Conservation programs for commercial, industrial, and institutional accounts	DMM 14: Residential ULFT replacement programs
Total present value cost ($)	$232,645	$127,743	$40,807	$608,743
Total present value benefits ($)	$119,331	$57,971	$11,744	$442,271
Benefit / cost ratio	0.5	0.5	0.3	0.7
Cost of saved water, $/AF	$327	$456	$815	$258
Total water saved AFY	51	25	7	1,519

The spreadsheet analysis projects on an annual basis the number of interventions, water savings, and the dollar values of the benefits and costs that would result from implementing the DMMs. Industry experience-based "common" assumptions and inputs from data provided by NID are used in the economic analysis.

6.3 Additional Issues

This section describes additional issues required to be addressed by the Urban Water Management Planning Act. Non-economic factors, including environmental, social, health, customer impacts, and technological are not thought to be significant in deciding which DMMs to implement. There are no planned water supply projects that would provide water at a higher unit cost than the DMMs that NID is currently implementing. NID has the legal authority to implement the DMMs.

6.4 Additional Conservation Programs

In 1991 NID prepared an Agricultural Water Management Plan in compliance with Article 2.8, Division 6 of the CWC. The primary objective of the plan is to conserve water. Ongoing water conservation measures include:

- Use of reclaimed water
- Use of flow gauging stations throughout the system
- Updated raw water system capital improvement list
- Weekly system management meetings
- Staff training in water conservation
- Use of a public relations consultant
- Cooperation with USDA Natural Resource Conservation Service
- Irrigation system evaluations
- Annual workshops in water measurement and management
- Customer assistance in scheduling irrigation needs and improving farm efficiencies
- Landscape water management training.

An additional on-going water conservation program implemented by NID is their Canal Lining project. Canal lining reduces water loss that would otherwise occur through un-lined canals.

NID's raw water delivery system experiences the usual - and generally unavoidable - losses through evaporation, transportation, and deep penetration seepage. However, losses due to canal leakage, overflows, and return irrigation water (water which escapes the customer's property), in most cases, finds its way back into NID's system by entering a lower canal, reservoir, or stream. This return water augments the supply needed to make downstream deliveries. Repairing a leak in a canal or conduit does not always result in a corresponding conservation of water. Leaks can cause other problems, which usually dictate their repair, such as creation of unwanted wet areas or bogs, potential property degradation, and a reduction in the effective capacity of upstream facilities. NID is continuously patrolling and maintaining its facilities in an effort to reduce water loss due to leaks.

6.5 Water Use Reduction Plan

10608.36 Urban wholesale water suppliers shall include in the urban water management plans…an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part.

As an urban wholesale water supplier, NID's present and future measures, programs and policies to help achieve water use reductions required as part of the Act include the measures, programs, and policies that are described in this chapter. For those agencies which purchase wholesale supplies from NID, NID provides public outreach county-wide at various local events and county fairs. These events provide NID an opportunity to promote water use efficiency to all water users within NID's retail area as well as to those within the retail service areas of those to whom NID provides wholesale supplies. NID also promotes their Demonstration Garden operated by the Master Gardeners of Nevada County which can provide irrigation efficiency education to customers within NID's retail and wholesale service areas to help achieve water use reductions required in the Act.

Section 7

Water Supply versus Demand Comparison

10635(a) Every urban water supplier shall include, as party of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

This section provides a comparison of projected water supplies and demand and water shortage expectations.

7.1 Current and Projected Water Supplies vs. Demand

This section provides a comparison of normal, single dry, and multiple dry water year supply and demand for NID. Water demands are addressed in Section 3, water supply is addressed in Section 4, and recycled water supply is addressed in Section 5 of this Plan.

7.1.1 Current and Projected Normal Year Water Supplies vs. Demand

The normal water year current and projected water supplies are compared to the current and projected demand for NID in Table 7-1.

Table 7-1. (DWR Table 32) Normal Year Water Supply and Demand Comparison, ac-ft/yr

	2010	2015	2020	2025	2030	2035
Supply totals	410,633	410,828	410,828	410,828	410,828	410,828
Demand totals	129,894	180,046	187,360	195,729	200,646	203,536
Difference (supply minus demand)	280,739	230,782	223,468	215,099	210,182	207,292
Difference as a percent of supply	68%	56%	54%	52%	51%	50%
Difference as a percent of demand	216%	128%	119%	110%	105%	102%

Units of Measure: ac-ft/yr

7.1.2 Current and Projected Single Dry Year Water Supplies vs. Demand

The current and projected water supplies are compared to the demands for a single dry year for NID in Table 7-2.

Table 7-2. (DWR Table 33) Single Dry Year Water Supply and Demand Comparison, ac-ft/yr						
	2010	2015	2020	2025	2030	2035
Supply totals	183,113	183,113	183,113	183,113	183,113	183,113
Demand totals	129,894	180,046	187,360	195,729	200,646	203,536
Difference (supply minus demand)	53,219	3,067	-4,247	-12,616	-17,533	-20,423
Difference as a percent of supply	29%	2%	-2%	-7%	-10%	-11%
Difference as a percent of demand	41%	2%	-2%	-6%	-9%	-10%

Units of Measure: *ac-ft/yr*

7.1.3 Projected Multiple-Dry Year Water Supplies vs. Demand

The projected water supplies are compared to the demands for multiple dry years for NID in Table 7-3.

Table 7-3. (DWR Table 34) Multiple-Dry Year Events Water Supply and Demand Comparison, ac-ft/yr							
		2010	2015	2020	2025	2030	2035
Multiple dry year - first year supply	Supply totals	255,439	255,439	255,439	255,439	255,439	255,439
	Demand totals	129,894	180,046	187,360	195,729	200,646	203,536
	Difference	125,546	75,394	68,079	59,711	54,794	51,903
	Difference as % of supply	49%	30%	27%	23%	21%	20%
	Difference as % of demand	97%	42%	36%	31%	27%	26%
Multiple dry year - second year supply	Supply totals	192,422	192,422	192,422	192,422	192,422	192,422
	Demand totals	129,894	180,046	187,360	195,729	200,646	203,536
	Difference	62,529	12,377	5,062	(3,306)	(8,223)	(11,114)
	Difference as % of supply	32%	6%	3%	-2%	-4%	-6%
	Difference as % of demand	48%	7%	3%	-2%	-4%	-5%
Multiple dry year - third year supply	Supply totals	333,944	333,944	333,944	333,944	333,944	333,944
	Demand totals	129,894	180,046	187,360	195,729	200,646	203,536
	Difference	204,050	153,898	146,584	138,215	133,298	130,408
	Difference as % of supply	61%	46%	44%	41%	40%	39%
	Difference as % of demand	157%	85%	78%	71%	66%	64%

7.2 Water Shortage Expectations

Water shortages are projected to occur during single dry years and multiple dry years in the future because NID's quantified supply during single dry years and multiple dry years is projected to be less than demands during those years. As noted in section 4, the quantified supply in this Plan does not include supply from the Bear River and the South Yuba River, which NID is likely to receive in dry years. There is a high probability that with these additional supplies, NID would likely not have a supply deficit in single and multiple dry years. In addition, the demands shown do not include any reductions as a result of NID implementing their water shortage contingency plan. As discussed in Section 8, NID has a drought contingency plan in place to reduce demand up to 50 percent. This cutback would mitigate the up to 17 percent supply deficit to meet projected demands that could occur during single dry years.

Section 8

Water Shortage Contingency Plan

10632(e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

NID's Drought Contingency Plan is included in Appendix G. It was adopted by NID's Board of Directors on June 27, 2007. The primary objective of this plan is to conserve water through efficient water management. The Drought Contingency Plan supplements NID's Urban and Agricultural water management plans, and identifies drought caused water supply shortages and water demand reduction goals within NID during a drought. In addition, NID has an Emergency Response Plan in place to mitigate against the impact of catastrophic emergencies and inconvenience to its customers. The emergency response plan is updated annually. The Emergency Response Plan is not included in this document due to security reasons.

8.1 Stages of Action

10632(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

Prior to the beginning of the irrigation season, but no later than April 1, NID evaluates its current reservoir storage, forecasted runoff, and purchase options from PG&E to determine what water supply stage will apply during the year. NID's minimum carryover amount is evaluated every five years and will be updated as necessary. NID's water shortage contingency plan is based on five stages as defined in Table 8-1.

Table 8-1. (DWR Table 35) Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages

Stage	Water Supply Conditions	April 1st Available Supply, AF	Program Type	Supply Shortage, Percent
Stage 1 - Normal Water Conditions	Supplies available to meet all demands	233,000	Normal operation	0
Stage 2 – Drought Alert	Probability that supplies will not meet demands	210,000	Voluntary	10 - 15
Stage 3 – Drought Warning	Supplies will not be able to meet expected demands	198,000	Mandatory	25
Stage 3 – Drought Emergency	Supplies not meeting current demands	175,000	Mandatory	35
Stage 4 – Critical Drought Emergency	Supplies not meeting current demands	152,000	Mandatory	50

8.2 Three-Year Minimum Water Supply

10632 (b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

The three-year minimum water supply is presented in Section 4 in Table 4-9 (DWR Table 31).

8.3 Catastrophic Supply Interruption Plan

10632(c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

NID maintains an Emergency Response Plan to address responding to catastrophic supply interruptions as well as other emergencies. NID currently has two portable generators that can be moved between different locations as needed. NID also has four permanent back-up generators, a 50 kilowatt (kW) generator located at the Cascade Shores WTP, a 275kW generator located at the Elizabeth George WTP, a 275kW generator located at the Lake Wildwood WTP, and a 750kW generator located at the Lake of the Pines WTP.

This increases the reliability of supply. The Emergency Response Plan is not included in this document due to security reasons.

NID utilizes an emergency organizational structure and chain of command in response to all emergencies within or affecting its service area. The Emergency Response Plan defines the emergency management positions.

In the event of a supply emergency, which requires the rationing of water for health and safety purposes only, NID is prepared to implement an emergency urban water rationing program until normal supplies are restored. In the event of such a supply shortage, NID will implement the following guidelines to be followed until the supply is restored:

1. Direct all available flows to a water treatment plant.
2. Notify customers on a house-to-house basis of emergency and curtailment of all:
   a. Outside water use.
   b. Water for manufacturing processes.
   c. Watering of recreational play areas.
   d. Flushing or flow testing of fire hydrants.
3. Intensify system water loss prevention measures.
   a. Conduct a water leak review to determine the amount of water, if any, leaking in the affected system
   b. Place NID maintenance crews on call for priority water leak repair.
   c. Schedule NID operation crews to patrol for unauthorized water use.
   d. Notify local news media to provide the most current information to NID customers.
4. Mutual aid will be called upon in order to provide an alternative supply of water to those customers affected by the supply shortage. This may include the following actions:
   a. Notify Cities/Counties/State.
   b. Maintain an up-to-date list of contractors with water on tank trucks.
   c. Notify the Office of Emergency Services that a water supply emergency exists.
5. NID will set up an Incident Command Center (ICC) in order to keep local authorities, radio, newspaper and television up to date on the then current status of the water rationing process that

is in place, or if customers need special attention during this shortage of water, they can contact the ICC unit directly.

8.4 Prohibitions, Consumption Reduction Methods, and Penalties

10632(d) Additional mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

10632(f) Penalties or charges for excessive use, where applicable.

In the event of a supply emergency, which requires the rationing of water for health and safety purposes only, NID is prepared to implement an emergency urban water rationing program until normal supplies are restored. Mandatory prohibition consumption reduction methods, and penalties in NID's water shortage contingency plan are presented in Appendix G and summarized below in Tables 8-2 through 8-4 to conform to the UWMP guidelines.

Under this regulation the penalty for excessive use would be discontinuation of service. Offenders are first written a letter calling their attention to the wasteful practice and asking for a schedule of correction. Continued violation is discussed before the Board's Water and Hydro Operations Committee and a recommendation is made to the full Board. Service may be refused, if necessary. The metered commodity rates provide for higher charges for excessive use and are usually enough incentive for a corrective action by the customer. In addition, the computerized check discussed in DMM 1 alerts customers to unusual increases in usage patterns. This warning has historically been sufficient to prompt immediate corrective action for most customers.

In addition to being able to refuse water service, NID also provides the following penalties for unauthorized taking of water:

Offense	Penalty
First	$ 250
Second	$ 500

Table 8-2. (DWR Table 36) Water Shortage Contingency – Mandatory Prohibitions

Prohibitions	Stage When Prohibition is Voluntarily Requested	Stage When Prohibition Becomes Mandatory
Limit fire department practice drills and flow testing of fire hydrants	2	3
Additional agricultural efficiency practices instituted	2	3
Limit residential, garden, and landscape irrigation during the hottest portion of the day (10:00 a.m. to 6:00 p.m.).	2	3
Encourage that all treated water metered school grounds, and all other public grounds reduce their water usage by 15 percent from what they received under Stage I conditions and as outlined in NID's Urban Water Management Plan.	3	
Planting of new lawns, landscaping, or gardens	--	3
Restaurants serving water to customers	2 (unless requested)	3 (unless requested)
No new untreated water connections	--	4

Table 8-3. (DWR Table 37) Water Shortage Contingency – Consumption Reduction Methods		
Examples of Consumption Reduction Methods	Stage When Method Takes Effect	Projected Reduction, Percent
NID leak repair received high priority	2	10%-15%
Limit fire department practice drills and fire hydrant testing	2	10%-15%
Additional agricultural efficiency practices implemented	2	Not estimated
Use prohibitions	2	Not estimated
Voluntary rationing (all water deliveries)	2	10%-15%
Mandatory rationing (untreated water deliveries)	3	25%
Education Program	1	Not estimated
Irrigation allowed only during off-peak hours	2	10%-15%

Table 8-4. (DWR Table 38) Water Shortage Contingency – Penalties and Charges	
Examples of Penalties and Charges	Stage When Penalty Takes Effect
Penalties for excessive use - for not reducing consumption/wasteful consumption	1
Charge for excessive use	1
Termination of service and reconnect fee	1

8.5 Analysis of Revenue Impacts of Reduced Sales During Shortages

During a prolonged drought, NID is prepared to implement strong conservation pricing on treated water as a tool for encouraging water conservation and to supplement lost revenue caused by mandatory rationing applied to agricultural demands. Increasing the base rate and steepening the inclined block rates would achieve treated water conservation pricing. Either reducing the block volumes, increasing the cost differential between blocks, or both, steepens inclined block rates. This type of action can be studied and implemented after public hearings, in a relatively short time period. All rate surcharges would be subject to Article XIII D (6) of the California Constitution.

Per Section 7 of this Urban Water Management Plan, the driest three-year worst case scenario would be the equivalent of Stage V drought warning. The impact on revenue is estimated at $530,281 per year for a total of $1,590,843. Loss in revenue would be offset by a corresponding decrease and/or elimination of all non-essential functions and additional reserve withdrawals, if necessary.

NID's drought contingency plan calls for conservation pricing; however, a fund has not been established specifically for stabilizing rates during a prolonged drought. NID does have sufficient revenue reserves, if required, to help stabilize revenues from water sales and continue near-normal operations during a drought. The conservation pricing rate structure can be found in Appendix I.

NID evaluated two different emergency situations and their impact on NID's revenue. The first situation is a regional power outage lasting ten days. The second is an earthquake that damages a dam.

Regional Power Outage

Assume the power outage lasts 10 days. All standby generators would be put into service to keep water treatment plants and pump stations operating.

Treated water customers in pump zones would be asked to limit water use. Estimated loss of revenue would be $12,000.

The cost of operating standby generators minus the avoided cost of electrical power for ten days is estimated at $15,000.

The total cost of a ten day power outage is estimated at $27,000 which would be funded by reserves.

Earthquake Damages a Dam

Assuming an earthquake damages one dam and requires a 50 percent re-build of NID's two largest treatment plants. Also, assuming half the water in the damaged dam would be released to relieve pressure on the dam. And, finally, assuming package treatment plants would be rented for six months while treatment plants were being re-built. The following summarizes the anticipated costs associated with this scenario.

Rental Costs:	$200,000
Construction Costs:	$30,000,000
Loss of Water sales:	$700,000
Total Budget Impact:	$30,900,000

The District has an insurance and catastrophic reserve of $7,500,000 which is designed to bridge the gap between a disaster occurrence and obtaining funds from insurance reimbursements and disaster relief. There is the potential of Federal Emergency Management Agency (FEMA) funds if the disaster meets the FEMA requirements, however these funds would require some matching funds. Reserves would be replenished by all practical methods. Replenishment methods include reimbursement by insurance company, grants, disaster relief and by increasing water rates.

Additional impacts on NID due to reduced revenues may also include impacts to projects such as capital improvement program projects, meters, and main replacement that are dependent on revenues for funding.

8.6 Reduction Measuring Mechanisms

The following Table 8-6 summarizes NID's procedure for monitoring its various water shortage mechanisms for effectiveness. All connections in the NID service area are metered. Therefore actual reductions in water use can be monitored as necessary to achieve the goals of the demand reduction program implemented during water shortages.

Table 8-6. Reduction Measuring Mechanisms

Mechanism for Determining Actual Reduction	Type and Quality of Data Expected
Water production meters	Daily production will be monitored from the water production meters on a daily or weekly basis, dependant upon the severity of the water shortage.
Customer records	Because all customers are metered their water usage can be monitored when necessary.

Section 9

References

California Urban Water Conservation Council. The Memorandum of Understanding Regarding Urban Water Conservation in California. June 9, 2010.

Western Regional Climate Center. Web-Site: Western U.S. Climate Historical Summaries, Climatogolical Data Summaries, (www.wrcc.dri.edu). 2010

California Irrigation Management Information System. Web-Site. (wwwcimis.water.ca.gov/cimis/welcome.jsp). 2010

DWR. Methodology for Calculating Baseline and Compliance Urban Per Capita Water Use. October 1, 2010.

DWR. Final Guidebook to Assist Urban Water Suppliers to Prepare a 2010 Urban Water Management Plan. February, 2010.

DWR, Provisional Method 4 for Calculating Urban Water Use Targets. February 16,, 2011.

Kleinschmidt Associates. Raw Water Master Plan Update-Phase 1 Technical Analysis, Final Report. September 2005.

Appendix A:
Documentation of City/County Notification

NEVADA IRRIGATION DISTRICT

Notice of Public Hearing

Notice is hereby given that a Public Hearing will be held by the Board of Directors on Wednesday, April 27, 2011 at 9:00 a.m., or soon thereafter, at the NID District Board Room, 1036 West Main Street, Grass Valley, California, to consider the following:

- **Review Draft 2010 Urban Water Management Plan**

The Draft 2010 Urban Water Management Plan will be available for public review starting April 6, 2011 at the following locations:

- House of Print and Copy, Grass Valley;
- Nevada Irrigation District;
- Madelyn Helling County Library, Nevada City;
- Grass Valley Public Library and
- online at www.nid.dst.ca.us

Adoption of the Urban Water Management Plan is proposed for June 8, 2011.

Contact Person: Vern Smith, Supervising Engineer
530 271-6862
uwmp@nidwater.com

Cities/Counties and other Agencies that Received 60 Day Notification Letters from NID

Contact	Company	Address	Address2	CityStZip
Paul Thompson, Deputy Planning Director	Community Development Resource Agency	Planning Services Division	3091 County Center Drive	Auburn, CA 95603
Gene Albaugh, City Manager	City of Nevada City	317 Broad Street	Nevada City, CA 95959	
Cathy Thompson	Nevada County Board of Supervisors	950 Maidu Avenue	Nevada City, CA 95959	
Kevin Mallen, Director	Planning Division	Community Development & Services Agency	915 8th Street, Suite 123	Marysville, CA 95901
California State Library	Attention: Government Publications	PO Box 942837	Sacramento, CA 94237-0001	
	Madelyn Helling County Library	980 Helling Way	Nevada City, CA 95959	
Timothy M. Kiser	Public Works Director/City Engineer	City of Grass Valley	125 East Main Street	Grass Valley, CA 95945
Ms. S.R. Jones, Executive Officer	Nevada Co. Local Agency Formation Commission	950 Maidu Avenue	Nevada City, CA 95959	
David Breninger, General Manager	Placer County Water Agency	PO Box 6570	Auburn, CA 95604	
Ken Grehm, Executive Director	Placer County Public Works	3091 County Center Drive	Auburn, CA 95603	
Mark Miller, Interim Public Services Director	Public Services Department	City of Lincoln	600 Sixth Street	Lincoln, CA 95648
Bernie Schroeder, Public Works Director	City of Auburn	Public Works Department	1225 Lincoln Way, Room 3	Auburn, CA 95603
Mark Cowin, Director	CA Department of Water Resources	PO Box 942836, Room 1115-1	Sacramento, CA 94236-0001	
Kurtis Zumwalt, Program Manager – Land Use	Environmental Health Department	Nevada Co. Community Development Agency	950 Maidu Avenue	Nevada City, CA 95959

Appendix B:
Notice of Public Hearing

NID NEWS
NEVADA IRRIGATION DISTRICT • 1036 W. MAIN STREET • GRASS VALLEY, CALIF. 95945
Telephone: (530) 273-6185 • Toll Free: (800) 222-4102 • Main Office Fax: (530) 477-2646
www.nidwater.com

March 29, 2011

Contact: Vern Smith
(530) 273-6185
Or: Dave Carter
(530) 265-NEWS

FOR IMMEDIATE RELEASE:

NID Hosts Meeting on Update of Urban Water Management Plan

GRASS VALLEY - The Nevada Irrigation District is updating its Urban Water Management Plan and will host a public meeting to introduce the update to interested members of the community.

The public meeting will be held on Wednesday, Apr. 6, from 6 to 8 p.m. in the Board Meeting Room at the NID Business Center, 1036 West Main Street, in Grass Valley.

NID Supervising Engineer Vern Smith said Urban Water Management Plans are required by the state and must be updated every five years. NID's plan was last updated in 2005.

Urban Water Management Plans address water availability, reliability, conservation, shortages and emergency response for treated water supplies.

A staff presentation on the update will be followed by ample opportunity for members of the public to comment and ask questions.

For more information contact Vern Smith at (530) 271-6862 or *uwmp@nidwater.com*.

-30-

NEVADA COUNTY PUBLISHING COMPANY
Grass Valley, CA

AFFIDAVIT OF PUBLICATION
The Union

Nevada Irrigation District
Attn: Lisa Francis Tassone
1036 West Main Street
Grass Valley, CA 95945

REFERENCE: **Public Hearing, 4/27/11**
Review Draft 2011 Urban
Water Management Plan
Ad #6388596

County of Nevada, State of Calif. The undersigned, Betsy Hunter, being the principal clerk of the Nevada County Publishing Co. declares that the Nevada County Publishing Co. now is, and during all times herein named, was a corporation duly organized and existing under the laws of the State of California, and now is, and during all times herein named was the printer of THE UNION, a newspaper of general circulation, as defined by Section 6000 of the Government Code of the State of California, printed and published daily (Sundays excepted) in the City of Grass Valley, County of Nevada, State of California, and that affiant is the principal clerk of said Nevada County Publishing Co.

That the printed advertisement hereto annexed was published in the said UNION, in the issues of the following named dates:

April 12 & 19, 2011

I certify, under penalty of perjury, the foregoing is true and correct.

Signed: _____
Legals Advertising Clerk

NEVADA IRRIGATION DISTRICT

Notice of Public Hearing

Notice is hereby given that a Public Hearing will be held by the Board of Directors on Wednesday, April 27, 2011 at 9:00 a.m. or soon thereafter, at the NID District Board Room, 1036 West Main Street, Grass Valley, California, to consider the following:

* Review Draft 2011
  Urban Water Management Plan

Copies are available for review at House of Print and Copy, Grass Valley; Nevada Irrigation District; Madelyn Helling County Library, Nevada City; Grass Valley Public Library and online at www.nid.dst.ca.us

Adoption of the Urban Water Management Plan is proposed for June 8, 2011.

Contact Person:
Vern Smith, Supervising Engineer
530 271-6862
uwmp@nidwater.com

Publish: April 12 & 19, 2011 **Ad #6388596**

APPEAL-DEMOCRAT

1530 Ellis Lake Drive, Marysville, CA 95901
(530) 741-2345

Affidavit of Publication

(2015.5 C.C.P)

STATE OF CALIFORNIA,

Counties of Yuba and Sutter

Nevada Irrigation District

Hearing Notice

I am not a party to, nor interested in the above entitled matter. I am the principal clerk of the printer and publisher of THE APPEAL-DEMOCRAT, a newspaper of general circulation, printed & published in the City of Marysville, County of Yuba, to which Newspaper has been adjudged a newspaper of general circulation by The Superior Court of the County of Yuba, State of California under the date of November 9, 1951, No. 11481, and County of Sutter to which Newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Sutter, State of California under the date of May 17, 1999, Case No. CV PT99-0819 that the notice of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

April 12 & 19, 2011

I declare under penalty of perjury
that the foregoing is true and correct.
Executed at Marysville, California

April 19, 2011

Date: _____

Kelli Smith

(Signature)

This space is for the County Clerk's filing stamp.

PROOF OF PUBLICATION

NEVADA IRRIGATION DISTRICT
Notice of Public Hearing

Notice is hereby given that a Public Hearing will be held by the Board of Directors on Wednesday, April 27, 2011 at 9:00 a.m. or soon thereafter, at the NID District Board Room, 1036 West Main Street, Grass Valley, California, to consider the following:

* Review Draft 2011 Urban Water Management Plan

Copies are available for review at House of Print and Copy, Grass Valley; Nevada Irrigation District; Madelyn Helling County Library, Nevada City; Grass Valley Public Library and online at www.nid.dst.ca.us

Adoption of the Urban Water Management Plan is proposed for June 8, 2011.

Contact Person: Vern Smith, Supervising Engineer
530 271-6862
uwmp@nidwater.com

April 12 & 19, 2011 Ad #00117379

16395509

NOTICE OF PUBLIC HEARING NEVADA IRRIGATION DISTRICT

16395509

NOTICE OF PUBLIC HEARING
NEVADA IRRIGATION DISTRICT

Notice is hereby given that a Public Hearing will be held by the Board of Directors on Wednesday, April 27, 2011 at 9:00 a.m. or soon thereafter, at the NID District Board Room, 1036 West Main Street, Grass Valley, California, to consider the following:

• Review Draft 2011 Urban Water Management Plan

Copies are available for review at House of Print and Copy, Grass Valley; Nevada Irrigation District; Madelyn Helling County Library, Nevada City; Grass Valley Public Library and online at **www.nid.dst.ca.us**

Adoption of the Urban Water Management Plan is proposed for June 8, 2011.

Contact Person: Vern Smith, Supervising Engineer
530 271-6862
uwmp@nidwater.com

PUBLISHED IN AUBURN JOURNAL: APRIL 12, 2011

The above space is reserved for Court/County Filed Date Stamp.

PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Placer

I am a citizen of the United States and employed by a publication in the County aforesaid. I am over the age of eighteen years, and not a party to the mentioned matter. I am the principal clerk of **The Auburn Journal**, a newspaper of general circulation, in the **City of Auburn**, which is printed and published in the **County of Placer**. This newspaper has been judged a newspaper of general circulation by the Superior Court of the State of California, in and for the **County of Placer**, on the date of May 26, 1952 (Case Number 17407). The notice, of which the attached is a printed copy (set in type not smaller than nonpareil) has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

APRIL 12,

I certify, under penalty of perjury, that the foregoing is true and correct.

Terry Clark

Dated in Auburn, California

APRIL 12, 2011

PROOF OF PUBLICATION
THE AUBURN JOURNAL
1030 High Street
Auburn, CA 95604-5910

Invoice

THE WILDWOOD INDEPENDENT
AND PENN VALLEY COURIER
11270 PLEASANT VALLEY ROAD
PENN VALLEY, CA 95946
PH (530) 432-2614 FAX (530)-432-2747

DATE	INVOICE #
4/1/2011	0411-58

RECEIVED
APR 04 2011
ENGINEERING
NEVADA IRRIGATION DISTRICT

NID Engineering Dept.
1036 West Main Street
Grass Valley, CA 94945
ATTN: Vern Smith

AMOUNT ENC.	TERMS
	Due 4/15

SERVICED	DESCRIPTION	AMOUNT
4/1/2011	Display Ad TWI- Urban Water Management Plan Meeting Ad	125.00
	Approval Recommended Vern Smith APPROVED Gary Ky DATE 4-4-11 Budget Code 10151 - 6868 - 2709	
	If payment has already been made, please disregard this request for payment.	
	Total	**$125.00**

Appendix C:
Adoption Resolution

RESOLUTION No. 2011-26

OF THE BOARD OF DIRECTORS OF THE NEVADA IRRIGATION DISTRICT

(ADOPTING, DIRECTING, FILING AND IMPLEMENTING THE NEVADA IRRIGATION DISTRICT URBAN WATER MANAGEMENT PLAN)

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-84 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3;000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan, the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the District is supplier of water providing urban water to over 18,000 connections; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years, and that the District shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, California Department of Water Resources requires the Plan be adopted by June 2011, after public review and hearing, and filed with the California Department of Water Resources within 30 days of adoption; and

WHEREAS, the District has, therefore, prepared and circulated for public review a draft Urban Water Management Plan, and a properly noticed public hearing regarding said Plan was held by the District's Board of Directors on April 27, 2011; and

WHEREAS, the District did prepare and shall file said Plan with the California Department of Water Resources by July 1, 2011.

NOW, THEREFORE BE IT RESOLVED, by the Board of Directors of the Nevada Irrigation District as follows:

1) The Urban Water Management Plan, 2011 Update, is hereby adopted and ordered filed with the District;
2) The Secretary of the Board of Directors is hereby authorized and directed to file the Urban Water Management Plan, 2011Update, with the California Department of Water Resources within 30 days after this date;
3) The General Manager is hereby authorized and directed to implement the Water Conservation Programs as set forth in the Urban Water Management Plan, 2011 Update, which includes water shortage contingency analysis and recommendations to the Board of Directors regarding necessary procedures, rules and regulations to carry out effective and equitable water conservation and water recycling programs;

4) In a water shortage, the General Manager is hereby authorized to declare a Water Shortage Emergency according to the Water Shortage Stages and Required Actions indicated in the Plan, and implement necessary elements of the Plan; and
5) The General Manager shall recommend to the Board of Directors additional procedures, rules and regulations to carry out effective and equitable allocation of water resources.

PASSED AND ADOPTED by the Board of Directors of the Nevada Irrigation District at a regular meeting held on the 8th day of June 2011, by the following vote:

AYES:	Directors:	Drew, Miller, Bachman, Wilcox, Weber
NOES:		None
ABSTAINING:		None
ABSENT:		None

President

ATTEST:

Board Secretary

Appendix D:
DWR UWMP Checklist

Table I-1 Urban Water Management Plan checklist, organized by legislation number

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
1	Provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	10608.20(e)	System Demands		Section 3.2
2	*Wholesalers:* Include an assessment of present and proposed future measures, programs, and policies to help achieve the water use reductions. *Retailers:* Conduct at least one public hearing that includes general discussion of the urban retail water supplier's implementation plan for complying with the Water Conservation Bill of 2009.	10608.36 10608.26(a)	System Demands	10608.36	Section 6.5
3	Report progress in meeting urban water use targets using the standardized form.	10608.40	Not applicable	Standardized form not yet available	Not applicable
4	Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	10620(d)(2)	Plan Preparation		Section 1.3
5	An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.	10620(f)	Water Supply Reliability . . .		Section 4.7`
6	Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.	10621(b)	Plan Preparation		Section 1.2
7	The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).	10621(c)	Plan Preparation		Not applicable

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
8	Describe the service area of the supplier	10631(a)	System Description		Section 2.1
9	(Describe the service area) climate	10631(a)	System Description		Section 2.2
10	(Describe the service area) current and projected population . . . The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier . . .	10631(a)	System Description		Section 2.4
11	. . . (population projections) shall be in five-year increments to 20 years or as far as data is available.	10631(a)	System Description		Section 2.4
12	Describe . . . other demographic factors affecting the supplier's water management planning	10631(a)	System Description		Section 2.4
13	Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).	10631(b)	System Supplies		Section 4.1 – surface water Section 5 – recycled water
14	(Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . .?	10631(b)	System Supplies	Source classifications are: surface water, groundwater, recycled water, storm water, desalinated sea water, desalinated brackish groundwater, and other.	Section 4.2
15	(Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management. Indicate whether a groundwater management plan been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	10631(b)(1)	System Supplies		Not applicable
16	(Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater.	10631(b)(2)	System Supplies		Not applicable

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
17	For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board	10631(b)(2)	System Supplies		Not applicable
18	(Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree.	10631(b)(2)	System Supplies		Not applicable
19	For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.	10631(b)(2)	System Supplies		Not applicable
20	(Provide a) detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(3)	System Supplies		Not applicable
21	(Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.	10631(b)(4)	System Supplies	Provide projections for 2015, 2020, 2025, and 2030.	Not applicable
22	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) An average water year, (B) A single dry water year, (C) Multiple dry water years.	10631(c)(1)	Water Supply Reliability . . .		Section 4.8 Table 4-8
23	For any water source that may not be available at a consistent level of use - given specific legal, environmental, water quality, or climatic factors - describe plans to supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.	10631(c)(2)	Water Supply Reliability . . .		Section 4.8
24	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	10631(d)	System Supplies		Section 4.3

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
25	Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof;(I) Agricultural.	10631(e)(1)	System Demands	Provide numbers for each category.	Section 3.1
26	(Describe and provide a schedule of implementation for) each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (A) Water survey programs for single-family residential and multifamily residential customers; (B) Residential plumbing retrofit; (C) System water audits, leak detection, and repair; (D) Metering with commodity rates for all new connections and retrofit of existing connections; (E) Large landscape conservation programs and incentives; (F) High-efficiency washing machine rebate programs; (G) Public information programs; (H) School education programs; (I) Conservation programs for commercial, industrial, and institutional accounts; (J) Wholesale agency programs; (K) Conservation pricing; (L) Water conservation coordinator; (M) Water waste prohibition;(N) Residential ultra-low-flush toilet replacement programs.	10631(f)(1)	DMMs	Discuss each DMM, even if it is not currently or planned for implementation. Provide any appropriate schedules.	Section 6.1
27	A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.	10631(f)(3)	DMMs		Section 6.1
28	An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.	10631(f)(4)	DMMs		Section 6.1

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
29	An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.	10631(g)	DMMs	See 10631(g) for additional wording.	Section 6.1
30	(Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.	10631(h)	System Supplies		Section 4.9
31	Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.	10631(i)	System Supplies		Section 4.4

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
32	Include the annual reports submitted to meet the Section 6.2 requirement (of the MOU), if a member of the CUWCC and signer of the December 10, 2008 MOU.	10631(j)	DMMs	Signers of the MOU that submit the annual reports are deemed compliant with Items 28 and 29.	Not applicable
33	Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).	10631(k)	System Demands		Table 4-5
34	The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.	10631.1(a)	System Demands		Section 3.3.2
35	Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.	10632(a)	Water Supply Reliability . . .		Section 8.1
36	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.	10632(b)	Water Supply Reliability . . .		Section 8.2
37	(Identify) actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.	10632(c)	Water Supply Reliability . . .		Section 8.3

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
38	(Identify) additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.	10632(d)	Water Supply Reliability . . .		Section 8.4
39	(Specify) consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.	10632(e)	Water Supply Reliability . . .		Section 8
40	(Indicated) penalties or charges for excessive use, where applicable.	10632(f)	Water Supply Reliability . . .		Section 8.4
41	An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.	10632(g)	Water Supply Reliability . . .		Section 8.5
42	(Provide) a draft water shortage contingency resolution or ordinance.	10632(h)	Water Supply Reliability . . .		Appendix G Section 8
43	(Indicate) a mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.	10632(i)	Water Supply Reliability . . .		Section 8.4
44	Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area	10633	System Supplies		Section 5
45	(Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	10633(a)	System Supplies		Section 5.2
46	(Describe) the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	10633(b)	System Supplies		Section 5.2.1

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
47	(Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.	10633(c)	System Supplies		Section 5.3
48	(Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.	10633(d)	System Supplies		Section 5.4.1
49	(Describe) The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected pursuant to this subdivision.	10633(e)	System Supplies		Section 5.4.2
50	(Describe the) actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.	10633(f)	System Supplies		Section 5.5
51	(Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.	10633(g)	System Supplies		Section 5.5
52	The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.	10634	Water Supply Reliability . . .	For years 2010, 2015, 2020, 2025, 2030, and 2035	Section 4.5

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
53	Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.	10635(a)	Water Supply Reliability . . .	Years 2010 - 2035	Section 4.6 Section 7.1
54	The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.	10635(b)	Plan Preparation		Section 1.2
55	Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	10642	Plan Preparation		Section 1.3
56	Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area.	10642	Plan Preparation		Section 1.2
57	After the hearing, the plan shall be adopted as prepared or as modified after the hearing.	10642	Plan Preparation		Section 1.2
58	An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.	10643	Plan Preparation		Section 1.4

No.	UWMP requirement [a]	Calif. Water Code reference	Subject [b]	Additional clarification	UWMP location
59	An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.	10644(a)	Plan Preparation		Section 1.2
60	Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.	10645	Plan Preparation		Section 1.2

a The UWMP Requirement descriptions are general summaries of what is provided in the legislation. Urban water suppliers should review the exact legislative wording prior to submitting its UWMP.

b The Subject classification is provided for clarification only. It is aligned with the organization presented in Part I of this guidebook. A water supplier is free to address the UWMP Requirement anywhere with its UWMP, but is urged to provide clarification to DWR to facilitate review.

Appendix E:
SBX7-7 GPCD Target Analysis

Technical Memorandum

10540 White Rock Road, Suite 180
Rancho Cordova, California 95670
Tel: 916-444-0123
Fax: 916-635-8805

Prepared for: Nevada Irrigation District

Project Title: Urban Water Management Plan

Project No: 139620

Technical Memorandum No. 1

Subject: SBX7-7 GPCD Target Analysis

Date: March 8, 2011

To: Vern Smith

From: Melanie Holton, PE

Prepared by: _____
Melanie Holton P.E., Project Engineer

Reviewed by: _____
Paul Selsky P.E., QA/QC

Report Purpose:

1. Determine the baseline water use, evaluate per capita water use target methods, and recommend a per capita water use target as defined by SBX7-7.

Attachments:

Attachment A: Figures
Attachment B: Tables

Limitations:

This document was prepared solely for Nevada Irrigation District in accordance with professional standards at the time the services were performed and in accordance with the email authorization from Nevada Irrigation District dated June 14, 2010. This document is governed by the specific scope of work authorized by Nevada Irrigation District; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Nevada Irrigation District and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

1. INTRODUCTION

The efficient and economic use of water has been an objective of the Nevada Irrigation District (NID) for many years. Water conservation is also a state-wide priority in meeting the future water needs of the state and region as outlined in the 2009 California Water Plan.

This technical memorandum describes the NID's water use characteristics to determine NID's baseline water use and develops an estimate of the gallons per capita per day (GPCD) target options for NID. This memorandum presents the key results of this evaluation, which are the four GPCD targets and provides a recommended water use target method, per the requirements of Senate Bill 7-7 (SBX7-7). All of the figures and tables for this analysis are included in an attachment at the end of this memorandum.

2. BASELINE WATER USE

NID must define a 10-year baseline period for daily per capita water use. The determination of the baseline water use involves the following steps:

1. Estimate the service area population for each year in the base period which is from 1995 through 2010,
2. Calculate gross water use for each year in the base period,
3. Calculate daily per capita water use for each year in the base period by dividing the gross water use by the service area population,
4. Calculate the average per capita water use by annual GPCD values for the 10-year periods occurring between 1995 and 2010, and
5. Select the 10-year baseline period.

2.1 Historical Population

Figure 1 presents the historical population and number of connections or customers that are served by the NID's retail water system. Year 2000 total population is based on the year 2000 census. Per the DWR Methodology, Methodology 2: Service Area Population, NID falls into Category 2, a water supplier who has an electronic GIS map of their distribution area, but whose actual distribution area does not overlap substantially (>= 95%) with city boundaries. As a Category 2 water supplier who does not belong to an association of governments that develops population estimates for its members, NID must develop population estimates using the 2000 Census and then adjust for other years using either a per-connection or per-housing unit methodology as described in Appendix A of the DWR Methodology guidelines or another equivalent method that uses data either from the Department of Finance or the US Census Bureau as its basis.

The alternative methodology for service area population described in Appendix A of the DWR Methodology was followed for estimating NID's service area population from 1995 through 2009.

The year 2000 census population estimate is based on the total population by census block group. A census block is the smallest geographical unit used by the Census Bureau. Census blocks are areas bounded on all sides by visible features, such as streets, roads, streams, and railroad tracks, and by invisible boundaries such as city, town, township, county limits, and property lines. Census blocks are grouped into block groups. The

District's GIS boundary map of the distribution area was overlaid on the 2000 census block group map to identify the census block groups located within the District's service area.

Because there are dwelling units within NID's service area boundary that are served by private wells, an additional step was taken to estimate only the population served by NID's potable water distribution system so as not to include those served by private water supplies. This step included estimating the portion of the census blocks within NID's service area that are served by NID (versus the portion of the population in the census blocks served by private water supplies). NID's potable distribution system pipelines shapefile in conjunction with aerial photos were used to estimate the portion of the census block served by NID. Figure 2 shows NID's retail service area, the 2000 census block groups, NID's distribution system, and the estimated percentage of each block group served by NID's retail water system.

Once the portion of the census blocks within NID's service area that are served by NID's retail water system was identified, each block's total population and population by structure type in 2000 was obtained from the Census Bureau's website. The population in single family and multi-family residences combined with single family and multi-family connections, respectively, for the census year 2000, were used to develop a ratio of persons per residential connection for the year 2000. These ratios were applied to active connections data for non-census years to estimate non-census-year population. Table 1 provides the resulting historical population estimate of potable water system customers within NID.

2.2 Historical Water Use

This section describes NID's historical water use characteristics and trends over time. As depicted on Figure 3, NID's total annual retail water system water use grew steadily until 2002. Total water use is measured based on the total water produced from the water treatment plants, and includes water use that is not metered, such as water used for pipe flushing, fire hydrant flow testing, and system leaks.

Figure 4 depicts the total annual water use per connection. Figure 5 depicts the NID's total annual water use per person expressed as gallons per capita per day (GPCD). The highest 10-year average is the 1999 to 2008 period.

Figure 6 presents the historical number of connections by category. NID's water customers are broken down into several categories including single family residential, multi-family residential, commercial, institutional, industrial, and landscape. As shown in Figure 7, most of the NID's customers are residential.

Figure 7 depicts the total annual water use by each customer category over time. As shown on Figure 7, the largest amounts of water are used by the residential customer categories. Comparing plant outflow to water sales allows for the determination of estimates of unaccounted-for water occurring in the distribution system.

2.3 Baseline Per Capita Water Use

The daily per capita water use for each year from 1995 through 2010 is calculated by dividing the gross water use for each year by the service area population for each year, respectively. If NID's 2008 recycled water percent is less than 10 percent of the total 2008 deliveries, then the first base period is a continuous 10-year period. Because NID's 2008 recycled water use was less than 10 percent of the total deliveries, NID's base period will be a 10-year period, as shown in Table 2. In order to calculate the baseline per capita water use, the annual daily per capita water use is averaged for 10-year periods ending no earlier than December 31, 2004 and no later than December 31, 2010. NID's baseline daily per capita water use of 254 GPCD is based on a base period starting in 1999 and ending in 2008. The annual daily per capita water use and 10-year average per capita water use for the Agency is shown in Tables 1 and 3.

A second baseline period that must be calculated is a 5-year range. This is utilized as a check against NID's selected GPCD target method. If NID's selected GPCD target method results in a GPCD target that is greater than 95 percent of the 5-year base daily per capita range, then NID's target shall be 95 percent of its 5-year base daily per capita range. As shown in Table 4, NID's 5-year base daily per capita range is 245 GPCD. 95 percent of this value is 233 GPCD. This value will be used later in this analysis as a check against the recommended method GPCD value. If the selected GPCD target method results in a GPCD target greater than 95 percent of the 5-year baseline GPCD, NID will be required to adjust its target to meet a target equal to 95 percent of the 5-year baseline GPCD (233 GPCD).

3. GPCD TARGETS

New requirements regarding water use targets are in the SBX7-7 bill passed in early November 2009 by the state legislature. There are four methods that the legislation defines for establishing a GPCD target. NID will have to select one of the methods to establish its 2020 water use target, as well as the interim 2015 target. NID will have to select the GPCD method it will use for the urban water management plan due by July 1, 2011. The four methods available to establish NID's GPCD target are described below.

1. Eighty percent of NID's baseline per capita daily water use using a 10-year average, starting no earlier than 1995. Method 1 is relatively straightforward in that it involves computing the population divided by the total water production by year.
2. The per capita daily water use that is estimated using the sum of several defined performance standards for water use for indoor residential, outdoor landscape, and commercial, industrial, and institutional (CII) purposes. This method requires quantifying the landscaped area and the baseline CII GPCD. Outdoor water use would be limited to the amount of landscape water use defined for the 1992 and 2010 Model Landscape Ordinance.
3. Ninety-five percent of the applicable state hydrologic region target, as set forth in the state's 20x2020 Water Conservation Plan (dated February, 2010). Method 3 is the simplest of the methods as it involves looking up a table value for the applicable hydrologic region.
4. Calculated water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Draft Provisional Method 4 for Calculating Urban Water Use Targets, released January 24, 2011.

The "Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use" (DWR Methodology) was issued by the DWR on October 1, 2010. The methodologies document presents standardized approaches to calculate the GPCD targets for Methods 1 and 2. Figure 8 presents the results of the analysis for each of the target methods compared to NID's most recent 3-year average GPCD and 95 percent of NID's 5-year baseline. Table 1 contains all of the detailed input and calculations for this evaluation. Table 5 provides a summary of the GPCD targets by method.

3.1 Method 1

The Method 1 GPCD goal is 203 GPCD which is 80 percent of the 10-year baseline (254 GPCD).

3.2 Method 2

The Method 2 GPCD goal has three components consisting of indoor residential, outdoor landscaping, and CII water use. Per DWR's technical methodology for baseline commercial, industrial, and institutional water use (Methodology 7) "a retail water supplier must have CII water use data for the entire baseline period used in the water supplier's calculation of base daily per capita water use. If the CII data do not exist, the retail water supplier should use another method." A preliminary GPCD target estimate using this method was

developed, resulting in a 2020 GPCD target of 140 GPCD. This is a preliminary estimate because it is based on the estimated landscape area and estimated CII baseline GPCD. Table 6 provides detailed calculations for this method. Because NID does not have accurate historical water use and customer data for the CII customer sectors, it is recommended that NID does not pursue this methodology.

If NID desires to select this method, NID will have to measure or estimate the landscaped area for all parcels served by a residential or dedicated landscape water meter or connection in the service area using measurement techniques that are described in DWR's Methodology. These techniques include field-based measurement, measuring with remote sensing, or using sampling to estimate landscape area on small parcels.

3.3 Method 3

The Method 3 GPCD target is based on 95% of the Hydrologic Region No. 5 GPCD target of 176 GPCD as set forth in the state's 20x2020 Water Conservation Plan (dated February, 2010). The resulting target for NID is 167 GPCD by 2020.

3.4 Method 4

Method 4 is based on calculating the water savings based on indoor residential water savings, metering savings, CII savings, and landscape and water loss savings, as set forth in DWR's Draft Provisional Method 4 for Calculating Urban Water Use Targets, released January 24, 2010. An estimate of the NID's GPCD target using this method results in a 2020 GPCD target of 202 GPCD. This is a preliminary estimate because it is based on an estimated CII baseline GPCD. Because NID does not have accurate historical water use and customer data for the CII customer sectors, it is recommended that NID does not pursue this methodology. DWR provides key equations and the related assumptions to estimate the water savings from three general water use sectors: residential indoor, CII, and landscape and water loss. Table 7 provides detailed calculations for this method.

4. CONCLUSIONS AND RECOMMENDATIONS

Below is a summary of the conclusions of this analysis:

1. NID's 10-year baseline is 254 GPCD. This baseline is used for the determination of the Method 1 GPCD.
2. NID's 5-year baseline is 245 GPCD. 95 percent of this 5-year baseline is 233 GPCD. None of the methods result in a GPCD target greater than 95 percent of NID's 5-year baseline.
3. NID's 2020 GPCD target utilizing Method 1 is 203 GPCD (2015 interim target is 229 GPCD).
4. NID's 2020 GPCD target utilizing Method 2 is estimated to be approximately 140 GPCD (2015 interim target is 197 GPCD). If NID desires to pursue this method, additional effort is required by the NID to meet the DWR requirements of measuring the residential landscape and dedicated landscape area within the retail service area. This method is not recommended due to the uncertainty in historical CII water use data.
5. NID's 2020 GPCD target utilizing Method 3 is 167 GPCD (2015 interim target is 204 GPCD).
6. NID's 2020 GPCD target utilizing provisional Method 4 is 202 GPCD (2015 interim target is 228 GPCD). This method is not recommended due to the uncertainty in historical CII water use data.
7. NID's 2008 through 2010 average GPCD was 236 GPCD.

8. NID's 2010 water use was 207 GPCD.

It is recommended that NID select Method 1, requiring a retail water system use of no greater than 203 GPCD by 2020 with a 2015 interim target of 229 GPCD. NID is currently meeting the 2015 interim target based on the 2010 GPCD and would require a 2 percent reduction from the per capita water use in 2010 and a 14 percent reduction from the 2008 through 2010 three-year average per capita water use to meet the 2020 target.

ATTACHMENT A: FIGURES

Figure 1. Historical Population and Total Connections for NID

Figure 2. 2000 Census Block Groups Served by NID Retail Water System

Figure 3. Historical Water Production for NID Retail

Figure 4. Historical Water Production per Connection for NID Retail

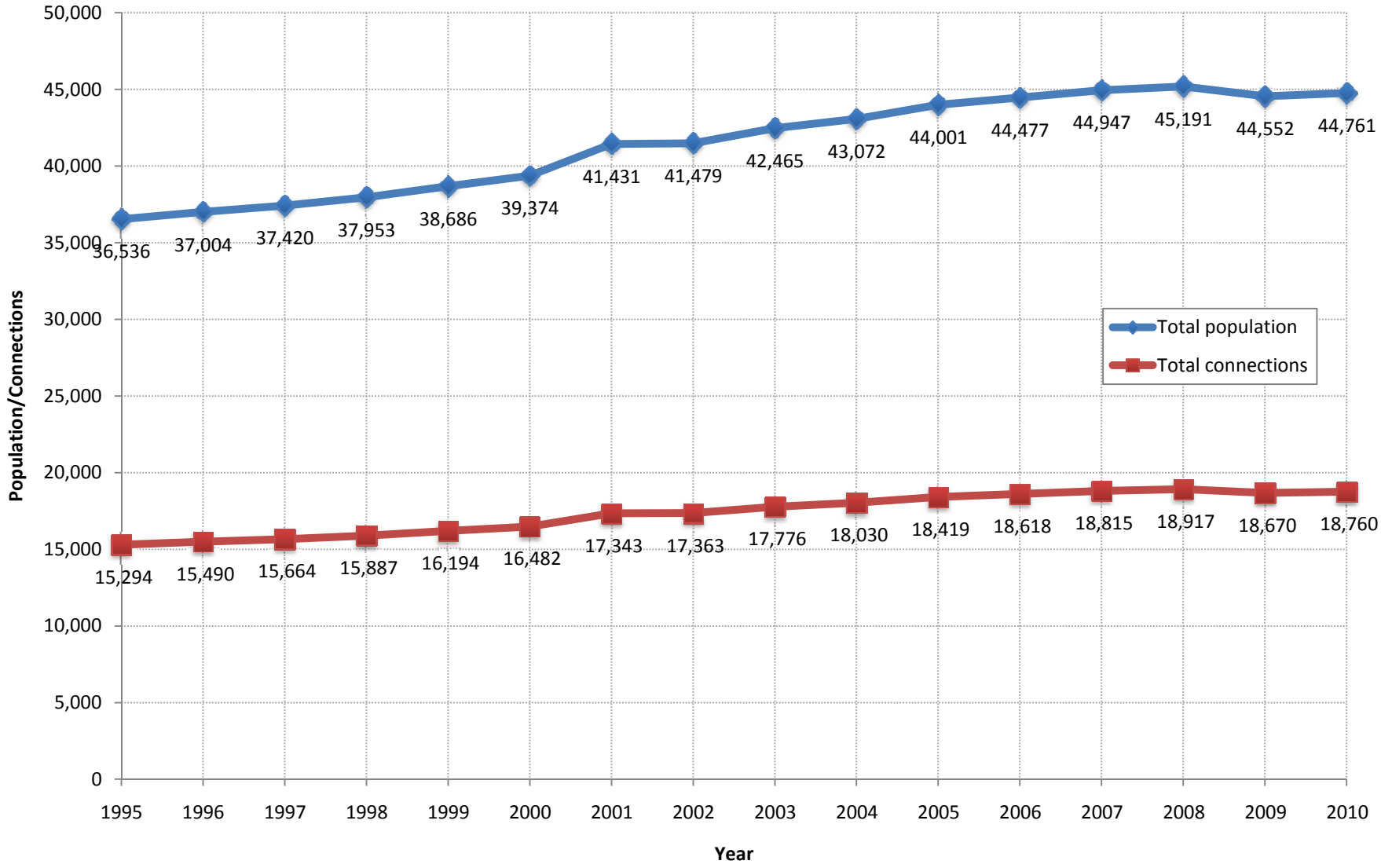
Figure 5. Historical Gallons per Capita per Day for NID Retail

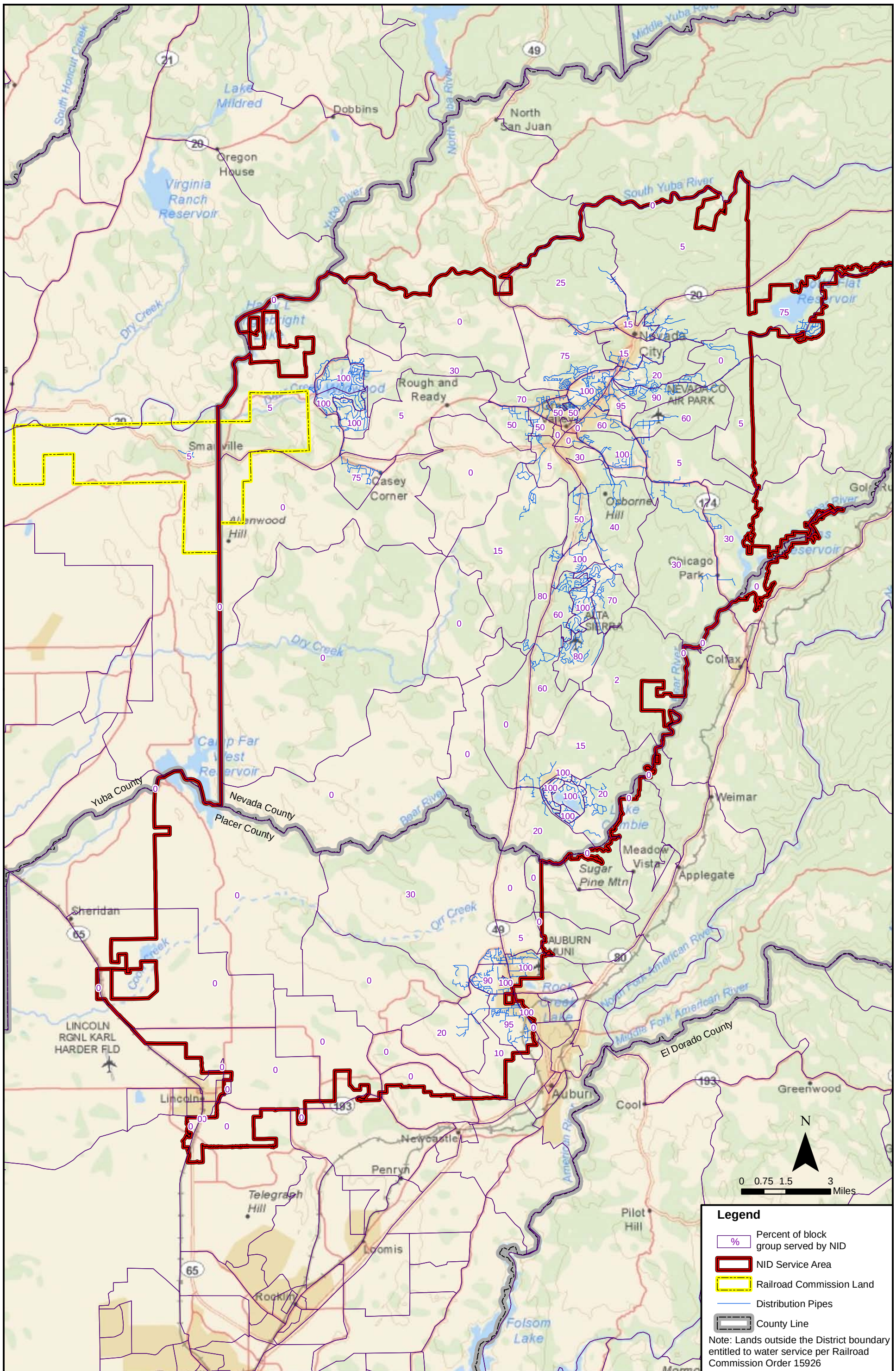
Figure 6. Historical No. of Connection by Customer Category for NID

Figure 7. Historical Water Use by Customer Category for NID Retail

Figure 8. GPCD Target Options for NID

Figure 1. Historical Population and Total Connections for NID





BROWN AND CALDWELL	PROJECT # 139620	PROJECT Urban Water Management Plan	Figure 2
	DATE 3-8-2011	TITLE 2000 Census Block Groups Served by NID Retail Water System	

FILE: P:\39000\139620 - NID 2010 UWMP\03_Engineering\3_2_GIS-CAD\GIS\Block Groups with Percentages.mxd

Figure 3. Historical Water Production for NID Retail

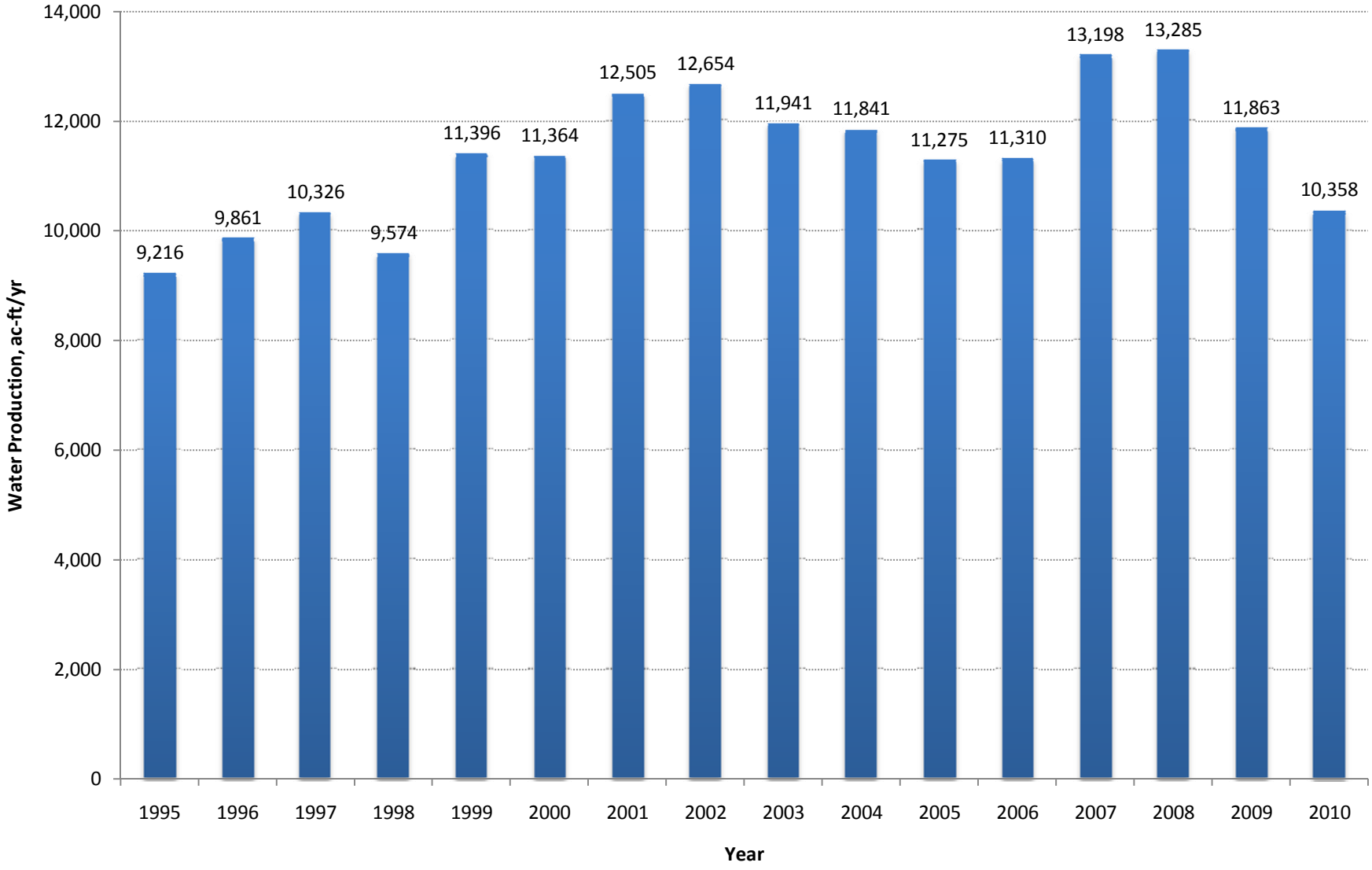


Figure 4. Historical Water Production per Connection for NID Retail

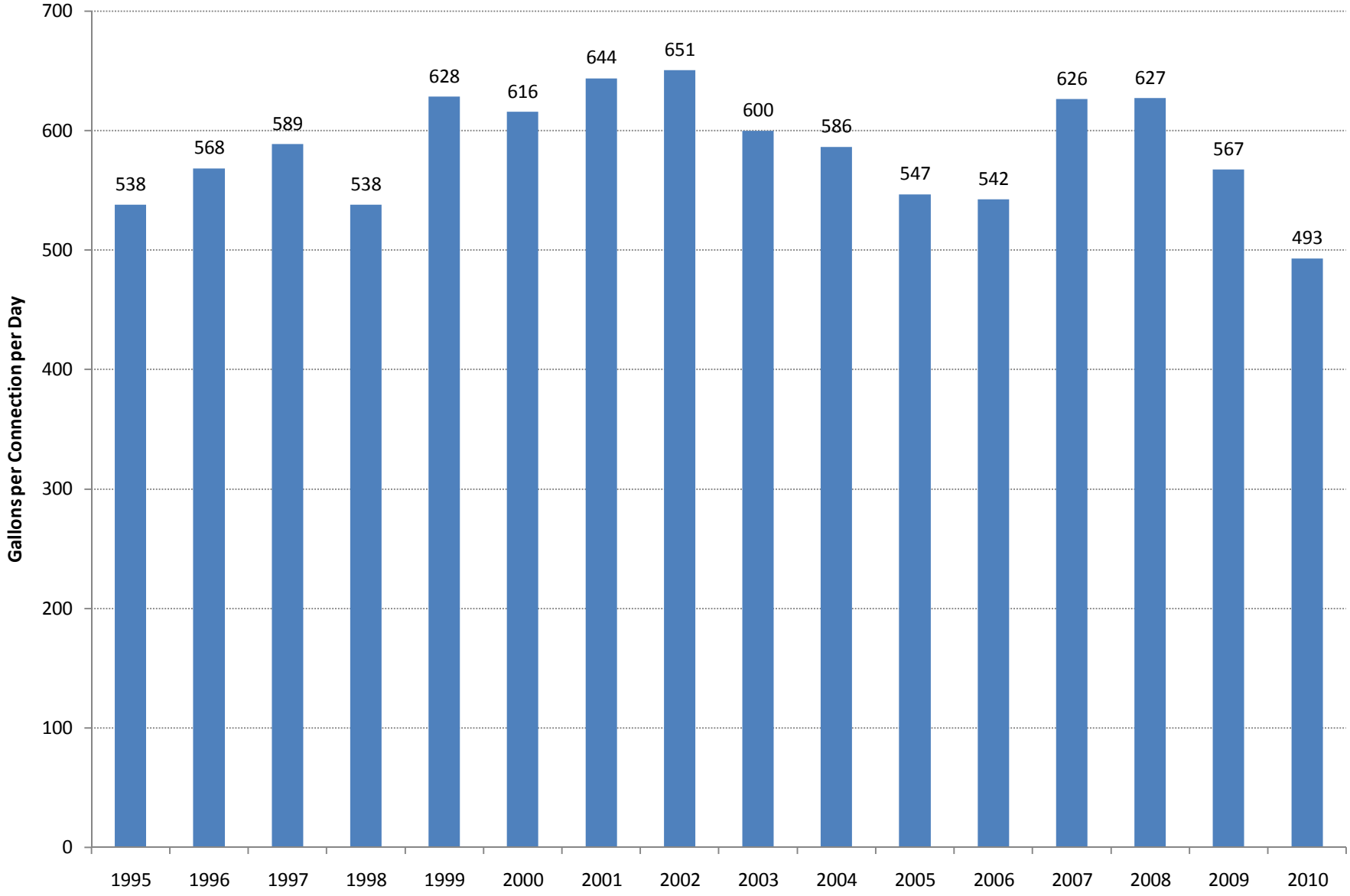


Figure 5. Historical Gallons per Capita per Day for NID Retail

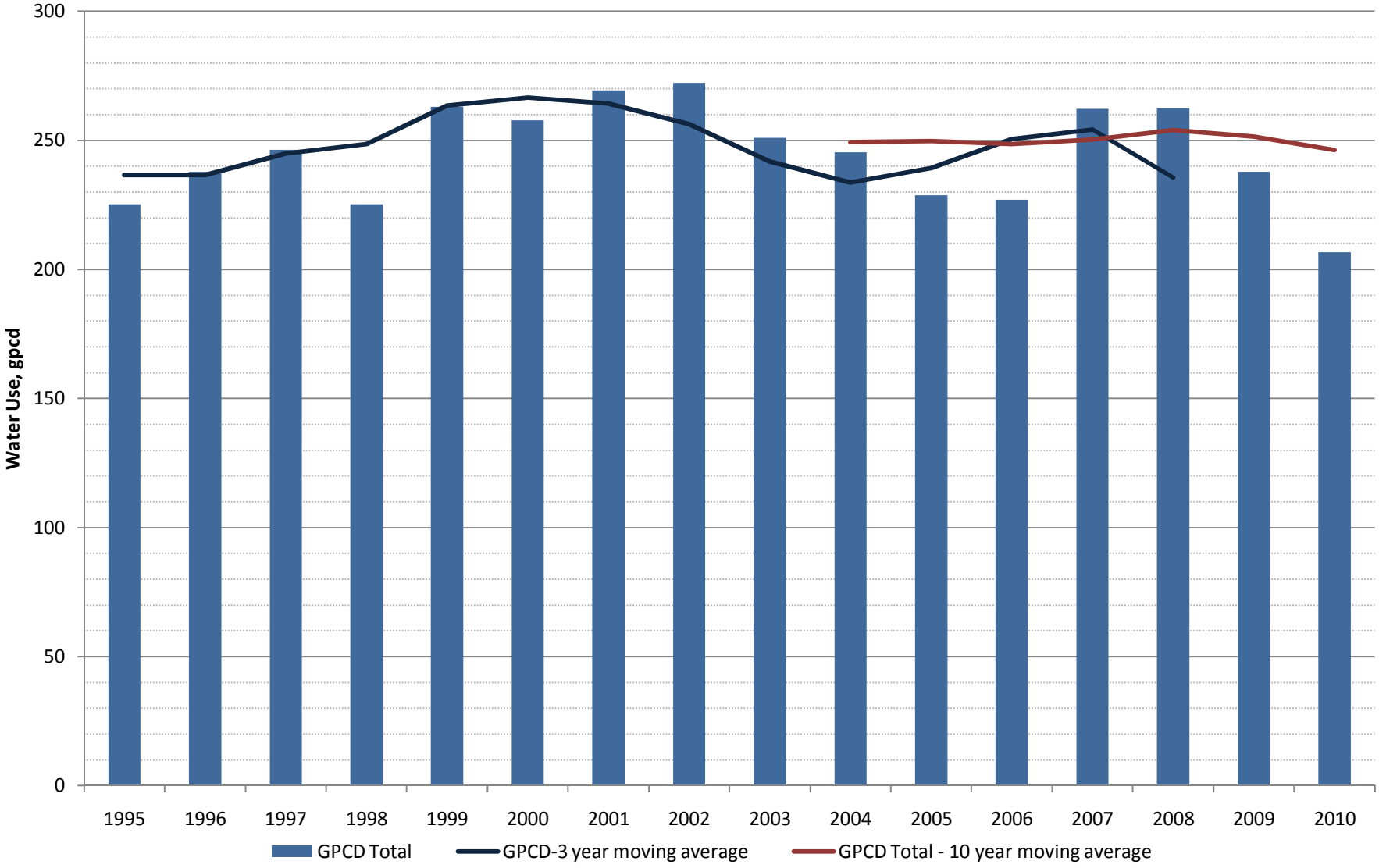


Figure 6. Historical No. of Connections by Customer Category for NID Retail

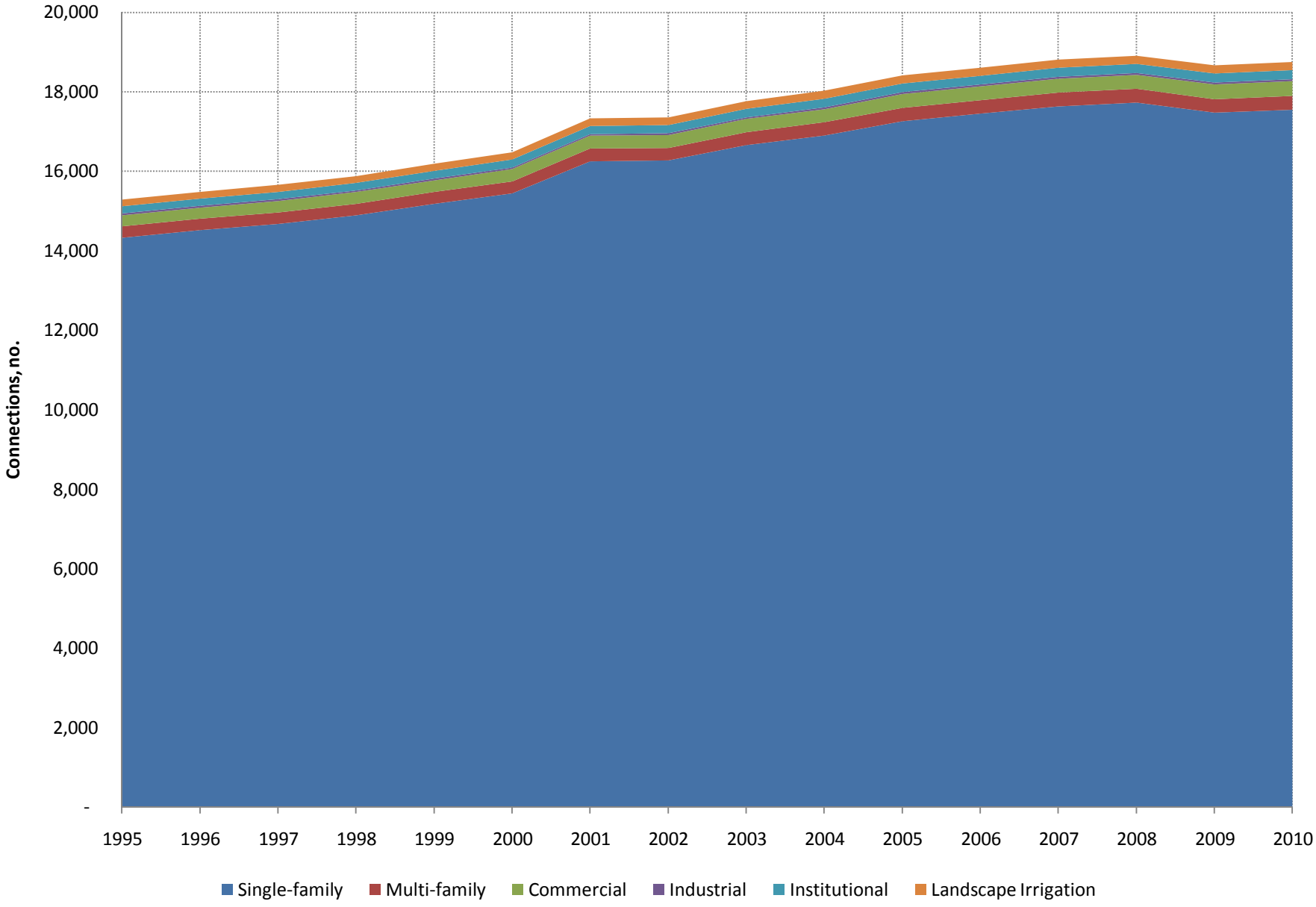


Figure 7. Historical Water Use by Customer Category for NID Retail

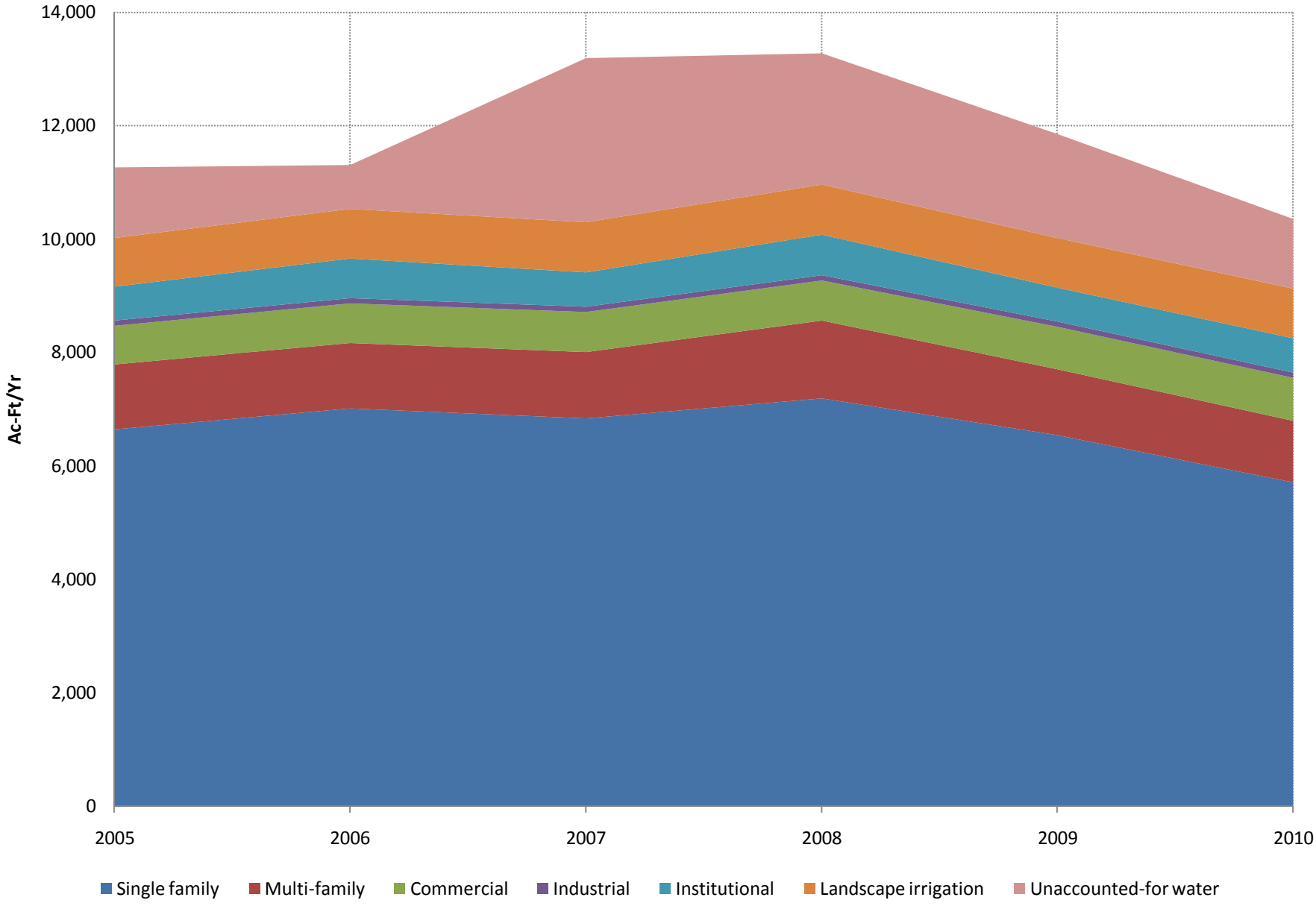
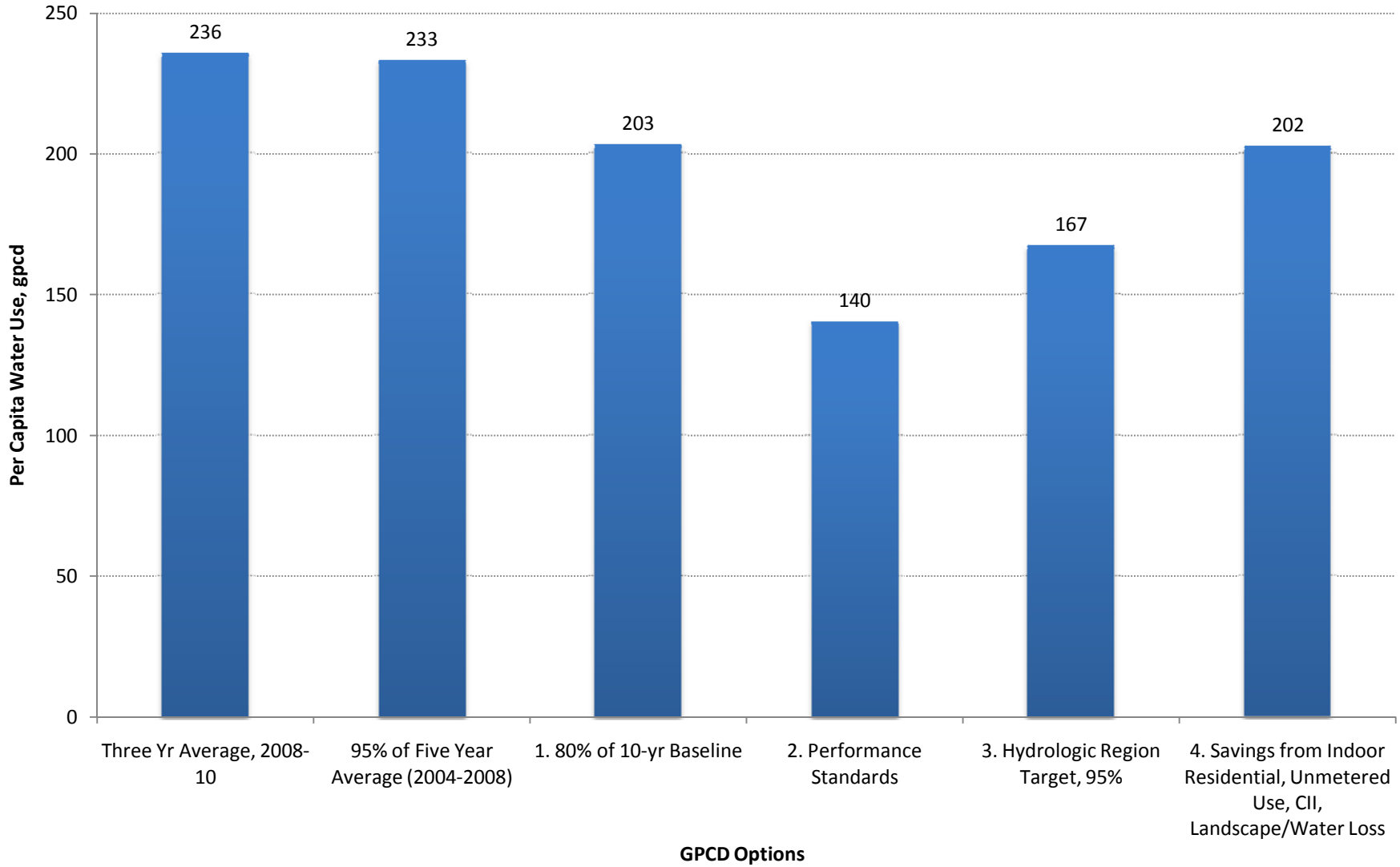


Figure 8. GPCD Target Options for NID



ATTACHMENT B: TABLES

Table 1. NID Water Use Analysis

Table 2. (DWR Table 13) Base Period Ranges

Table 3. (DWR Table 14) Base Daily Per Capita Water Use – 10- to 15-year range

Table 4. (DWR Table 15) Base Daily Per Capita Water Use – 5-year range

Table 5. GPCD Target Calculations Summary

Table 6. Method 2 Supporting Data and Calculation

Table 7. Method 4 Supporting Data and Calculation

Table 1. NID Water Use Analysis

Year	Comments	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Water Use, AF																	
Single family		7,273	5,129	5,469	4,891	6,188	6,109	6,638	6,755	6,290	6,163	6,648	7,018	6,846	7,195	6,553	5,714
Multi-family		951	963	974	922	1,007	1,025	1,258	1,259	1,105	1,121	1,145	1,157	1,170	1,372	1,161	1,088
Commercial		380	578	584	593	604	615	647	648	663	672	687	694	702	706	744	753
Industrial		77	78	79	80	82	83	87	88	90	91	93	94	95	95	94	95
Institutional		411	416	421	427	479	487	559	560	573	582	594	701	607	712	602	605
Landscape irrigation		716	725	733	744	758	772	812	813	832	844	862	872	881	886	874	878
Unaccounted-for water		1,843	1,972	2,065	1,915	2,279	2,273	2,501	2,531	2,388	2,368	1,245	772	2,897	2,320	1,834	1,224
Unaccounted-for water, % of total	Assumed for 1995 through 2004	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	12%	7%	28%	21%	20%	12%
Total Gross Production, AF		9,216	9,861	10,326	9,574	11,396	11,364	12,505	12,654	11,941	11,841	11,275	11,310	13,198	13,285	11,863	10,358
Population																	
Total population	Based on 2000 census ratio of SF and MF population to 2000 SF and MF connections.	36,536	37,004	37,420	37,953	38,686	39,374	41,431	41,479	42,465	43,072	44,001	44,477	44,947	45,191	44,552	44,761
SF - Population based on 2000 census SF population and 2000 SF connections		29,657	30,037	30,375	30,807	31,402	31,961	33,630	33,669	34,470	34,963	35,717	36,103	36,485	36,683	36,155	36,323
MF - Population based on 2000 census (Total minus SF population) and MF connections		6,879	6,967	7,045	7,146	7,284	7,413	7,800	7,809	7,995	8,109	8,284	8,374	8,463	8,508	8,397	8,438
2000 Census SF population divided by 2000 SF connections							**2.1**										
2000 Census MF population divided by 2000 MF connections							**24.3**										
2000 Census people per res connections							**2.5**										
Population used for this analysis		36,536	37,004	37,420	37,953	38,686	39,374	41,431	41,479	42,465	43,072	44,001	44,477	44,947	45,191	44,552	44,761
Connections																	
Single-family		14,338	14,522	14,685	14,894	15,182	15,452	16,259	16,278	16,665	16,903	17,268	17,454	17,639	17,735	17,480	17,561
Multi-family		283	287	290	294	300	305	321	321	329	334	341	344	348	350	345	347
Commercial		283	287	290	294	300	305	321	321	329	334	341	344	348	350	369	374
Industrial		38	39	39	40	40	41	43	43	44	45	46	47	47	47	47	47
Institutional		184	186	188	191	194	198	208	208	213	216	221	223	226	227	224	225
Landscape Irrigation		168	170	172	175	178	181	191	191	196	198	203	205	207	208	205	206
Total connections		15,294	15,490	15,664	15,887	16,194	16,482	17,343	17,363	17,776	18,030	18,419	18,618	18,815	18,917	18,670	18,760
Water Use per connection, gallons per day per connection																	
Gross water production per connection		538	568	589	538	628	616	644	651	600	586	547	542	626	627	567	493
Single-family		453	315	333	293	364	353	365	371	337	326	344	359	347	362	335	291
Multi-family		3,000	3,000	3,000	2,800	3,000	3,000	3,500	3,500	3,000	3,000	3,000	3,000	3,000	3,500	3,000	2,800
Commercial		1,200	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Industrial		1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Institutional		2,000	2,000	2,000	2,000	2,200	2,200	2,400	2,400	2,400	2,400	2,400	2,800	2,400	2,800	2,400	2,400
Landscape Irrigation		3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800	3,800
GPCD, gallons per capita per day																	
GPCD Total		225	238	246	225	263	258	269	272	251	245	229	227	262	262	238	207
GPCD-3 year moving average				236	236	245	249	263	267	264	256	242	234	239	251	254	236
GPCD Total - 5 year moving average														243	245	244	239
GPCD Total - 10 year moving average											249	250	249	250	254	251	246
GPCD-CII only		21	26	26	26	27	27	28	28	28	28	28	30	28	30	29	29
GPCD CII only - 10 year average											26	27	27	28	28	28	28

Table 2. (DWR Table 13) Base Period Ranges

Base	Parameter	Value	Units
10- to 15-year base period	2008 total water deliveries	13,285	ac-ft/yr
	2008 total volume of delivered recycled water	-	ac-ft/yr
	2008 recycled water as a percent of total deliveries	-	percent
	Number of years in base period[1]	10	years
	Year beginning base period range	1999	
	Year ending base period range[2]	2008	
5-year base period	Number of years in base period	5	years
	Year beginning base period range	2004	
	Year ending base period range[3]	2008	

[1] If the 2008 recycled water percent is less than 10 percent, then the first base period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first base period is a continuous 10- to 15-year period.

[2] The ending year must be between December 31, 2004 and December 31, 2010.

[3] The ending year must be between December 31, 2007 and December 31, 2010.

Note - Recycled water is used for agricultural uses and is not included in the water used within the distribution system service area.

Table 3. (DWR Table 14) Base Daily per Capita Water Use - 10- to 15-year range

Base period year		Distribution System Population	Daily system gross water use, ac-ft/yr	Annual daily per capita water use, GPCD
Sequence Year	Calendar Year			
Year 1	1999	38,686	11,396	263
Year 2	2000	39,374	11,364	258
Year 3	2001	41,431	12,505	269
Year 4	2002	41,479	12,654	272
Year 5	2003	42,465	11,941	251
Year 6	2004	43,072	11,841	245
Year 7	2005	44,001	11,275	229
Year 8	2006	44,477	11,310	227
Year 9	2007	44,947	13,198	262
Year 10	2008	45,191	13,285	262
Year 11				
Year 12				
Year 13				
Year 14				
Year 15				
			Base Daily Per Capita Water Use[1]	**254**

[1] Add the values in the column and divide by the number of rows.

Table 4. (DWR Table 15) Base Daily per Capita Water Use - 5-year range

Base period year		Distribution System Population	Daily system gross water use,	Annual daily per capita water use,
Sequence Year	Calendar Year			
Year 1	2004	43,072	11,841	245
Year 2	2005	44,001	11,275	229
Year 3	2006	44,477	11,310	227
Year 4	2007	44,947	13,198	262
Year 5	2008	45,191	13,285	262
Base Daily Per Capita Water Use[1]				**245**

[1] Add the values in the columne and divide by the number of rows.

Table 5. GPCD Target Calculations Summary

Method	Factor	Units	Comments
Method 1. 80% of Baseline			
Baseline per capita daily water use	254		10-year average gpcd from 1999 through 2008
Method 1 2015 interim target:	229		90% of the urban retail water supplier's baseline per capita daily water use
Method 1 2020 target:	**203**	**GPCD**	80% of the urban retail water supplier's baseline per capita daily water use
Method 2. Performance Standards			See Table 6 for supporting calculations
Method 2 2015 interim target:	197	GPCD	Halfway between baseline per capita daily water use and 2020 target.
Method 2 total:	**140**	**GPCD**	Target indoor use+Target outdoor use+Target CII use
Method 3. 95% of Draft 20x2020 Plan			
Applicable target for NID:	176	GPCD	Hydrologic Region #5 (2015 interim target 215 GPCD)
Method 3 2015 interim target:	204	GPCD	95% of Hydraulic Region #5 interim target
Method 3 2020 target:	**167**	**GPCD**	95% of Hydraulic Region #5 target
Method 4. Savings from Indoor Residential,Unmetered Use,CII,Landscape/Water Loss			See Table 7 for supporting calculations
Method 4 2015 interim target:	216	GPCD	Halfway between Baseline per capita daily water use and 2020 target.
Method 4 gpcd 2020 target	**202**	**GPCD**	Base daily per capita use minus sum of savings for indoor residential, 10% of CII, 20% of unmetered use, and 21.6% of other uses (landscape and water loss).

Table 6. Method 2 Supporting Data and Calculation
Indoor Use plus Irrigation Landscapes plus Commercial, Industrial, and Institutional Use

Part A: Indoor Residential Water Use — **GPCD**

Indoor Residential Water Use Standard per Section 10608.20 (b)(2)(A) — **55**

Part B: Irrigated Landscapes

Year landscaped area installed	Accounts			Avg Irrigated area per account[a], sq ft			Total LA, sq ft	SLA	Reference ETO[b], in/yr	MWELO	MAWA Equation	MAWA, gal/yr	Population	Landscape Water Use Target, gpcd
	SF	MF	Dedicated irrigation	SF	MF	Dedicated irrigation								
Pre 2010	17,561	347	206	2,178	3,267	8,712	41,179,381	--	48	1992	=(ETO)(0.62)[(0.8xLA)	980,398,695	44,761	
2010 through 2020									48	2010	=(ETO)(0.62)[(0.7xLA)+(0.3xSLA)]			
Total	--	--	--	--	--	--	--	--	--	--	--	980,398,695	44,761	**60**

[a] Average irrigated area per account is based on the following assumptions per account type:

SF pre 2010 - Average lot size is 0.25 acres with 20% irrigated landscape.

MF - Average lot size is 0.5 acres with 15% irrigated landscape.

Dedicated irrigation - Average irrigated area one fifth of an acre.

[b] Grass Valley, from Model Landscape Ordinance Appendix A

MWELO = Model Water Efficient Landscape Ordinance

MAWA = Maximum Applied Water Allowance

LA = landscaped area

SLA = special landscaped area

Part C: Commercial, Industrial, and Institutional (CII) Water Use

CII Baseline = Maximum 10-year rolling average=	28	
10% Reduction in CII Baseline	2.8	
CII 2020 Target, gpcd		**25**

Total Method 2 Target Sum of Parts A, B, and C: **140**

Table 7. Method 4 Supporting Data and Calculation
Base Daily Per Capita Water Use Minus Savings from Indoor Residential, Unmetered Use, CII, and Landscape and Water Loss

Equation 1

Urban Water Use Target = Base Daily per Capita Water Use - Total Savings

Note: Equations 1, 2, and 3 from DWR "Draft Provisional Method 4 for Calculating Urban Water Use Targets", released January 24,

Equation 2

Landscape and Water Loss per Capita Use = Base Daily per Capita Water Use - Standard Indoor Residential 70 gpcd - CII Water Use

Equation 3

Total Savings = Indoor Residential Savings + Metering Savings + CII Savings + Landscape and Water Loss Savings

Equation 2 - Landscape and Water Loss		
Base Daily per Capita Water Use	254	GPCD
Standard Indoor Residential	70	GPCD
CII Water Use	28	GPCD
Landscape and Water Loss per Capita Use	156	GPCD
Equation 3 - Total Savings		
Indoor Residential Savings		
BMP calculator or 15 GPCD	15	GPCD
Metering Savings		
Unmetered deliveries	0	GPCD
20 percent of unmetered deliveries	0	GPCD
CII Savings		
10% of CII baseline water use	3	GPCD
Landscape and Water Loss Savings		
.6% of Landscape and Water Loss per capita u	34	GPCD
Total Savings	51	GPCD
Equation 1 - Urban Water Use Target		
Urban Water Use Target	202	GPCD

Base Daily per Capita Water Use minus Total Savings

Appendix F:
Census Block Tracks within NID Boundaries

Geography Identifier	Geography	Percentage of block group within NID service area
Block Group 1, Census Tract 1.02, Nevada County, California	15000US060570001021	100%
Block Group 1, Census Tract 1.03, Nevada County, California	15000US060570001031	100%
Block Group 1, Census Tract 1.04, Nevada County, California	15000US060570001041	100%
Block Group 1, Census Tract 1.05, Nevada County, California	15000US060570001051	100%
Block Group 1, Census Tract 2, Nevada County, California	15000US060570002001	100%
Block Group 1, Census Tract 205, Placer County, California	15000US060610205001	34%
Block Group 1, Census Tract 212, Placer County, California	15000US060610212001	2%
Block Group 1, Census Tract 213.01, Placer County, California	15000US060610213011	0%
Block Group 1, Census Tract 213.03, Placer County, California	15000US060610213031	17%
Block Group 1, Census Tract 213.04, Placer County, California	15000US060610213041	67%
Block Group 1, Census Tract 214.01, Placer County, California	15000US060610214011	11%
Block Group 1, Census Tract 214.02, Placer County, California	15000US060610214021	0%
Block Group 1, Census Tract 215.01, Placer County, California	15000US060610215011	100%
Block Group 1, Census Tract 215.02, Placer County, California	15000US060610215021	1%
Block Group 1, Census Tract 216, Placer County, California	15000US060610216001	100%
Block Group 1, Census Tract 218.01, Placer County, California	15000US060610218011	17%
Block Group 1, Census Tract 218.02, Placer County, California	15000US060610218021	36%
Block Group 1, Census Tract 219.01, Placer County, California	15000US060610219011	2%
Block Group 1, Census Tract 219.02, Placer County, California	15000US060610219021	8%
Block Group 1, Census Tract 220.01, Placer County, California	15000US060610220011	8%
Block Group 1, Census Tract 220.02, Placer County, California	15000US060610220021	1%
Block Group 1, Census Tract 3, Nevada County, California	15000US060570003001	100%
Block Group 1, Census Tract 4.01, Nevada County, California	15000US060570004011	100%
Block Group 1, Census Tract 4.02, Nevada County, California	15000US060570004021	100%
Block Group 1, Census Tract 5.01, Nevada County, California	15000US060570005011	100%
Block Group 1, Census Tract 5.02, Nevada County, California	15000US060570005021	100%
Block Group 1, Census Tract 6, Nevada County, California	15000US060570006001	100%
Block Group 1, Census Tract 7.01, Nevada County, California	15000US060570007011	34%
Block Group 1, Census Tract 7.02, Nevada County, California	15000US060570007021	100%
Block Group 1, Census Tract 8.01, Nevada County, California	15000US060570008011	98%
Block Group 1, Census Tract 8.02, Nevada County, California	15000US060570008021	100%
Block Group 1, Census Tract 9, Nevada County, California	15000US060570009001	0%
Block Group 2, Census Tract 1.02, Nevada County, California	15000US060570001022	100%
Block Group 2, Census Tract 1.03, Nevada County, California	15000US060570001032	90%
Block Group 2, Census Tract 1.04, Nevada County, California	15000US060570001042	100%
Block Group 2, Census Tract 1.05, Nevada County, California	15000US060570001052	100%
Block Group 2, Census Tract 2, Nevada County, California	15000US060570002002	100%
Block Group 2, Census Tract 213.01, Placer County, California	15000US060610213012	0%
Block Group 2, Census Tract 213.04, Placer County, California	15000US060610213042	73%
Block Group 2, Census Tract 214.01, Placer County, California	15000US060610214012	43%
Block Group 2, Census Tract 215.01, Placer County, California	15000US060610215012	84%
Block Group 2, Census Tract 216, Placer County, California	15000US060610216002	100%
Block Group 2, Census Tract 218.01, Placer County, California	15000US060610218012	5%
Block Group 2, Census Tract 218.02, Placer County, California	15000US060610218022	13%
Block Group 2, Census Tract 219.02, Placer County, California	15000US060610219022	5%
Block Group 2, Census Tract 220.02, Placer County, California	15000US060610220022	1%
Block Group 2, Census Tract 3, Nevada County, California	15000US060570003002	100%
Block Group 2, Census Tract 4.01, Nevada County, California	15000US060570004012	100%
Block Group 2, Census Tract 4.02, Nevada County, California	15000US060570004022	100%
Block Group 2, Census Tract 5.01, Nevada County, California	15000US060570005012	100%
Block Group 2, Census Tract 5.02, Nevada County, California	15000US060570005022	100%
Block Group 2, Census Tract 6, Nevada County, California	15000US060570006002	100%
Block Group 2, Census Tract 7.01, Nevada County, California	15000US060570007012	6%
Block Group 2, Census Tract 7.02, Nevada County, California	15000US060570007022	100%
Block Group 2, Census Tract 8.01, Nevada County, California	15000US060570008012	51%
Block Group 2, Census Tract 8.02, Nevada County, California	15000US060570008022	100%
Block Group 2, Census Tract 9, Nevada County, California	15000US060570009002	28%
Block Group 3, Census Tract 1.02, Nevada County, California	15000US060570001023	100%
Block Group 3, Census Tract 1.03, Nevada County, California	15000US060570001033	100%
Block Group 3, Census Tract 1.04, Nevada County, California	15000US060570001043	100%

Geography Identifier	Geography	Percentage of block group within NID service area
Block Group 3, Census Tract 1.05, Nevada County, California	15000US060570001053	100%
Block Group 3, Census Tract 2, Nevada County, California	15000US060570002003	100%
Block Group 3, Census Tract 213.04, Placer County, California	15000US060610213043	90%
Block Group 3, Census Tract 214.01, Placer County, California	15000US060610214013	1%
Block Group 3, Census Tract 215.01, Placer County, California	15000US060610215013	73%
Block Group 3, Census Tract 216, Placer County, California	15000US060610216003	99%
Block Group 3, Census Tract 218.01, Placer County, California	15000US060610218013	100%
Block Group 3, Census Tract 4.01, Nevada County, California	15000US060570004013	100%
Block Group 3, Census Tract 4.02, Nevada County, California	15000US060570004023	100%
Block Group 3, Census Tract 5.01, Nevada County, California	15000US060570005013	100%
Block Group 3, Census Tract 5.02, Nevada County, California	15000US060570005023	100%
Block Group 3, Census Tract 6, Nevada County, California	15000US060570006003	100%
Block Group 3, Census Tract 7.01, Nevada County, California	15000US060570007013	100%
Block Group 3, Census Tract 8.01, Nevada County, California	15000US060570008013	41%
Block Group 3, Census Tract 8.02, Nevada County, California	15000US060570008023	100%
Block Group 4, Census Tract 1.02, Nevada County, California	15000US060570001024	100%
Block Group 4, Census Tract 1.03, Nevada County, California	15000US060570001034	100%
Block Group 4, Census Tract 205, Placer County, California	15000US060610205004	76%
Block Group 4, Census Tract 213.04, Placer County, California	15000US060610213044	87%
Block Group 4, Census Tract 216, Placer County, California	15000US060610216004	100%
Block Group 4, Census Tract 218.01, Placer County, California	15000US060610218014	99%
Block Group 4, Census Tract 4.01, Nevada County, California	15000US060570004014	100%
Block Group 4, Census Tract 4.02, Nevada County, California	15000US060570004024	89%
Block Group 4, Census Tract 5.01, Nevada County, California	15000US060570005014	100%
Block Group 4, Census Tract 5.02, Nevada County, California	15000US060570005024	100%
Block Group 4, Census Tract 6, Nevada County, California	15000US060570006004	100%
Block Group 4, Census Tract 7.01, Nevada County, California	15000US060570007014	100%
Block Group 4, Census Tract 8.02, Nevada County, California	15000US060570008024	100%
Block Group 5, Census Tract 1.03, Nevada County, California	15000US060570001035	100%
Block Group 5, Census Tract 5.01, Nevada County, California	15000US060570005015	100%
Block Group 5, Census Tract 6, Nevada County, California	15000US060570006005	100%
Block Group 5, Census Tract 7.01, Nevada County, California	15000US060570007015	100%
Block Group 6, Census Tract 1.03, Nevada County, California	15000US060570001036	100%
Block Group 6, Census Tract 7.01, Nevada County, California	15000US060570007016	45%
Block Group 7, Census Tract 1.03, Nevada County, California	15000US060570001037	100%
Block Group 8, Census Tract 1.03, Nevada County, California	15000US060570001038	100%
Block Group 1, Census Tract 409.01, Yuba County, California	15000US061150409011	5%

Percent of block group within NID service area that is service by NID distribution system
100%
15%
50%
60%
0%
0%
0%
0%
0%
0%
0%
0%
20%
0%
30%
0%
100%
0%
0%
0%
0%
0%
30%
75%
50%
0%
95%
5%
30%
25%
15%
0%
70%
2%
100%
0%
0%
0%
0%
0%
95%
0%
0%
100%
0%
0%
15%
100%
0%
100%
50%
60%
0%
40%
5%
15%
0%
60%
20%
80%

Percent of block group within NID service area that is service by NID distribution system
0%
0%
0%
0%
10%
90%
5%
100%
5%
70%
5%
100%
90%
75%
20%
80%
100%
0%
0%
100%
0%
100%
5%
50%
50%
30%
60%
75%
100%
0%
0%
5%
20%
30%
100%
100%
100%

Appendix G:
Drought Contingency Plan

DROUGHT CONTINGENCY PLAN

(Most recently adopted by the Board of Directors, June 27, 2007)

The Nevada Irrigation District adopted the Urban Water Management Plan in October 1985 and the Agricultural Water Management Plan in November 1991. Both of these plans were prepared incompliance with Part 2.8 of Division 6 of the California Water Code. The primary objective of these plans is to conserve water through efficient water management.

On February 13, 2007, the Water and Hydroelectric Operations Committee instructed staff to revise the Drought Contingency Plan. This plan will supplement the Urban and Agricultural Plans, and identifies drought caused water supply shortages and water demand reduction goals within the District during a drought.

Prior to the beginning of the irrigation season, but no later than April 1, the District will evaluate its current reservoir storage, forecasted runoff, and purchase options from Pacific Gas & Electric Company to determine what water supply stage will apply during the year.

In order to effect the most current information for water supply, the March Snow Survey information for each year will be used to make a preliminary determination of the District's water supplies.

The District currently supplies about 150,000 acre feet of water for all classes of customers has nonrecoverable in stream flow requirements of 7,700 AF and has contract obligations for 200,000 acre feet of water under the Nevada Irrigation District and Pacific Gas & Electric Company's 1963 Consolidated Contract. A minimum of 78,000 acre feet of carry over storage has been determined to be the amount of water that the District will endeavor to hold over from water season to water season for the health and safety of the District domestic and agricultural water users. The minimum carryover amount will be evaluated every five years and will be updated if needed.

Stage	April 1st Available Supply Acre Feet	Supply Shortage	Type Program	Demand Reduction Goals
I	233,000	None	Normal Operation	
II	210,000	10%-15%	Voluntary	15%
III	198,000	15%-25%	Mandatory	25%
IV	175,000	25%-35%	Mandatory	35%
V	152,000	35%-50%	Mandatory	50%

DROUGHT WATER SUPPLY STAGES:

Stage I: **Normal Water conditions**

A. District will make full supply and contract deliveries.

B. Continue to operate and maintain the water system in an efficient and economical manner.

C. Continue to update District customers of water conditions and District conservation measures.

D. Review and, if needed, update current water conservation plans and system storage.

Stage II: **Drought Alert—10% to 15% Shortage**

A. District leak repair receives high priority.

B. Strongly encourage customers to conserve water

C. Restaurant owners requested not to serve water unless requested by the customer.

D. Declare that no District surplus water is available.

E. Maintain 25% of historical end of month October storage for carryover.

F. Limit fire department practice drills and flow testing of fire hydrants.

G. Additional agricultural efficiency practices would be instituted to assist the agriculturist in proper water management as outlined in the Agricultural Water Management Plan.

H. Limit residential, garden, and landscape irrigation during the hottest portion of the day (10:00 a.m. to 6:00 p.m.).

Stage III: **Drought Warning—25% Shortage**

A. All of Stage II requirements above except item E, and the following:

B. Untreated water deliveries will be reduced by 25% and irrigation season delivery alternatives will be imposed.

C. Limit residential, garden, and landscape irrigation during the hottest portion of the day (10:00 a.m. to 6:00 p.m.).

D. Encourage that all treated water metered school grounds, and all other public grounds reduce their water usage by 15 percent from what they

received under Stage I conditions and as outlined in the District's Urban Water Management Plan.

E. Implement strong conservation pricing on treated water.

F. All new treated water services will not be allowed to plant new lawns, landscaping, or gardens. The District will encourage customers to utilize water and efficient irrigation systems.

G. Maintain at least 78,000 minimum acre feet in storage at the end of October

Stage IV: **Drought Emergency—35% Shortage**

A. Implement all items under Stages II and III, and the following:

B. Untreated water deliveries will be reduced by 35% and irrigation season delivery alternatives will be imposed.

C. Suspend all NEW untreated water sales.

Stave V: **Critical Drought Emergency—50% Shortage**

A. Implement all items under Stage II, III, and IV, and the following:

B. Untreated water deliveries will be reduced by 50% and irrigation season delivery alternatives will be imposed.

C. Conservation oriented rate structures and pricing methods will be established to encourage water conservation.

IRRIGATION SEASON DELIVERY ALTERNATIVES Combination Reduction & Short Season	
Advantages	**Disadvantages**
1. Fairness and Uniformity 2. Encourage Water Management and Conservation 3. Demonstrates a Method of Reduction	1. Changing Raw Water Orifice Plates 2. Reduces System Flexibility 3. Public Relations (?) On Local Level 4. Increase Customer Responses

IRRIGATION SEASON DELIVERY ALTERNATIVES Short Season	
Advantages	**Disadvantages**
1. Greatest Flexibility in System 2. Customer Management of System 3. Utilize Soil Conservation Service Water Developed Programs 4. Encourage Water Management and Conservation 5. Demonstrates a Method of Reduction 6. Manpower Including Not Changing Raw Water Orifice Plates	1. Is not uniform water delivery throughout the sseason 2. Does Not Extend Season

IRRIGATION SEASON DELIVERY ALTERNATIVES Reduction in Deliveries for Full Season	
Advantages	**Disadvantages**
1. Fairness and Uniformity 2. Encourage Water Management and Conservation 3. Demonstrates a Method of Reduction	1. Requires Accuracy in Delivery Method 2. Delivery Costs—Change Orifice Plates 3. Raw Water Orifice Pipes 4. No System Flexibility 5. Public Relations Loss

DROUGHT HARDSHIP VARIANCES

During a Stage IV or Stage V Drought, the Board of Directors of the Nevada Irrigation District may appoint a Drought Hardship Committee selected from members from their divisions. District Operation's staff would work closely with this committee to review drought hardship variances.

Before any appeal can be heard by the Drought Hardship Committee the land in question must provide proof the water is being used for commercial agricultural purposes. Preference will be given to customers with efficient irrigation practices in place. No such variance or appeal, however, shall be effective unless the Board of Directors finds that the variance or appeal will not adversely affect the public health or safety of others and is in the public's interest.

Upon granting a Drought Hardship Variance or appeal, the Board may impose any other conditions it deems to be just and proper.

APPLICATION FOR DROUGHT HARDSHIP

Name:		**Canal:**	
Address			
Parcel No.:		Phone No.:	
Land Utilization:	Map Attached	Yes	No
Livestock:			
Cows	Calves	Steers	Heifers
Sheep	Ewes	Lambs	
Hogs	Horses	Other	

	Acres Planted	**Water Used**	**Crop**	**Method of Irrigation**
Pasture				
Orchard				
Other				
Total acres of land served at location:				

	Year	**Miners Inches**
Water Purchase		
Allocated		
Is property within Nevada Irrigation District boundaries?	Yes	No
Does this property have proof the water is being used for commercial agricultural purposes	YES	No
Statement by landowner of hardship		
Intended use of additional water by landowner		
Describe efficient irrigation practices in use		

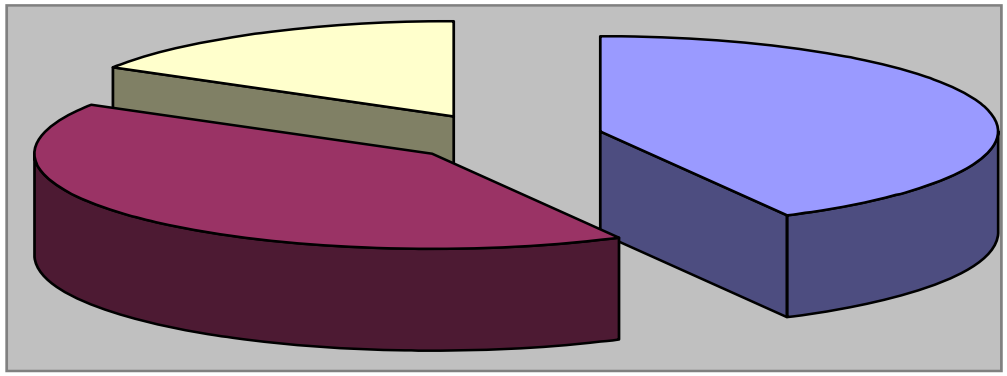
Please attach separate sheet for any additional information.
I certify the above statements to be true and factual to the best of my knowledge.

Signed_____ Date_____

NID MINIMUM CARRY OVER STORAGE

78,000 ACRE FEET

Domestic
24% 18,700 AF
(Treated and Municipal Sales, 30% System Losses)



Agricultural Core
37% 28,600 AF
(Perennial Crops, Golf Course Greens, 30% System Losses)

Unuseable Storage
39% 30,700 AF
(Minimum Pool, Fish Releases, Siltation)

Appendix H:
Water Conservation Evaluation

Nevada Irrigation District

DMM 1. Water Survey Programs for Single-Family and Multi-Family Residential Customers

Calendar Year	Single Family Interventions	Multi Family Interventions		Single-Family Outdoor Savings (ac-ft/yr)	Multi-Family Outdoor Savings (ac-ft/yr)	Total Outdoor Savings (ac-ft/yr)	Total Indoor Savings (ac-ft/yr)	Annual Water Savings (ac-ft/yr)	Cummulative Water Savings (ac-ft/yr)
2006	980	60		31.1	0.9	32.0	4.8	37	37
2007	980	60		31.1	0.9	32.0	4.8	74	110
2008	980	60		31.1	0.9	32.0	4.8	110	221
2009	980	60		31.1	0.9	32.0	4.8	147	368
2010	980	60		31.1	0.9	32.0	4.8	147	515
2011	980	60		31.1	0.9	32.0	4.8	147	662
2012	980	60		31.1	0.9	32.0	4.8	147	809
2013	980	60		31.1	0.9	32.0	4.8	147	956
2014	980	60		31.1	0.9	32.0	4.8	147	1,103
2015	980	60		31.1	0.9	32.0	4.8	147	1,250
2016								110	1,361
2017								74	1,434
2018								37	1,471
2019									
2020									
Totals:	9,800	600		311	9	320	47.8	1,471	

Assumptions		
Indoor water savings (gpd/unit) =	4.10	
Outdoor water savings =	15%	
Single-family outdoor water usage (gpd/unit) =	189	
Multi-family outdoor water usage (gpd/unit) =	89	
Life of water savings from survey (years) =	4	*BMP Cost and Savings Study (CUWCC, 2005)*

Note: Water savings shown is just the savings for surveys beginning in 2006 through 2015 and do not include savings from previous surveys.

Nevada Irrigation District
Economic Analysis Worksheets
DMM *2. Residential Plumbing Retrofit*

						Benefits ($)					Costs ($)					
Calendar Year	**Single Family Interventions**	**Multi Family Interventions**	**Percent Units Receiving Retrofits**	**Incremental Water Savings (ac-ft/yr)**	**Annual Water Savings (ac-ft/yr)**	**Avoided Capital Costs**	**Avoided Variable Costs**	**Avoided Purchase Costs**	**Total Undiscounted Benefits**	**Total Discounted Benefits**	**Capital Costs**	**Financial Incentives**	**Operating Expenses**	**Total Undiscounted Costs**	**Total Discounted Costs**	**Net Present Value ($)**
2011	788	220	5.0%	16.9	17	0	4,302	0	4,302	4,053	0	0	30,743	30,743	28,962	-24,909
2012	788	220	5.0%	16.9	34	0	8,604	0	8,604	7,636	0	0	30,743	30,743	27,284	-19,648
2013	788	220	5.0%	16.9	51	0	12,906	0	12,906	10,790	0	0	30,743	30,743	25,703	-14,913
2014	788	220	5.0%	16.9	68	0	17,208	0	17,208	13,553	0	0	30,743	30,743	24,214	-10,661
2015	788	220	5.0%	16.9	68	0	17,208	0	17,208	12,768	0	0	30,743	30,743	22,811	-10,043
2016	788	220	5.0%	16.9	68	0	17,208	0	17,208	12,028	0	0	30,743	30,743	21,490	-9,461
2017	788	220	5.0%	16.9	68	0	17,208	0	17,208	11,331	0	0	30,743	30,743	20,245	-8,913
2018	788	220	5.0%	16.9	68	0	17,208	0	17,208	10,675	0	0	30,743	30,743	19,072	-8,397
2019	788	220	5.0%	16.9	68	0	17,208	0	17,208	10,056	0	0	30,743	30,743	17,967	-7,910
2020	788	220	5.0%	16.9	68	0	17,208	0	17,208	9,474	0	0	30,743	30,743	16,926	-7,452
2021	394	110	2.5%	8.5	59	0	15,057	0	15,057	7,809	0	0	15,372	15,372	7,973	-163
2022					42	0	10,755	0	10,755	5,255						5,255
2023					25	0	6,453	0	6,453	2,970						2,970
2024					8	0	2,151	0	2,151	933						933
2025																
2026																
2027																
2028																
2029																
2030																
Totals:	8,271	2,312	53%	178	711	0	180,680	0	180,680	119,331	0	0	322,802	322,802	232,645	-113,313
												Ref				

Assumptions

Value of conserved water ($/AF) =	254	Provided by NID
Discount rate (real) =	6.15%	
Water savings (gpd/unit) =	15.0	
Conservation measure unit cost ($) =	30.5	
Percent units receiving retrofits =	5%	
1991 single family units =	15,755	based on 2000 census for year structure built data times the ratio of SF DUs to total DUs from 2000 census.
1991 multi-family units =	4,405	
Life of water savings from retrofit (years) =	4	*BMP Cost and Savings Study (CUWCC, 2005)*

Cost Effectiveness Summary		
Total Costs		$232,645
Total Benefits		$119,331
B/C ratio		0.5
Cost of Saved Water ($		$327
Water Savings (AFY)		51

Nevada Irrigation District
Water Savings EstimatesD
DMM 3. System Water Audits Leak Detection and Repair

Calendar Year	No. of Leaks Repaired	Incremental Water Savings (ac-ft/yr)	Annual Water Savings (ac-ft/yr)
2006	183	679	679
2007	170	631	1,310
2008	189	701	2,011
2009	172	638	2,649
2010	170	631	3,279
2011	170	631	3,231
2012	170	631	3,231
2013	170	631	3,161
2014	170	631	3,153
2015	170	631	3,153
2016	170	631	3,153
2017	170	631	3,153
2018	170	631	3,153
2019	170	631	3,153
2020	170	631	3,153
		0	2,523
		0	1,892
		0	1,261
		0	631
		0	0
Totals:	2,584	9,586	47,929

Assumptions

Annual water savings (ac-ft/yr/leak) =	3.7	*Based on Table 4-3 AWWA M36*
Life of water savings from survey (years) =	5	

Nevada Irrigation District
Economic Analysis Worksheets
DMM 5. (BMP 5) Large Landscape Conservation Programs and Incentives

							Benefits ($)					Costs ($)					
Calendar Year	**CII Accounts w/Dedicated Irr. Meters**	**CII Accounts w/Mixed Use or No Meters**	**CII Accounts w/Mixed Use or No Meters**		**Incremental Water Savings**	**Annual Water Savings**	**Avoided Capital Costs**	**Avoided Variable Costs**	**Avoided Purchase Costs**	**Total Undiscounted Benefits**	**Total Discounted Benefits**	**Capital Costs**	**Financial Incentives**	**Operating Expenses**	**Total Undiscounted Costs**	**Total Discounted Costs**	**Net Present Value ($)**
	Budgets	***Surveys***	***Percent Surveyed[a]***	***Interventions***	**(ac-ft/yr)**	**(ac-ft/yr)**											
2011				0	0	0	0	0	0	0	0	0	0	0	0	0	0
2012				0	0	0	0	0	0	0	0	0	0	0	0	0	0
2013	19	10		0	15	15	0	3,734	0	3,734	3,122	0	0	9,270	9,270	7,750	-4,629
2014	19	10	1.8%	12	15	29	0	7,467	0	7,467	5,881	0	0	10,433	10,433	8,217	-2,336
2015	19	10	1.8%	12	15	44	0	11,201	0	11,201	8,311	0	0	10,433	10,433	7,741	570
2016	19	10	1.4%	9	15	59	0	14,935	0	14,935	10,439	0	0	10,142	10,142	7,089	3,350
2017	19	10	1.4%	9	15	59	0	14,935	0	14,935	9,834	0	0	10,142	10,142	6,679	3,156
2018	19	10	1.7%	11	15	59	0	14,935	0	14,935	9,265	0	0	10,336	10,336	6,412	2,853
2019	19	10	1.7%	11	15	59	0	14,935	0	14,935	8,728	0	0	10,336	10,336	6,040	2,687
2020	19	10	2.7%	17	15	59	0	14,935	0	14,935	8,222	0	0	11,014	11,014	6,064	2,158
2021	19	10	2.7%	17		44	0	11,201	0	11,201	5,809	0	0	11,014	11,014	5,713	97
2022	19	10	0.0%			29	0	7,467	0	7,467	3,649						3,649
2023						15	0	3,734	0	3,734	1,719						1,719
2024						0	0	0	0	0	0						0
2025																	
2026																	
2027																	
2028																	
2029																	
2030																	
Totals:	185	97	15%	97	118	470	0	119,476	0	119,476	74,979	0	0	93,120	93,120	61,705	13,274

[a]Percent surveyed from MOU, Exhibit 1,5.E(d)

Asssumptions

Value of conserved water ($/AF) =	254
Discount rate (real) =	6.15%
Acres / landscape accounts with dedicated irrigation meters =	0.50
Acres / CII accounts with mixed use meters =	0.1
Annual water use per landscape account with dedicated irrigation meter (ac-ft/acre) =	8.2
Annual water use per CII account with mixed use meter (ac-ft/acre) =	22.5
Water savings =	15%
Conservation measure unit cost ($/acre) =	$ 1,000
Number of landscape accounts dedicated irrigation meters in 2010 =	206
Number of CII accounts with mixed use or no meter as of 2010 =	646
Life of water savings from survey (years) =	4

<-total dedicated landscape meters

<-- total CII accounts

A&N Technical Services, 1999

Cost Effectiveness Summary	
Total Costs	$61,705
Total Benefits	$74,979
B/C ratio	1.2
Cost of Saved Water ($ per AF)	$198
Water Savings (AFY)	34

Nevada Irrigation District
Economic Analysis Worksheets
DMM 6. High-Efficiency Washing Machine Rebate Programs

				Benefits ($)					Costs ($)					
Calendar Year	Number of Units Accepting Rebates	Incremental Water Savings (ac-ft/yr)	Annual Water Savings (ac-ft/yr)	Avoided Capital Costs	Avoided Variable Costs	Avoided Purchase Costs	Total Undiscounted Benefits	Total Discounted Benefits	Capital Costs	Financial Incentives	Operating Expenses	Total Undiscounted Costs	Total Discounted Costs	Net Present Value ($)
2011	150	2.4	2	0	598	0	598	563	0	7,516	3,758	11,273	10,620	-10,057
2012	150	2.4	5	0	1,195	0	1,195	1,061	0	7,516	3,758	11,273	10,005	-8,944
2013	150	2.4	7	0	1,793	0	1,793	1,499	0	7,516	3,758	11,273	9,425	-7,926
2014	150	2.4	9	0	2,390	0	2,390	1,883	0	7,516	3,758	11,273	8,879	-6,996
2015	150	2.4	12	0	2,988	0	2,988	2,217	0	7,516	3,758	11,273	8,365	-6,148
2016	150	2.4	14	0	3,585	0	3,585	2,506	0	7,516	3,758	11,273	7,880	-5,374
2017	150	2.4	16	0	4,183	0	4,183	2,755	0	7,516	3,758	11,273	7,424	-4,669
2018	150	2.4	19	0	4,781	0	4,781	2,966	0	7,516	3,758	11,273	6,993	-4,028
2019	150	2.4	21	0	5,378	0	5,378	3,143	0	7,516	3,758	11,273	6,588	-3,445
2020	150	2.4	24	0	5,976	0	5,976	3,290	0	7,516	3,758	11,273	6,207	-2,917
2021	150	2.4	26	0	6,573	0	6,573	3,409	0	7,516	3,758	11,273	5,847	-2,438
2022	150	2.4	28	0	7,171	0	7,171	3,504	0	7,516	3,758	11,273	5,508	-2,004
2023	150	2.4	31	0	7,768	0	7,768	3,576	0	7,516	3,758	11,273	5,189	-1,613
2024	150	2.4	33	0	8,366	0	8,366	3,628	0	7,516	3,758	11,273	4,888	-1,261
2025	150	2.4	35	0	8,964	0	8,964	3,662	0	7,516	3,758	11,273	4,605	-944
2026	150	2.4	38	0	9,561	0	9,561	3,679	0	7,516	3,758	11,273	4,338	-659
2027	150	2.4	40	0	10,159	0	10,159	3,683	0	7,516	3,758	11,273	4,087	-404
2028	150	2.4	42	0	10,756	0	10,756	3,674	0	7,516	3,758	11,273	3,850	-177
2029	150	2.4	45	0	11,354	0	11,354	3,653	0	7,516	3,758	11,273	3,627	26
2030	150	2.4	47	0	11,951	0	11,951	3,623	0	7,516	3,758	11,273	3,417	206
Totals:	3,006	47	494	0	125,490	0	125,490	57,971	150,310	150,310	75,155	225,465	127,743	-69,772

Assumptions

Value of conserved water ($/AF) =	254
Discount rate (real) =	6.15%
Water savings (gpy/unit) =	5,100
Amount of rebate ($) =	50
Cost to administer rebate ($) =	25
Percent accepting rebates =	1.0%
Single family units in 2009 =	15,031
Life of water savings from HECW	Permanent

Professional judgetment that a user will not replace an efficienct machine with an inefficient one.

Cost Effectiveness Summary	
Total Costs	$127,743
Total Benefits	$57,971
B/C ratio	0.5
Cost of Saved Water ($	$456
Water Savings (AFY)	25

Nevada Irrigation District
Economic Analysis Worksheets
DMM 9. Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts

							Benefits ($)					Costs ($)					
Calendar Year	CII accounts surveyed				Incremental Savings (Surveys) (ac-ft/yr)	Annual Savings (Total) (ac-ft/yr)	Avoided Capital Costs	Avoided Variable Costs	Avoided Purchase Costs	Total Undiscounted Benefits	Total Discounted Benefits	Capital Costs	Financial Incentives	Operating Expenses	Total Undiscounted Costs	Total Discounted Costs	Net Present Value ($)
	Percent Surveyed[a]	Commercial Interventions	Industrial Interventions	Institutional Interventions													
2011	1.0%	3.7	0.5	2.2	1.8	2	0	446	0	446	420	0	0	5,584	5,584	5,260	-4,840
2012	1.0%	3.7	0.5	2.2	1.8	4	0	892	0	892	792	0	0	5,584	5,584	4,956	-4,164
2013	1.0%	3.7	0.5	2.2	1.8	5	0	1,338	0	1,338	1,119	0	0	5,584	5,584	4,668	-3,550
2014	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,405	0	0	5,584	5,584	4,398	-2,993
2015	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,324	0	0	5,584	5,584	4,143	-2,819
2016	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,247	0	0	5,584	5,584	3,903	-2,656
2017	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,175	0	0	5,584	5,584	3,677	-2,502
2018	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,107	0	0	5,584	5,584	3,464	-2,357
2019	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	1,043	0	0	5,584	5,584	3,263	-2,220
2020	1.0%	3.7	0.5	2.2	1.8	7	0	1,784	0	1,784	982	0	0	5,584	5,584	3,074	-2,092
2021					0.0	5	0	1,338	0	1,338	694	0	0	0	0	0	694
2022						4	0	892	0	892	436	0	0	0	0	0	436
2023						0	0	0	0	0	0	0	0	0	0	0	0
2024						0	0	0	0	0	0						0
2025						0	0	0	0	0	0						0
2026						0	0	0	0	0	0						0
2027						0	0	0	0	0	0						0
2028						0	0	0	0	0	0						0
2029						0	0	0	0	0	0						0
2030						0	0	0	0	0	0						0
Totals:	10.0%	37	5	22	18	68	0	17,397	0	17,397	11,744	0	0	55,838	55,838	40,807	-29,062

Assumptions		
Value of conserved water ($/AF) =	254	
Discount rate (real) =	6.15%	
Analyst survey - Annual water savings =	12%	Analyst survey for commercial and institutional accounts. BMP Cost and Savings Study (CUWCC, 2005)
Commercial and institutional 2009 water use, AF =	1,346	
Analyst survey - Conservation measure unit cost ($) =	800	
Consultant survey - Annual water savings =	15%	Consultant survey for industrial accounts. BMP Cost and Savings Study (CUWCC, 2005)
Industrial 2009 water use, AF =	94	
Consultant survey - Conservation measure unit cost ($) =	1,800	
Number of commercial accounts in 2009 =	369	
Number of Industrial accounts in 2009 =	47	
Number of Institutional accounts in 2009 =	224	
Percent units surveyed =	10%	
Life of water savings (years) =	4	A&N Technical Services, 1999

Cost Effectiveness Summary	
Total Costs	$40,807
Total Benefits	$11,744
B/C ratio	0.3
Cost of Saved Water ($ per	$815
Water Savings (AFY)	7

Nevada Irrigation District
Economic Analysis Worksheets
DMM 14. Residential ULFT Replacement Programs (3 pages)

	Determination of Water Conservation Goal: Single-Family Units											
Calendar Year	**Single-Family Units**	**SF Units Naturally Retrofitted**	**SF Toilets Naturally Retrofitted**	**Water Savings from Natural Replacement SF (ac-ft/yr)**	**Single-Family Units**	**SF Units Naturally Retrofitted**	**Single-Family Turnover**	**Combined SF Homes Retrofitted**	**Combined SF Toilets Retrofitted**	**Water Savings from Natural Replacement and Turnover SF (ac-ft/yr)**	**Water Savings from Turnover SF (ac-ft/yr)**	**Calendar Year**
2009	7,556				7,556							
2010	7,254	302	604	15	6,819	302	435	737	1,475	36	21	2010
2011	6,964	290	580	14	6,153	273	393	665	1,331	32	18	2011
2012	6,685	279	557	13	5,553	246	354	601	1,201	29	16	2012
2013	6,418	267	535	13	5,011	222	320	542	1,084	26	13	2013
2014	6,161	257	513	12	4,522	200	289	489	978	24	11	2014
2015	5,915	246	493	12	4,080	181	260	441	883	21	9	2015
2016	5,678	237	473	11	3,682	163	235	398	796	19	8	2016
2017	5,451	227	454	11	3,323	147	212	359	719	17	6	2017
2018	5,233	218	436	11	2,998	133	191	324	649	16	5	2018
2019	5,023	209	419	10	2,706	120	173	293	585	14	4	2019
2020	4,823	201	402	10	2,442	108	156	264	528	13	3	2020
2021	4,630	193	386	9	2,203	98	141	238	477	12	2	2021
2022	4,444	185	370	9	1,988	88	127	215	430	10	1	2022
2023	4,267	178	356	9	1,794	80	115	194	388	9	1	2023
2024	4,096	171	341	8	1,619	72	103	175	350	8	0	2024
2025	3,932	164	328	8	1,461	65	93	158	316	8	0	2025
2026	3,775	157	315	8	1,318	58	84	143	285	7	0	2026
2027	3,624	151	302	7	1,190	53	76	129	257	6	0	2027
2028	3,479	145	290	7	1,074	48	69	116	232	6	0	2028
2029	3,340	139	278	7	969	43	62	105	210	5	0	2029
Totals:												

Assumptions		Notes
Value of conserved water ($/AF) =	254	
Discount rate (real) =	6.15%	
Natural toilet replacement rate =	0.040	
Annual single-family housing turnover rate =	5.8%	Nevada County re-sale rate, source CUWCC website 12/2010
Annual multi-family housing turnover rate =	7.9%	Nevada County re-sale rate, source CUWCC website 12/2010
Water savings due to toilet replacement at SF homes (gal/dwelling unit/day) =	43.1	
Water savings due to toilet replacement at MF homes (gal/dwelling unit/day) =	46.3	
Number of toilets per SF home =	2.0	estimated
Number of toilets per MF home =	1.5	estimated
Cost of conservation measure ($) =	100	
1991 single family units =	15,755	based on 2000 census for year structure built data times the ratio of SF DUs to total DUs from 2000 census.
1991 multi-family units =	4,405	
Life of water savings (years) =	Permanent	*Professional judgetment that a user will not replace an efficienct toilet with an inefficient one.*

[a]Incremental Water Savings is water savings from replaced toilets during corresponding year only.

[b]Annual Water Savings is water savings from all replaced toilets through corresponding year.

[c]Cummulative Water Savings is running total of water saved through corresponding year. "Cummulative Water Savings" must match "Cummulative Water Savings from Turnover" within 10% each reporting period through 2008.

Nevada Irrigation District
Economic Analysis Worksheets
DMM 14. Residential ULFT Replacement Programs (3 pages)

Determination of Water Conservation Goal: Multi-Family Units										
Multi-Family Units	MF Units Naturally Retrofitted	MF Toilets Naturally Retrofitted	Water Savings from Natural Replacement MF (ac-ft/yr)	Multi-Family Units	MF Units Naturally Retrofitted	Multi-Family Turnover	Combined MF Homes Retrofitted	Combined MF Toilets Retrofitted	Water Savings from Natural Replacement and Turnover MF (ac-ft/yr)	Water Savings from Turnover MF (ac-ft/yr)
2,113				2,113						
2,028	85	127	4.4	1,862	85	166	251	376	13	9
1,947	81	122	4.2	1,641	74	147	221	331	11	7
1,869	78	117	4.0	1,446	66	129	195	292	10	6
1,794	75	112	3.9	1,274	58	114	172	257	9	5
1,722	72	108	3.7	1,123	51	100	151	227	8	4
1,654	69	103	3.6	990	45	88	133	200	7	3
1,587	66	99	3.4	872	40	78	117	176	6	3
1,524	63	95	3.3	769	35	69	104	155	5	2
1,463	61	91	3.2	678	31	61	91	137	5	2
1,404	59	88	3.0	597	27	53	80	121	4	1
1,348	56	84	2.9	526	24	47	71	106	4	1
1,294	54	81	2.8	464	21	41	62	94	3	0
1,243	52	78	2.7	409	19	36	55	83	3	0
1,193	50	75	2.6	360	16	32	49	73	3	0
1,145	48	72	2.5	317	14	28	43	64	2	0
1,099	46	69	2.4	280	13	25	38	57	2	0
1,055	44	66	2.3	247	11	22	33	50	2	0
1,013	42	63	2.2	217	10	19	29	44	2	0
973	41	61	2.1	191	9	17	26	39	1	0
934	39	58	2.0	169	8	15	23	34	1	0

Nevada Irrigation District
Economic Analysis Worksheets
DMM 14. Residential ULFT Replacement Programs (3 pages)

Conservation Goal - Combined			Water Savings from ULFT Replacement Program					
Annual Water Savings from Turnover (ac-ft/yr)	Cumulative Water Savings from Turnover (ac-ft/yr)	Calendar Year	No. of SF Toilets Required to be Replaced	Incremental[a] Water Savings SF (ac-ft/yr)	No. of MF Toilets Required to be Replaced	Incremental[a] Water Savings MF (ac-ft/yr)	Annual[b] Water Savings (ac-ft/yr)	Cummulative[c] Water Savings (ac-ft/yr)
30	30	2010						
55	85	2011	650	16	200	7	23	23
77	161	2012	650	16	200	7	45	68
95	256	2013	640	15	200	7	68	135
110	366	2014	625	15	200	7	90	225
123	489	2015	625	15	200	7	112	337
133	623	2016	625	15	200	7	134	470
142	765	2017	625	15	200	7	156	626
149	913	2018	625	15	200	7	178	803
154	1,067	2019	625	15	200	7	200	1,003
158	1,225	2020	625	15	200	7	222	1,225
160	1,385	2021					222	1,446
162	1,547	2022					222	1,668
163	1,709	2023					222	1,889
163	1,872	2024					222	2,111
163	2,035	2025					222	2,332
163	2,198	2026					222	2,554
163	2,361	2027					222	2,776
163	2,524	2028					222	2,997
163	2,686	2029					222	3,219
			5,665		1,800		3,219	

Note: The number of SF and MF toilets required to be replaced is based on matching cummulative water savings from toilets required to be replaced to the cummulative water savings that would occur from turnover.

Nevada Irrigation District
Economic Analysis Worksheets
DMM 14. Residential ULFT Replacement Programs (3 pages)

Benefits ($)					Costs ($)					
Avoided Capital Costs	Avoided Variable Costs	Avoided Purchase Costs	Total Undiscounted Benefits	Total Discounted Benefits	Capital Costs	Financial Incentives	Operating Expenses	Total Undiscounted Costs	Total Discounted Costs	Net Present Value ($)
	5,742		5,742	5,409			85,000	85,000	80,075	-74,666
	11,484	0	11,484	10,192	0	0	85,000	85,000	75,436	-65,244
0	17,165	0	17,165	14,351	0	0	84,000	84,000	70,229	-55,879
0	22,753	0	22,753	17,921	0	0	82,500	82,500	64,979	-47,058
0	28,342	0	28,342	21,030	0	0	82,500	82,500	61,214	-40,185
0	33,931	0	33,931	23,718	0	0	82,500	82,500	57,668	-33,950
0	39,519	0	39,519	26,024	0	0	82,500	82,500	54,327	-28,303
0	45,108	0	45,108	27,983	0	0	82,500	82,500	51,179	-23,196
0	50,697	0	50,697	29,628	0	0	82,500	82,500	48,214	-18,586
0	56,286	0	56,286	30,988	0	0	82,500	82,500	45,421	-14,432
0	56,286	0	56,286	29,193	0	0	0	0	0	29,193
0	56,286	0	56,286	27,502	0	0	0	0	0	27,502
0	56,286	0	56,286	25,908	0	0	0	0	0	25,908
0	56,286	0	56,286	24,407	0	0	0	0	0	24,407
0	56,286	0	56,286	22,993	0	0	0	0	0	22,993
0	56,286	0	56,286	21,661	0	0	0	0	0	21,661
0	56,286	0	56,286	20,406	0	0	0	0	0	20,406
0	56,286	0	56,286	19,224	0	0	0	0	0	19,224
0	56,286	0	56,286	18,110	0	0	0	0	0	18,110
0	817,597	0	817,597	416,647	0	0	831,500	831,500	608,743	-192,096

Cost Effectiveness Summary	
Total Costs	$608,743
Total Benefits	$416,647
B/C ratio	0.7
Cost of Saved Water ($ per	$258
Water Savings (AFY)	1,519

Appendix I:
NID Rate Structures

APPENDIX A

2010

INDEX TO SCHEDULES

PAGE NO	SCHEDULE NO	DESCRIPTION
1 & 2	-	Index to schedules.
3 & 4	4-A	Treated water system, standby charges and connection fees.
5	4-B	Miscellaneous meter service charges.
6	4-E	Water rates covering treated water meeting State Health standards, utilized for noncommercial purposes.
7	4-F	Water rates covering treated water meeting State Health standards, utilized for commercial purposes.
8	4-G	Water rates covering Auburn Greens residential condominium units.
9	4-H	Tank or temporary construction water service.
10	4-I	Off-rate charges for Treated Water Systems.
11	5-B	Raw water service outlet, installation charges.
12	5-C	Raw water service outlet, periodic charges.
13	5-D	Water rates for raw water utilized inside District on an annual basis.
14	5-F	Water rates for raw water utilized in Smartville on an annual basis through a metered connection.
15	5-G	Water rates for seasonal raw water utilized inside District.
16	5-H	Water rates for surplus seasonal raw water utilized outside District.
17	5-I	Water rates for raw water utilized on a demand basis.
17	5-J	Water rates for raw water utilized during fall season.
17	5-K	Water rates for intermittent flow raw water.
18	5-L	Energy pumping cost for raw water served from Magnolia #3 Pump System.
18	5-M	Energy pumping cost for raw water served from Edgewood Pump System.
19	5-R	Municipal Water Rates, inside & outside district.

INDEX TO SCHEDULES (continued)

PAGE NO	SCHEDULE NO	DESCRIPTION
20	6-A	Miscellaneous charges, rendering and payments of bills.
20	7-A	Special service call.
21	8-A	Charges related to public fire hydrants on treated water systems.
22	8-B	Private fire services on treated water systems, installation charges.
23	8-C	Private fire service, with detector check, on treated water systems, bimonthly charges.
23	8-D	Private fire service, with double detector check on treated water systems, bimonthly charges.
24 & 25	9-A	Backflow prevention requirements.
26	9-B	Backflow prevention devices, installation charges.
27	9-C	Backflow prevention devices, bimonthly charges for double check valve assembly.
27	9-D	Backflow prevention devices, bimonthly charges for reduced pressure principle device.
28	10-A	District constructed mainline extensions, installation charges.
29	12-A	Penalties for unauthorized taking of water.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-A
EFFECTIVE JANUARY 1, 2010

TREATED WATER SYSTEM
STANDBY CHARGES AND CONNECTION FEES

STANDBY CHARGES - $6.00 per month for each parcel.

CONNECTION FEES 1**/** Single family residence, commercial, industrial, and municipal.

DROP-IN TO AN EXISTING METER BOX AND WATER SERVICE LATERAL

			---------- Capacity Charge ----------	
Meter Size	Max Rated Capacity	Installation Charge	Parcels in District Prior to 3/1/07	Parcels Annexed to District after 3/1/07
5/8”	20 gpm	$501.00	$6,828.47	$10,398.42
3/4”	30 gpm	530.00	9,833.12	14,974.20
1”	50 gpm	565.00	17,480.74	26,619.49
1 ½”	100 gpm	771.00	39,332.47	59,895.73
2”	160 gpm	924.00	69,922.96	106,479.03
Over 2”			DETERMINED BY DISTRICT	

INSTALLATION REQUIRING TAP TO WATER MAIN

			---------- Capacity Charge ----------	
Meter Size	Max Rated Capacity	Installation Charge	Parcels in District Prior to 3/1/07	Parcels Annexed to District after 3/1/07
5/8”	20 gpm	$1,341.00	$6,828.47	$10,398.42
3/4”	30 gpm	1,372.00	9,833.12	14,974.20
1”	50 gpm	1,413.00	17,480.74	26,619.49
1 ½”	100 gpm	2,444.00	39,332.47	59,895.73
2”	160 gpm	3,475.00	69,922.96	106,479.03
Over 2”			DETERMINED BY DISTRICT	

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-A
EFFECTIVE JANUARY 1, 2010

TREATED WATER SYSTEM CONNECTION FEES – CONTINUED

MULTI-UNIT 2/ RESIDENTIAL DEVELOPMENT for which a master meter is required.

Meter Size	Connection Fees
5/8”	$ 501.00 + unit charge/unit
3/4”	530.00 + unit charge/unit
1”	565.00 + unit charge/unit
1 ½”	771.00 + unit charge/unit
2”	924.00 + unit charge/unit
over 2	Actual cost of installation plus unit charge/unit

Type Development	Unit	Unit charge
Mobile Home Park	Pad	$ 2,880.00
Apartments	Dwelling	4,034.00
Senior Apartments 3/	Dwelling	1,716.00
Motels, Hotels	Dwelling	1,886.00
Campgrounds	Pad	3,186.00
Hospitals	Licensed Bed	3,090.00
Convalescent Hospitals & Resthomes:		
Skilled nursing	Licensed Bed	1,826.00
Board and care	Licensed Bed	983.00

1/ Varies with type of development
2/ Multi unit is defined as three or more.
3/ Proof must be provided that apartments are being developed under county ordinances relating to senior apartments or senior independent living centers.

ABANDONMENT OF AN EXISTING SERVICE

Customer requesting new meter installation at a location other than existing box and curb stop will be charged an abandonment fee of $320.00. Existing box and curb stop will be removed and the area backfilled. Customer will be responsible for re-vegetation or landscaping.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-B
EFFECTIVE JANUARY 1, 2009

MISCELLANEOUS METER SERVICE CHARGES

TESTING

METER SIZE	DEPOSIT
5/8" TO 1"	$15.00
1 ½" TO 2"	30.00
OVER 2"	DETERMINED BY DISTRICT

UPSIZING/DOWNSIZING

An extra $40.00 will be charged to cover labor costs as discussed in Sections 4.07.01 and 4.07.02.

RELOCATING

Meter relocations meeting the conditions set forth in Section 4.07.03 (a) (not requiring a new tap to the water main nor other extra ordinary effort) will be accomplished at the rate indicated under "Drop-In to an Existing Meter Box" schedule.
Meter relocations meeting the conditions set forth in Section 4.07.03 (b) (requiring a new tap on the water main) will be accomplished at the rate indicated under "Installation Requiring Tap to Water Main" schedule.
Customer requesting meter relocation will be charged an abandonment fee of $320.00. The existing box and curb stop will be removed and the area backfilled. Customer will be responsible for re-vegetation or landscaping.

SCHEDULE OF RATES AND CHARGES ***SCHEDULE 4-EI***
BY NEVADA IRRIGATION DISTRICT EFFECTIVE JANUARY 1, 2010

NONCOMMERCIAL, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	33.16	46.90	73.60	135.08	212.00	389.30	614.82	1,229.88	2,140.14

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.22 per hcf
Over	10 hcf per billing period	1.57 per hcf

SCHEDULE OF RATES AND CHARGES SCHEDULE 4-EO
BY NEVADA IRRIGATION DISTRICT EFFECTIVE JANUARY 1, 2010

NONCOMMERCIAL, OUTSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	41.45	58.63	92.00	168.85	265.00	486.63	768.53	1,537.35	2,675.18

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.53 per hcf
Over	10 hcf per billing period	1.96 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-FI
EFFECTIVE JANUARY 1, 2010

COMMERCIAL, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate	37.28	52.74	82.72	151.74	238.12	437.24	690.28	1,380.84	2,404.08

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.36 per hcf
Over	10 hcf per billing period	1.76 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-FO
EFFECTIVE JANUARY 1, 2010

COMMERCIAL, OUTSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	46.60	65.93	103.40	189.68	297.65	546.55	862.85	1,726.05	3,005.10

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.70 per hcf
Over	10 hcf per billing period	2.20 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-G
EFFECTIVE JANUARY 1, 2010

RESIDENTIAL CONDOMINIUM, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection to existing Auburn Greens residential condominium units.

MINIMUM BI-MONTHLY RATE: $33.16

USAGE RATES: ** ($ per hundred cubic feet (hcf) per billing period)

First	* 4 hcf per billing period	.305 per hcf
Over	4 hcf per billing period	.392 per hcf

*1 hcf per unit ** 1/4 of non-commercial usage rate

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-H
EFFECTIVE JANUARY 1, 2005

TANK OR TEMPORARY CONSTRUCTION WATER SERVICE FROM AN OPEN CANAL AND/OR FIRE HYDRANT

GENERAL

1) The application charge of $100.00 is nonrefundable.
2) The minimum monthly charge shall be $85.00.
3) Applicants who do not turn in tank tally sheets and/or meter readings by the 10th of each month, for the previous month's usage, will be billed at two (2) times the minimum monthly charge or the estimated usage. Billing under this schedule shall not create a credit for future delivery of water.
4) This class of water is not to be used for domestic purposes except in an emergency situation as determined by Nevada Irrigation District.

TREATED WATER

1) Application will automatically be terminated at end of calendar year.
2) A deposit of $850.00 will be collected for the meter and wrench assembly and is refundable after the water used is paid in full, the hydrant has been inspected to determine that no damage has occurred, the meter and fire hydrant wrench have been returned undamaged and all damages to District facilities have been paid in full. Any default on the conditions of the application will result in forfeiture of the deposit.
3) Treated water will be billed at 2.5 times the rate shown in Schedule 4-EI.
4) Meter readings shall be turned into the District office at the first of each month.
5) The minimum monthly charge or the monthly billing for water usage, whichever is greater, will be levied until the meter is returned.
6) Applicant will be responsible for backflow prevention as shown in Schedule 9-A.

RAW WATER

1) Application will terminate at the end of each year unless requested by customer by Dec 10.
2) Raw water will be billed at twice the rate shown in Schedule 5-F.
3) Tank tally sheets shall be turned into the District office at the first of each month.
4) The minimum monthly charge or the monthly billing for water usage, whichever is greater, will be levied until District is advised in writing to close out the account.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-I
EFFECTIVE JANUARY 1, 2010

BI-MONTHLY OFF RATE CHARGES, TREATED WATER SYSTEM

RATE SCH	MTR SIZE	*OFF RATE	RATE SCH	MTR SIZE	OFF RATE
4-EI 1	5/8”	$ 24.87	4-FI 1	5/8”	$ 27.96
4-EI 2	3/4”	35.17	4-FI 2	3/4”	39.55
4-EI 3	1”	55.20	4-FI 3	1”	62.04
4-EI 4	1 ½”	101.31	4-FI 4	1 ½”	113.80
4-EI 5	2”	159.00	4-FI 5	2”	178.59
4-EI 6	3”	291.97	4-FI 6	3”	327.93
4-EI 7	4”	461.11	4-FI 7	4”	517.71
4-EI 8	6”	922.41	4-FI 8	6”	1,035.63
4-EI 9	8”	1,605.10	4-FI 9	8”	1,803.06
4-EO 1	5/8”	31.09	4-FO1	5/8”	34.95
4-EO 2	3/4”	43.97	4-FO2	3/4”	49.45
4-EO 3	1”	69.00	4-FO3	1”	77.55
4-EO 4	1 ½”	126.63	4-FO4	1 ½”	142.26
4-EO 5	2”	198.75	4-FO5	2”	223.24
4-EO 6	3”	364.97	4-FO6	3”	409.91
4-EO 7	4”	576.40	4-FO7	4”	647.14
4-EO 8	6”	1,153.01	4-FO8	6”	1,294.54
4-EO 9	8”	2,006.38	4-FO9	8”	2,253.82
4-G	1”	24.87*	5-FO	all sizes	2.79

*plus usage

Appendix J:
NID Water Conservation Educational Materials

FREE Irrigation Seminars

Sponsored by Nevada Irrigation District

(Nevada County)

Saturday

April 23rd

8:30am– Noon

At the
NID Annex Building
1036 W. Main St
Grass Valley, CA 95945

****
Must RSVP
****

(Placer County)

Saturday

April 30th

8:30am—Noon

At the
Bachman Ranch
3680 Garden Bar Rd
Lincoln, CA 95648
(bring a chair)

RSVP
to NID
530-273-6185
Ext 232
osterholm@nidwater.com
Space is Limited

These seminars are geared toward the ranchette type landowner and irrigation for agricultural purposes
Call Keith Crabtree with any questions at 530-269-1217

Learn the following:

What is a miners inch of water?

How much water do you actually need?

Learn how to design an effective irrigation system

Learn how to efficiently schedule your irrigation, when and how much water to apply

Learn about checking for soil moisture

How to check the pressure on your system

How to make your irrigation water apply uniformly

Ask questions of your NID representative

NID NEWS
NEVADA IRRIGATION DISTRICT • 1036 W. MAIN STREET • GRASS VALLEY, CALIF. 95945
Telephone: (530) 273-6185 • Toll Free: (800) 222-4102 • Main Office Fax: (530) 477-2646
www.nidwater.com

March 31, 2011

Contact: Lesa Osterholm
(530) 273-6185
Or: Dave Carter
(530) 265-NEWS

FOR IMMEDIATE RELEASE:

NID Hosts Two Seminars on Irrigation Management

GRASS VALLEY - The Nevada Irrigation District will offer two free seminars this spring for irrigation water customers who want to add efficiency to irrigation system operation.

Irrigation water users will learn how to plan, design and evaluate irrigation systems. Information on plant use, soil moisture and scheduling will be discussed. The classes are directed toward irrigated pasture and small farms and ranches.

The seminars will be offered in both Nevada and Placer counties.

Nevada County. The first seminar will be held on Saturday, Apr. 23, in the annex building at the NID Business Center, 1036 West Main Street, in Grass Valley. Hours are 8:30-noon.

Placer County. This seminar will be held Saturday, Apr. 30, at the Bachman Ranch, 3680 Garden Bar Road, in Lincoln (bring a lawn chair). Hours are 8:30-noon.

Each seminar is limited to the first 50 people who sign up. To register, call NID at (530) 273-6185, ext. 232.

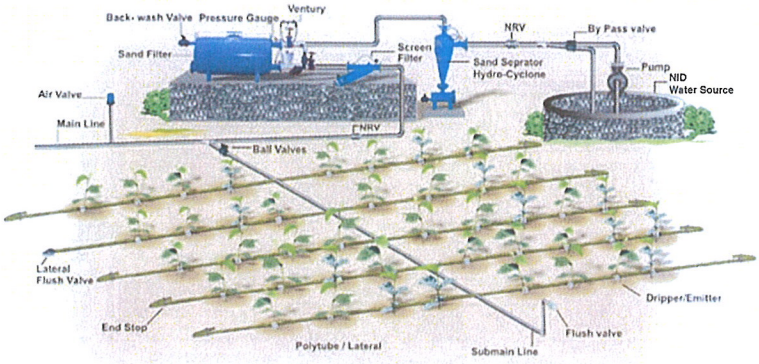
-30-

Save Water, Save Money --- Save Water, Save Money --- Save Water, Save Money

NEVADA IRRIGATION DISTRICT

IS PROUD TO PRESENT ...

A NEW ALL DAY CLASS ON AG IRRIGATION



- How much water do I need for irrigated Pastures, Orchards, and Vineyards?
- What is a Miner's Inch? Why is it important? If 1 inch is good, is 2 inches better?
- How many acres of Pasture, Orchard, and Vineyard will a Miner's Inch irrigate?
- How do I evaluate my own irrigation system for uniformity and application rates?
- When should I irrigate and how much?
- Are there tools for measuring soil moisture levels?
- Does a pond or holding tank make sense in an irrigation design?
- Why does water pressure matter so much?

Key Benefits to this class:

Save on power costs	Weed control
Higher crop yields	Water conservation
Beautify your property	Protect native Oaks
Put more ground into production	Add value to property

UPCOMING DATES: MAY 1, 2010 - SATURDAY, PLACER COUNTY
MAY 8, 2010 - SATURDAY, NEVADA COUNTY

Please contact NID at (530) 273-6185 ext. 284 or (800) 222-4102 to register for class.

For additional information, please call Keith Crabtree at (530) 269-1217.

****Registration is limited to 30 participants per class****

NID NRCS Green Acres 101 NEVADA COUNTY RESOURCE PLACER COUNTY RESOURCE cdfa CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE UCCE University of California Cooperative Extension

NID

NEVADA IRRIGATION DISTRICT

Cost-Share Assistance for Water Conservation

The USDA Natural Resource Conservation Service (NRCS) has a cost-share assistance program available for agricultural producers/growers with a minimum of $1,000 annual income from agricultural sales. The free technical assistance, at your request, consists of a site visit, soil maps and suggestions for water efficiency improvements. Typical cost-share practices are converting current irrigation system to a more efficient system, ditch lining to reduce the amount of water loss, irrigation tail water return systems to capture any run off and recycle the water to name a few.

The cost-share program is called Environmental Quality Incentive Program (EQIP) and landowners must apply for this program through the local NRCS office in Grass Valley or Auburn. The cost-share is typically 50%-75%. Their office number is (530) 272-3417 in Grass Valley and (530)885-6505 in Auburn. NRCS is a non-regulatory agency. Please contact them if you would like more assistance or information.

About This Report....

Last year, as in years past, your tap water met all EPA and State drinking water health standards. The Nevada Irrigation District vigilantly safeguards its water supplies and once again we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to state standards. We are committed to providing you with information because informed customers are our best allies. For additional water quality information, customers may contact NID Treated Water Supt. Chip Close at the district office. In Nevada County, call (530) 273-6185. Placer County customers may dial toll-free, 1-800-222-4102.

Water Quality Testing

Effective operation and maintenance of the drinking water distribution system assures that quality drinking water travels through the system to your meter. The residual chlorine in the water after treatment prevents re-growth of organisms during storage and transmission in the distribution system. Annual flushing of water mains and rotation of stored supplies also keeps water fresh and limits growth of organisms. The district conducts weekly water quality testing in the distribution system to ensure that drinking water continues to meet state and federal requirements.

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

ON THE COVER

Team NID

The NID water treatment staff is pictured at the Lake of the Pines Water Treatment Plant pump station. Front, from left, Will Barker, Coby McCoy, Shad Chittock, and, standing, Water Treatment Supt. Chip Close, Mark Kangas, Steve Barney, Ryan Love and Fred Waymire. Asst. Supt. Brett Brady was unavailable for the photo.

NEVADA IRRIGATION DISTRICT
1036 West Main Street
Grass Valley, CA 95945
(530) 273-6185 • (800) 222-4102

NID
NEVADA IRRIGATION DISTRICT

www.nidwater.com

May, 2010

NID Pledges Water Quality, Seeks Public Participation

Our Board of Directors encourages public participation on issues concerning our water systems. District policy is set by the elected Board of Directors. Board meetings are held at 9 a.m. on the second and fourth Wednesdays of each month at the NID Business Center in Grass Valley. Check NID's Web site *(www.nidwater.com)* or call the Customer Service office at (530) 273-6185 to confirm meeting times.

Water Quality Report

For 2009

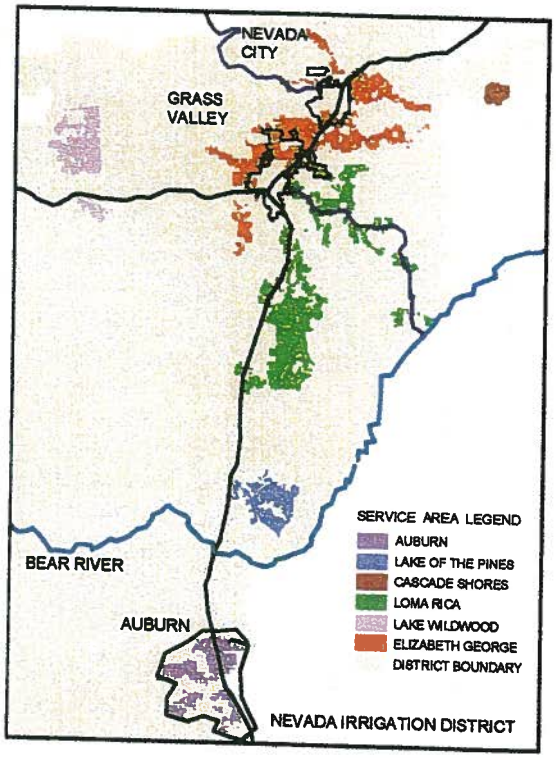
(Reported in 2010)

Water For Our Community

Since 1921

NID
NEVADA IRRIGATION DISTRICT

NID Treated Water Service Areas



This map shows the approximate service areas for each of the six NID treated water systems that are included in this report

NID Water Treatment Plants

E. George *(Banner Mtn., NC, GV)*

Lake of the Pines *(w/surrounding areas)*

Lake Wildwood *(including Penn Valley)*

Loma Rica *(Brunswick, Alta Sierra)*

North Auburn *(Highway 49 corridor)*

Cascade Shores *(at Scotts Flat Reservoir)*

Smartville *(reported separately)*

NEVADA IRRIGATION DISTRICT
Water Quality Report for 2009 *(Published in May 2010)*

The tables presented here list all the drinking water contaminants that were detected during the 2009 calendar year. The presence of these contaminants in water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done from January 1 through December 31, 2009. The California Department of Public Health (CDPH) allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some data, though representative of water quality, is more than one year old. Your water quality report begins below and continues on the reverse.

Primary Drinking Water Standards

TURBIDITY	UNITS	MCL	PHG (MCLG)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Average yearly value	NTU	1.0	none	0.04	0.02	0.03	0.03	0.03	0.03
(Range)	NTU		none	(0.02-0.22)	(0.02-0.12)	(0.02-0.10)	(0.02-0.29)	(0.02-0.16)	(0.02-0.20)
Percentage of samples <0.3 NTU	%	95%	none	100%	100%	100%	100%	100%	100%

TURBIDITY has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

MICROBIOLOGICAL CONTAMINANTS	UNITS	MCL	PHG (MCLG)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Total Coliform Bacteria	Two Positive Samples		none	0	0	0	0	0	0
Fecal Coliform	1 of 2 Positive		none	0	0	0	0	0	0

COLIFORMS are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Fecal coliforms are bacteria whose presence indicates that water may be contaminated with human or animal wastes. We test for fecal coliform to monitor effectiveness of the disinfection process.

Two-Year Cryptosporidium Study: Cryptosporidium is a microbial pathogen found in most surface waters throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. NID is performing a two-year study on Cryptosporidium. Our monitoring indicates the presence of these organisms in our source water (prior to treatment) at the levels listed below. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Cryptosporidium may cause an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks; however, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

Cryptosporidium	No. of cysts per liter	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
	Average	0.03	0.04	0.05	0.04	0.01	ND
	Range	(ND-0.63)	(ND-0.36)	(ND-0.36)	(ND-0.28)	(ND-0.09)	ND

Source Water Assessment

In February 2007, NID, along with the Placer County Water Agency and Starr Consulting, updated a Source Water Susceptibility Assessment. This assessment describes the susceptibility and types of constituents that may come into contact with your drinking water source. The report confirmed that district watersheds have very low levels of contaminants. To a limited extent, those contaminants found are usually associated with wildlife and human recreational activity. Leading sources of potential contamination include highways, roadways and railroads near rivers and raw water canals, septic tanks, unidentified utility pipelines crossing canals, recreation at upstream reservoirs, historic and active mining operations, and utility operations.

A copy of the complete assessment is available for review at NID's office, or through the California Dept. of Public Health (CDPH), Division of Drinking Water, 415 Knollcrest Drive, Suite 110, Redding, CA.

The District encourages everyone to take an active role in supporting pollution prevention programs in their communities and to learn more about protecting their local sources of water.

Sierra Snowpack is the Source of Your Water

NID treated and distributed more than 3.8 billion gallons of surface water last year. This water originates in the Sierra Nevada snowpack on five mountain watersheds. These include the Middle and South Yuba rivers, the Bear River, north fork of the North Fork American River and Deer Creek.

Most of this water is routed through Lake Spaulding and transported to NID's water treatment plants via canal systems operated by NID and the Pacific Gas and Electric Company

Regulated Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors

	UNITS	MCL	HRAA (Range)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Total Trihalomethanes	ppb	80		40.8 (37-45)	53.5 (38-67)	52.3 (38-58)	54.0 (42-70)	38.3 (31-44)	39.5 (24-52)
Haloacetic Acids	ppb	60		23.0 (21-24)	23.0 (20-25)	36.3 (21-70)	25.3 (20-32)	27.3 (17-30)	30.0 (28-30)
Total Organic Carbon	ppm	NA	Average (range)	0.97 (0.91-1.0)	1.06 (0.94-1.2)	1.09 (0.84-1.5)	0.89 (0.79-1.0)	0.96 (0.77-1.2)	0.90 (0.9-1.1)
Chlorine	ppm	MRDL 4		0.69 (0.38-0.9)	0.68 (0.34-1.1)	0.77 (0.4-1.4)	0.67 (0.34-1.2)	0.71 (0.3-1.0)	0.62 (0.3-1.1)

TRIHALOMETHANES and Haloacetic Acids are the byproducts of drinking water chlorination. Total Organic Carbon comes from various natural and manmade sources and is a precursor to disinfection byproducts. MCL's for Trihalomethanes and Haloacetic Acids are derived from a running annual average (HRAA) for quarterly sampling, while Total Organic Carbon is sampled on a quarterly basis. Chlorine is a drinking water disinfectant.

Copper and Lead

	UNITS	MCL	PHG (MCLG)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Copper	ppm	AL=1.3	0.17	0.39	0.20	0.80	0.03	0.23	0.63
Lead	ppb	AL=15	2	ND	5	2.5	2.5	2.5	2.5

COPPER and LEAD occur from the corrosion of household plumbing systems and the erosion of natural deposits. The levels of lead and copper in this report are the 90th percentile levels. Lead and copper are sampled every three years. In 2009, thirty households were sampled in both the E. George and Loma Rica systems. In 2008, twenty households were sampled in the Lake of the Pines, Lake Wildwood and North Auburn systems. In 2007, ten households were sampled in the Cascade Shores system.

NOTE ON LEAD: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. NID is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing you tap from 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline at (800) 426-4791 or *www.epa.gov/safewater/lead.*

www.nidwater.com

NID
Since 1921

Substances Expected to be in Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Substances Can Enter Source Water Supplies

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants,** such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides,** that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants,** including synthetic and volatile organic chemicals, that are

(Continued, next column)

Additional Water Quality Information for NID Customers

Reporting of test results for secondary drinking water standards is not required by state and federal regulations. NID is reporting these results as an additional customer service. Taste, color, odor and other aesthetic standards are included in these tables.

Secondary Drinking Water Standards - Aesthetic Standards

	UNITS	MCL	PHG (MCLG)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Total Dissolved Solids	ppm	1000	none	38	42	46	29	38	40
pH	ppm	6.5-8.5	none	7.2	7.5	7.6	7.4	7.3	7.1
Chloride	ppm	500	none	2.2	3.1	3.8	1.9	2.5	2.0
Sulfate	ppm	500	none	10	9.4	9.8	6.6	10	7.3
Specific Conductance	umho/cm	1600	none	58	67	69	42	60	55

Additional Constituents Analyzed

	UNITS	MCL	PHG (MCLG)	Eliz. George	LOP	LWW	Loma Rica	North Auburn	Cascade Shores
Hardness (CaCO3)	ppm	NS	none	21	21	23	14	21	10
Calcium	ppm	NS	none	7.7	6.9	7.7	4.8	7.4	3.4
Magnesium	ppm	NS	none	0.46	1.0	1.0	0.44	0.71	0.47
Sodium	ppm	NS	none	1.3	1.9	2.5	1.2	1.5	6.0
Alkalinity	ppm	NS	none	11	14	18	8.9	13	14
Bicarbonate (HCO3)	ppm	NS	none	11	14	18	8.9	13	14

Definitions

Terms and abbreviations used in this report:

- **Public Health Goal (PHG);** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHG's are set by the California Environmental Protection Agency.
- **Maximum Contaminant Level Goal (MCLG);** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's are set by the U.S. EPA.
- **Maximum Contaminant Level (MCL);** The highest level of a contaminant that is allowed in drinking water. Primary MCL's are set as close to the PHG's (or MCLG's) as is economically and technologically feasible. Secondary MCL's are set to protect odor, taste, and appearance of drinking water.
- **Regulatory Action Level (AL);** The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.
- **Maximum Residual Disinfectant Level (MRDL);** The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- **Maximum Residual Disinfectant Level Goal (MRDLG);** The level of a disinfectant added for water treatment below which there is no known or expected health risk. MRDLG's are set by the EPA.
- **Primary Drinking Water Standard (PDWS);** MCL's and MRDL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

- **NS;** No standard • **ND;** Non- detected • **<;** Less Than
- **ppm;** parts per million • **ppb;** parts per billion
- **ppt;** parts per trillion • **pCi/L;** pico curies per liter
- **NTU;** Nephelometric Turbidity Units
- **HRAA;** Highest Running Annual Average

Contaminants - Continued

byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

- **Radioactive contaminants,** that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

This report is online at ***www.nidwater.com.***

Use Water Wisely

Tips for Saving Water

Garbage Disposal

Find a better way.

Avoid using garbage disposals. Compost or feed leftovers to pets when possible. Use recycled water in disposal.

SAVES THE MOST WATER

SAVES A MEDIUM AMOUNT

SAVES A SMALL, BUT SIGNIFICANT AMOUNT

Conserving Water:

- ✓ Protects clean drinking water, a decreasing resource.
- ✓ Saves money in water and sewage rates.
- ✓ Reduces sewage treatment loads.

Stop Leaks!

In just 3 months, a continuous leak wastes an amazing amount of water. Check out this chart to see how a tiny leak produces a big problem!

Diameter of Stream at 60 psi	Gallons	Daily Average	Diameter of Stream at 60 psi	Gallons	Daily Average
1/4 inch	1,181,000	13,122	1/8 inch	296,000	3,288
3/16 inch	652,000	7,244	1/16 inch	74,000	822

NID

NEVADA IRRIGATION DISTRICT

www.nidwater.com

Drinking Water

Kitchen

Dishwasher

Dishwasher

Water Heater

Car Wash

Landscaping

Landscaping

Pools, Spas

Reduce dishwashing.

Use fewer dishes.

Use Water Wisely

Tips for Saving Water

Sink

Use low-suds detergent.

Washing clothes by hand can be easier and save water if you use only a small amount of low-suds detergent and presoak really dirty items.

SAVES THE MOST WATER

SAVES A MEDIUM AMOUNT

SAVES A SMALL, BUT SIGNIFICANT AMOUNT

Washing Machine

Cleaning House

Shower

Toilet

Flush only when necessary.

Toilet

Test your toilet

Bathroom Sink

Brush teeth efficiently.

Bathtub

Conserve water.

Bathtub

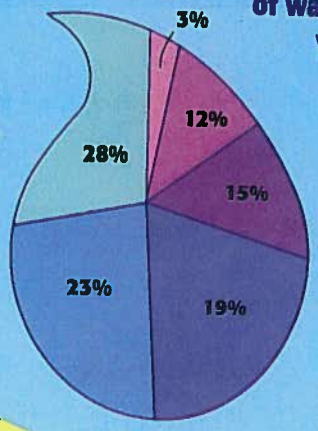
Don't waste clean water.

Don't pour water down the drain.

- A household faucet runs at 3 to 5 gallons a minute. Avoid waste, turn faucets off firmly!
- Check appliances' connecting hoses and faucets for leaks. Even a pinhole leak wastes up to 170 gallons a day!

Where Does Your Water Go?

On average, each American uses 60 gallons of water every day. You can reduce your water use by as much as 30% if you are efficient!



28% Flushed
23% Laundry
19% Shower /Bath

15% Faucets
12% Leaks
3% Dishwasher

10 Easy Ways to Save Water

ACTIVITY	NORMAL USE	CONSERVATION USE
In the Shower	Water Running 25 GALLONS	Wet Down, Soap Up, Rinse Off 4 GALLONS
Brushing Teeth	Tap Running 10 GALLONS	Wet Brush, Rinse Briefly .5 GALLON
Tub Bath	Full 36 GALLONS	Minimal Water Level 10-12 GALLONS
Shaving	Tap Running 20 GALLONS	Fill Basin 1 GALLON
Dishwashing	Tap Running 30 GALLONS	Fill Sink, Then Rinse 5 GALLONS
Auto. Dishwasher	Full Cycle 16 GALLONS	Short Cycle 7 GALLONS
Washing Hands	Tap Running 2 GALLONS	Partially Fill Basin .5-1 GALLON
Flushing Toilet	Various Size Tanks 3-7 GALLONS	Use Displacement Bottles 3-6 GALLONS
Washing Machine	Full Cycle 60 GALLONS	Short Cycle, Low Level 27 GALLONS
Outdoor Watering	Average Hose 10 GAL./MINUTE	Lowest Priority Reduce or Eliminate

Save for Handy Reference

100 Cubic Feet (1HCF) = 748 Gallons

NID

NEVADA IRRIGATION DISTRICT

We Can All Save Water

- Shower for less than 5 minutes, or fill the tub only one-quarter full. Install low-flow shower heads.

- Always turn off running water when not needed. For example, while brushing teeth, shaving or soaping in the shower.

- When washing dishes, use sink or dishpan, not running water. Rinse water can be reused in the garden.

- Don't use toilet as a wastebasket.

- Wash only full loads. Washing machines and dishwashers are big water users.

- Use flow restrictors on hoses. Use drip irrigation for trees and shrubs. Try drought resistant plants.

- Sweep, don't hose, sidewalks, decks and driveways.

- Use a nozzle on hose while washing vehicles.

- While waiting for hot water, use a bucket. Use this water elsewhere.

At least 30 percent of water

used annually by a single-family suburban household is for outdoor irrigation. A large portion of that goes to waste through evaporation or runoff caused by over-watering. The landscaping tips in this brochure will help you conserve water—and save money.

Conserving water is good for all of us.

Using less water means less energy is used to treat it, pump it, and distribute it. By conserving water, you are helping maintain our natural resources.

We can all pitch in and slow the flow!

American Water Works Association

www.awwa.org
©2010 American Water Works Association
Catalog No. 70160

Printed on Recycled Paper

Slow the flow.

Tips to conserve water in your lawn and garden.

Water Conservation in Your Lawn and Garden.

Let it grow.

Adjust the height of your lawnmover to cut your grass higher. This helps protect roots from heat stress and reduces the loss of moisture to evaporation.

Stay true to your roots.

Promote deep root growth with proper watering, aerating, fertilization, grass-clipping control, and attention to lawn height. A lawn with deep roots requires less water and is more resistant to drought and disease.

Sidewalks don't need water.

Avoid planting turf in areas that are difficult to irrigate properly, such as steep inclines and isolated strips along sidewalks and driveways.

Plug away.

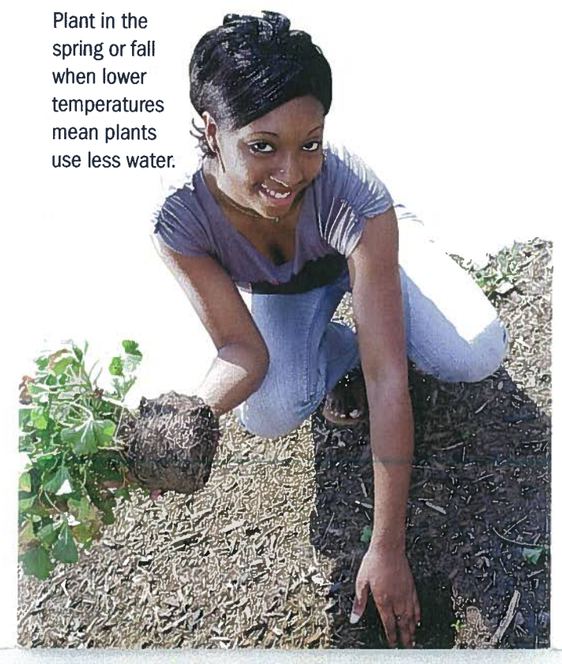
Aerate clay soils at least once a year to help the soil absorb and retain moisture, which helps your plants.

Make the beds.

Add a 2- to 3-inch layer of mulch around flowers, shrubs and trees to help the soil retain moisture, discourage the growth of weeds, and provide essential nutrients.

Remember, April showers bring May flowers.

Plant in the spring or fall when lower temperatures mean plants use less water.



Think small.

When choosing plants, keep in mind that younger, smaller ones require less water to become established.

Don't water in the rain.

Consider installing a rainfall or soil moisture sensor for your automatic sprinkler system. Rainfall sensors stop watering in the rain and moisture sensors monitor the soil to determine when and how much water is needed.

Soak, don't spray.

Install drip-irrigation or soaker hoses for more efficient watering in planting beds and beneath shrubs and trees.

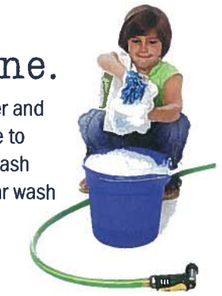
Do it the hard way.

Use a broom or rake (not the hose) to remove debris from driveways and walkways. It saves water and it's good exercise.

No cannonballs!

If you have a pool, keep the water level low to minimize loss from splashing. Use a cover to slow evaporation. An average-sized pool can lose about 1,000 gallons (3,785 liters) of water per month if left uncovered.

Make it shine.



Use a bucket of soapy water and a hose with a shutoff nozzle to wash your car. Better yet, wash your car at a commercial car wash that recycles water.

Conserve water naturally.

Select plants that are native to your region and can thrive with little or no extra watering. Your local nursery can help you identify and select drought-tolerant plants.

Keep it cool.

Water your lawn and landscape plants early in the morning when the sun's rays aren't working to evaporate your water.

How many times a day do you turn on the tap in your home?

Between the bathroom, kitchen, and laundry, chances are there's a lot of water flowing through the pipes in your home—and plenty of opportunities to waste it. With just a little effort, you can save thousands of gallons of water every year. And that's good for your wallet, the environment, and our planet.

Conserving water is good for all of us.

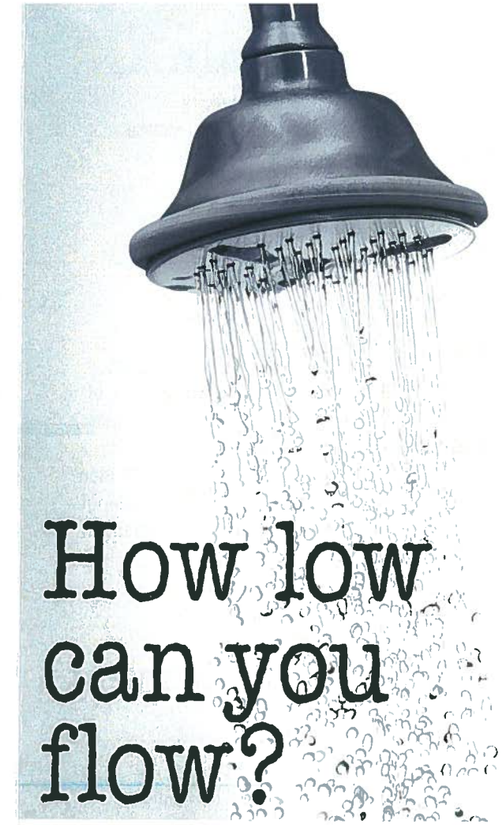
Using less water means less energy is used to treat it, pump it, and distribute it. By conserving water, you are helping maintain our natural resources.

We can all help by going low-flow!

American Water Works Association

www.awwa.org
©2010 American Water Works Association
Catalog No. 70159

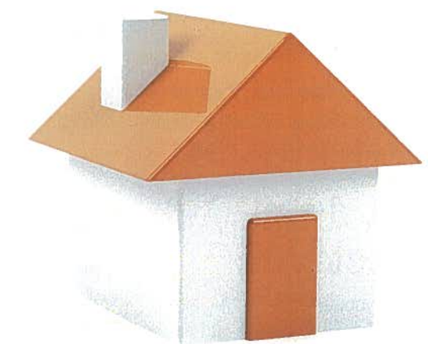
Printed on Recycled Paper



How low can you flow?

water conservation at home

The Inside Story: Water Conservation at Home



Resist the flush.

Inside the home, water use is pretty evenly distributed among appliances, but nearly 30 percent is flushed down the toilet. Avoid unnecessary flushing and you'll save big.

Go low-flow.

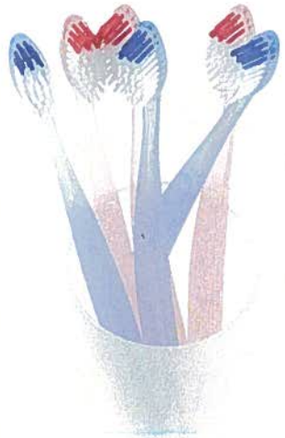
You can save thousands of gallons each year by replacing old toilets with ultra-low-flow toilets that use 1.6 gallons per flush or less.

Be a drip detective.

Check all your faucets, toilets, and appliances for water leaks and fix them. A leaky faucet that fills an 8-oz. (237 milliters) container in less than 30 minutes could waste as much as 1,225 gallons (4,630 liters) of water each year. Death to the drip!

Sing in the rain.

A full bathtub requires about 70 gallons (265 liters) of water, while taking a five-minute shower under a low-flow showerhead uses 10 to 25 gallons (38 to 95 liters).



Turn it down.

The average bathroom faucet runs at the rate of about 2 gallons (7.5 liters) of water per minute. Try running water at less than full flow. Turn the water off while you floss and brush your teeth.

The right equipment for the job.

Water-efficient toilets, bathroom faucets, and accessories can save the average home more than 11,000 gallons (41,600 liters) per year.

Fill 'er up.

Running the dishwasher or washing machine when they are only half full uses just as much water as full loads.

Check hoses.

It's a good idea to replace dishwasher and clothes washer hoses every five years. Hoses don't last forever and can create devastating damage—and waste lots of water—if they fail.

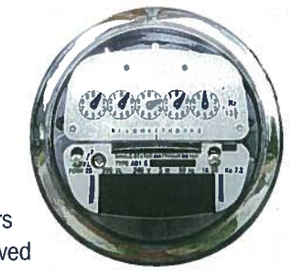
Clean clothes. Less water.

By replacing your old clothes washer with a high-efficiency washing machine, you can reduce water consumption from 40 gallons (151 liters) per load to less than 28 gallons (106 liters) per load. Think how much water you will save in a year!

Locate the master valve.

Every home, apartment, and business has a master valve that controls water service. Locate your master valve so you can find it in an emergency. Consider turning it off if you are going out of town. That way, drips or leaks won't surprise you when you return.

It's about more than just water.



If one out of every 100 American homes were retrofitted with water-efficient fixtures, about 100 million kilowatt-hours of electricity could be saved per year—avoiding 80,000 tons (72,600 metric tons) of greenhouse-gas emissions.

Do your part.

If just one out of every 10 US homes upgraded to water-efficient fixtures, more than 120 billion gallons (454 billion liters) of water and more than $800 million would be saved annually.

Resources

Placer County Water Agency
http://www.pcwa.com

Water Wise Gardens of California
http://www.usbr.gov/mp/watershare/

Water Education Foundation
http://www.water-ed.org

Water Saver Home
http://www.h2ouse.org

Publications

Drip Irrigation in the Home Landscape
UCANR Publication # 21579

Water-Efficient Landscaping: Preventing Pollution/Using Resources Wisely
EPA Publication # EPA-832-F-02-002
http:/www.epa.gov/owm/water-efficiency

More Landscape Water Use Pubs available at the Dept. of Water Resources:
http:/www.owue.water.ca.gov/landscape

For more info. call UCCE at 530-889-7385 or visit **http://ceplacer.ucdavis.edu**

WATER-WISE LANDSCAPING is a collaborative project of the University of California Cooperative Extension, UCCE Master Gardeners of Placer and Nevada Counties, Placer County Water Agency, and the US Bureau of Reclamation.

Compiled and Edited by
Kevin Marini, UCCE Program Representative

UC Master Gardener Contributors:
Ronnie Ingraham, Nancy Goumas, Sue Zulauf, Christy Haeuptle, Connie Frank, JoAnn Moore, Liz Day, Judy Carroll, and Cooki Vonasek.

Layout and Design by
Frank Garrels, UCCE Placer County

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristic), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam-era veterans or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities or with respect to any of its employment policies, practices, or procedures.

University Policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200; (510) 987-0096

University of California, United States Department of Agriculture, Placer and Nevada Counties Cooperating

Water-wise Landscaping

Water Efficient Plants for the Sierra Foothills

Zone 7

(See page 3)

Printed courtesy of
Nevada Irrigation District

University of California Cooperative Extension Placer and Nevada Counties
in cooperation with
Placer County Water Agency and the US Bureau of Reclamation

About This Brochure

WATER-WISE LANDSCAPING is a collaborative project of the University of California Cooperative Extension, UCCE Master Gardeners of Placer and Nevada Counties, Placer County Water Agency, and the US Bureau of Reclamation. We hope this brochure will provide appropriate information for creating responsible water efficient landscapes. Included in the brochure are: Plant lists for Zone 7, tips on using water efficiently, and additional resources for other questions regarding watering wisely.

Why should you use Water Efficient Plants in your landscape and garden?

Water is a precious resource to be used wisely. In our gardens and landscapes, water is often applied in excess of what is actually needed by the plant. In this way, we not only waste water and money, but we also contribute to poor plant health and environmental pollution. With our population continuing to increase, a clean and sustainable water supply may be the most important issue we face today. We CAN have beautiful lush gardens and landscapes and use water efficiently at the same time!

Plant List Guide — Page

- Perennials..... 4-5
- Trees..... 6-7
- Ornamental Grasses..... 8
- Herbs 9
- Vines..... 10
- Shrubs..... 11-13
- Ground Cover..... 14-15

Plant photographs in this booklet are used with permission of the U.S. Department of Agriculture from the USDA *PLANTS* National Data Base.

GROUND COVER - CALIFORNIA NATIVES

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Arctostaphylos uva-ursi	Bearberry	Ht to 15 ft.	Y	F to PS	Many varieties
Ceanothus spp.	California Lilac	H varies W varies	Y	F	Try 'Julia Phelps'

©J.S. Peterson

DWARF COYOTE BUSH

EVENING PRIMROSE

©St. Mary's College of California

©St. Mary's College of California

Steps to a BEAUTIFUL and WATER EFFICIENT Garden

1. **Improve the soil.** A soil that is amended with compost and high in organic matter will absorb and hold water better than poor soils. This allows plant roots to penetrate deeper into the soil where they can utilize additional water and nutrients.
2. **Use Mulches.** A 2-4 inch layer of organic mulch can provide many benefits: erosion control, weed reduction, and moisture retention.
3. **Select water-wise plants.** By using plants that have low water requirements, a significant amount of water (and money) can be saved. *REMEMBER*, every plant requires some supplemental water while they are becoming established (one to two years).
4. **Consider reducing lawn areas or lawn alternatives.** Because lawns require large amounts of water, fertilizer, money, and time, try and only plant as much as you need and make sure to plant the appropriate type of turfgrass for your climate.
5. **Use hydrozoning.** Group plants together that have the same exposure and water needs and then place them along the same irrigation lines.

Ground Cover

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Baccharis pilularis	Dwarf Coyote Bush	Ht 8-24 in. W 6+ ft.	Y	F	Low maintenance ground cover
Calyophus hartwegii	Sierra Sundrop	Ht 1 ft. W 2+ ft.	N	F to PS	Spreads by rhizomes; yellow flowers
Ceratostigma plumbaginoides	Dwarf Plumbago	Ht 1 ft. W spreads rapidly	N	F to PS	Shear or mow annually; may be invasive; some water in hottest areas
Cistus spp.	Rockrose	Ht varies W varies	Y	F	Pretty foliage and flowers; good erosion control
Convolvulus sabaticus	Ground Morning Glory	Ht 1 ft. W spreads	Y	F	May be invasive; very versatile
Juniperus spp.	Juniper	Ht varies W varies	Y	F to PS	Easy to grow
Mahonia repens	Creeping Mahonia	Ht 1 ft. W 3 ft.	Y	F to PS	Spreads by underground stems
Oenothera spp.	Evening Primrose; Sundrops	Ht varies W spreads	Y	F to PS	Can be invasive
Potentilla verna	Potentilla	Ht 6 in. W spreads	Y	PS	Spreads quickly; needs some water
Ribes viburnifolium	Evergreen Currant	Ht 2-3 ft. W 8 ft.	Y	PS	Good under native oaks
Rosmarinus spp.	Rosemary	Ht 1-2 ft. W 8 ft.	Y	F	Look for cold-hardy varieties
Saponaria ocymoides	Rock soapwort	Ht 1 ft. W 3+ ft.	N	F	Small pink flowers; can spread; likes some water
Sedum spp.	Stonecrop	Ht varies W varies	Y	F to PS	S. spathulifolium is California native
Teucrium cossonii	Germander	Ht 8 in. W 1-2 ft.	Y	F	Stands poor soil
Verbena spp.	Verbena	Ht varies W varies	Y	F to PS	Many species

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Irrigating the Home Landscape

Some Dos and Don'ts

- Check your system regularly and carefully and repair broken irrigation lines, sprinklers, or drip emitters.
- Avoid overspray from sprinklers onto sidewalks, patios, or other areas that don't need to be irrigated
- If you use an automatic irrigation timer, reset it 3 or 4 times during the year to adjust for the seasons.
- Do not leave sprinkler or drip systems on so long that water begins to run off into the gutter or away from the landscape.
- Know your plant materials and their water needs: some plants need to be irrigated frequently, while others may not need any irrigation water.
- Use separate irrigation valves and programs for turf areas. Typically, turf requires much more water than woody plants.
- Irrigating shortly before sunrise is best for most plants. Avoid irrigating during windy periods.
- Check the soil moisture often. This will give a good indication when you need to water.
- Monitor your plants regularly for signs of water deficit or excess.

Source: Costello, L.R. and K.S. Jones.2003 *Irrigating the Home Landscape*, University of California Cooperative Extension, Half Moon Bay, CA 94019

The following Water-Efficient Plants are only a portion of the many plants that have low water requirements.
The *Sunset Western Garden Book* is a great resource for more plants that fit into a water-wise landscape.
Zone 7 - Typical winter lows 23o to 9oF. Record lows 15o to –1oF.
Optimal growing season May through the first week of October.

Perennials - California Natives

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Eschscholzia californica	California Poppy	Ht 8-24 in.	Y	F	Grown as summer annual; reseeds freely
Dicentra chrysantha	Golden Eardrops	Ht 4-5 ft. W 1-2 ft.	N	PS to Shade	Deep taproot: little water during flowering
Mimulus aurantiacus	Shrubby Monkey Flower	Ht to 4 ft. W same	Y	F to PS	Woody-based perennial
Monardella villosa	Coyote Mint	Ht 1-2 ft. W 1-1½ ft.	N	F	Late spring and summer bloomer; needs very little water
Penstemon heterophyllus	Foothill Penstemon	Ht 2 ft. W 3 ft.	Y	F to PS	Variable appearance; free flowering
Romneya coulteri	Matilija Poppy	Ht 6-8 ft. W *	Y	F	*spreads indef. by rhizomes. Can be invasive; very large blossoms.
Zauschneria californica	California Fuchsia	Ht 1-2 ft. W 4+ ft.	Y	F	Attractive to hummingbirds; silvery foliage; scarlet flowers

COMMON YARROW

©George F. Russell

©St. Mary's College of California

CALIFORNIA POPPY

©St. Mary's College of California

Perennials

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Achillea millefolium	Common Yarrow	Ht 3 ft. W spreads by runners	Y	F	Many garden varieties with different flower colors

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Shrubs - California Natives

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Adenostoma fasciculatum	Chamise	Ht 5-12 ft. W to 10 ft.	N	F	Very low water; highly flammable - plant away from structures
Arctostaphylos spp.	Manzanita	Ht 8-10 ft. W 10-12 ft.	Y	F to PS	Many selections incl. California native
Baccharis pilularis	Coyote Bush	Ht 3 ft. W 4-5 ft.	Y	F	Low growing; can withstand wind, heat and poor soil
Carpenteria californica	Bush Anemone	Ht 4-6 ft. W 4-6 ft.	Y	PS	Little water; resistant to oak root fungus
Ceanothus spp.	Wild Lilac	Ht varies W varies	Y	F	Many selections for drought resistance
Cercocarpus spp.	Mountain Mahogany	Ht 6-10 ft. W 6-12 ft.	N	F	Evergreen or deciduous choices; little or no water
Dendromecon spp.	Bush Poppy	Ht varies W varies	Y	F to PS	Little water
Fremontodendron californicum	Flannel Bush	Ht 20 ft. W 12 ft.	Y	F	Rust-colored hairs on plant can irritate skin
Heteromeles arbutifolia	Toyon	Ht 10-25 ft. W 12-25 ft.	Y	F to PS	Bright red berries November to January
Mahonia repens	Creeping Mahonia	Ht 3 ft. W 3 ft.	Y	F to PS	Good for winter color
Prunus ilicifolia	Hollyleaf Cherry	Ht 10-25 ft. W 10-25 ft.	N	F to PS	Red or blue edible fruit in June is messy
Rhamnus californica	Coffeeberry	Ht 3-15 ft. W 8 ft.	Y	F to PS	Berries, if not eaten by birds, ripen green to red
Ribes viburnifolium	Evergreen Currant	Ht 3-6 ft. W 12 ft.	Y	PS	Fragrant evergreen shrub

Got questions? Call the UC Master Gardener HotLine
Placer County 530-889-7388 - Nevada County 530-273-0919

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

©St. Mary's College of California

©J.S. Peterson

SILKTASSEL

CREEPING MAHONIA

SHRUBS

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Dodonaea viscosa	Hopseed Bush	Ht 10-15 ft. W 10-15 ft.	N	F to PS	Very tolerant, fast-growing shrub; evergreen
Elaeagnus pungens	Silverberry	Ht 10-15 ft. W 10-15 ft.	Y	F to PS	Can be sheared as hedge
Feijoa sellowiana	Pineapple guava	Ht 18 ft. W 18 ft.	Y	F	Great flowers; can take training or pruning
Garrya fermontii	Silktassel	Ht 9 ft. W 9 ft.	Y	F to PS	Evergreen; takes heat and cold
Potentilla fruticosa	Shrubby cinquefoil	Ht 3-4 ft. W 3-4 ft.	Y	PS	Very tough shrub
Pyracantha spp.	Firethorn	Ht Varies W Varies	Y	F	Orange-red berries; easy to grow
Rhus spp.	Sumac	Ht Varies W Varies	Y	F	Needs good drainage; fall color (deciduous) or evergreen
Salvia spp.	Sage	Ht Varies W Varies	Y	Varies	Try Salvia apiana, an evergreen

©St. Mary's College of California

©J.S. Peterson

HOLLYLEAF CHERRY

BUSH ANEMONE

©St. Mary's College of California

©St. Mary's College of California

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

PERENNIALS

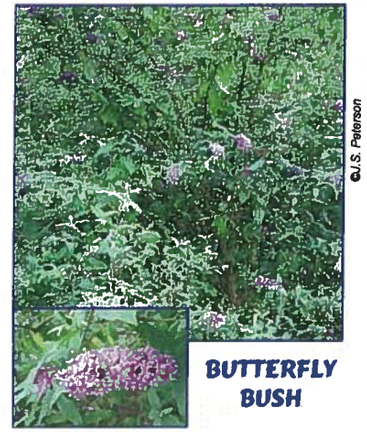
Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Agapanthus spp.	Lily of the Nile	Ht to 4 ft. W 3 ft.	Y	F or PS	May need afternoon shade in hottest areas
Agastache rupestris	Licorice Mint	Ht 2½ ft. W 1½ ft.	N	F or PS	Fragrant leaves, orange flower spikes
Artemisia spp.	Wormwood, Angel's Hair, etc.	Ht 2-3 ft. W varies	Y	F	Many species; silvery foliage; fragrant
Centaurea cineraria	Dusty Miller	Ht 1 ft. W 1 ft.	Y	F	Soft, gray foliage; easy to grow
Coreopsis lanceolata	Coreopsis	Ht 2 ft. W 1½ ft.	Y	F	Other species suitable to low water also
Eriogonum spp.	Wild Buckwheat	Ht varies W varies	Y	F	Includes native E. fasciculatum
Gaura lindheimeri	Gaura	Ht to 4 ft. W 2-3 ft.	N	F	Long bloomer on flower spikes
Gaillardia grandiflora	Blanket flower	Ht 2-4 ft. W 2 ft.	Y	F	Long bloom period; thrive in hot weather
Iris spp.	Iris	Ht varies W varies	Y	Varies	Water requirements vary.
Oenothera speciosa	Mexican Evening Primrose	H 1 ft. W 3 ft.+	Y	F to PS	Spreads by rhizomes; aggressive
Penstemon spp.	Beard Tongue	Ht varies W varies	Y	F*	*PS in hottest areas Numerous species, some Calif. natives
Perovskia spp.	Russian Sage	Ht 3-4 ft. W same	N	F	Very resistant to heat and drought
Santolina spp.	Lavender Cotton	Ht 2-3 ft. W 3 ft.	Y	F	Attractive foliage; aromatic
Sedum spp.	Stone crop	Ht varies W varies	Y	Varies	Succulent, many shapes & sizes
Teucrium spp.	Germander	Ht varies W varies	Y	F	Tough plants that can stand poor soils

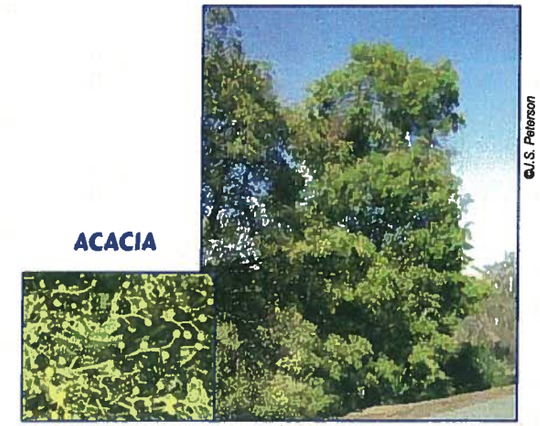
1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

TREES

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Arbutus unedo	Strawberry Tree	Ht 8-35 ft. W same	Y	F or PS	Good in a wide range of climates/soils
Acer buergeranum	Trident Maple	Ht. 20-25 ft. W same	N	F or PS	Deciduous, nice fall color
Celtis occidentalis	Common Hackberry	Ht 50 ft., almost as wide	Y	F or PS	Resistant to oak root fungus
Cotinus coggygria	Smoke Tree	Ht 20 ft. W same	Y	F	Resistant to oak root fungus; train as tree
Cupressus arizonica	Arizona Cypress	Ht. 40 ft. W 20 ft.	Y	F	Mass for windbreak or screen
Lagerstroemia indica	Grape Myrtle	Ht. 25 ft. Spread varies	Y	F	Excellent decorative tree; many varieties
Laurus nobilis	Sweet Bay	Ht. 12-40 ft. W same	Y	F or PS	Traditional bay leaves for cooking
Pinus spp.	Various Pine species	Diverse heights/ widths with pruning	Y	F	Many choices for low water
Pistacia chinensis	Chinese Pistache	Ht 40-60 ft. W 20-30 ft.	N	F	Resistant to oak root fungus; good fall color
Prunus lusitanica	Portugal Laurel	Ht 10-30 ft. W same	N	F	Evergreen; white flowers; shrub or tree
Quercus spp.	Oak (see natives)	—	—	—	—
Robina x ambigua	Purple Robe	Ht 40 ft. W 20 ft.	N	F	Tolerates poor soil; spreads by suckers
Zelkova serrata	Saw Leaf Zelkova	Ht 60 ft. W same	N	F	Big tree; fairly tolerant of wind and drought

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade





SHRUBS

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Acacia spp.	Acacia	Ht varies W varies	Y	F	Choose hardy varieties; attractive to birds
Berberis spp.	Barberry	Ht varies W varies	Y	F to PS	Evergreen or deciduous; some varieties more drought tolerant than others
Buddleia davidii	Butterfly Bush	Ht 4-10 ft. W to 10 ft.	Y	F to PS	May die to ground in freeze, but will re-grow in spring
Calliandra tweedii	Brazilian Flame Bush	Ht 6-8 ft. W 6-8 ft.	Y	F	Attractive to hummingbirds; showy flower clusters
Callistemon citrinus	Lemon Bottlebrush	Ht 10-15 ft. W 10-15 ft.	Y	F	Very tolerant of heat, cold, or poor soils
Cistus spp.	Rockrose	Ht varies W varies	Y	F	Evergreen; white or pink-tinted flowers
Cotinus coggygria	Smoke Tree	Ht 12-15 ft. W to 6 ft.	Y	F	Likes poor, rocky soil

***Shrubs** continued on page 12*

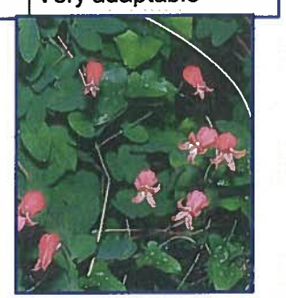
1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Vines

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Clematis texensis	Scarlet Celmatis	6-10 ft fast growing	N	Plant in sun, roots like cool shade	More tolerant of warm summers and low water
Fallopia baldschuanica	Lace Vine	40 ft. can cover large area	N	F	Very vigorous, white flowers
Jasminum officinale	Common White Jasmine	To 30 ft.	Y	F to PS	Very fragrant flowers; blooms all summer
Lonicera periclymenum	Woodbine	10-20 ft.	N	F to PS	Native to Mediterranean region; fragrant flowers
Parthenocissus quinquefolia	Virginia Creeper	vigorous grower	N	F to PS	Nice crimson fall color
Passiflora spp.	Passion Vine		N		Moderate water
Rosa banksiae	Lady Banks Rose	To 20 ft. +	N	F to PS	Vigorous grower and aphid resistant
Vitis californica	California Wild Grape	To 30 ft.	N	F to PS	Native to California; Nice red and yellow fall color
Wisteria ssp.	Wisteria		Y	F	Very adaptable

BEARD TONGUE

COMMON WHITE JASMINE

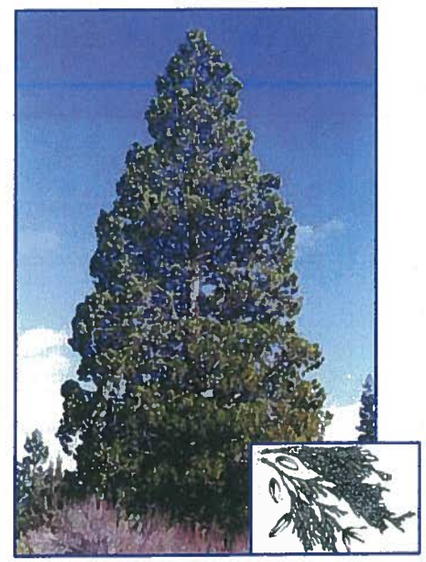


SCARLET CLEMATIS

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Trees - California Natives

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Aesculus californica	California Buckeye	Ht 10-20 ft. W 20-30 ft.	Y	F	Shrub or tree
Calocedrus decurrens	Incense Cedar	Ht 75-90 ft. W 15 ft.	N	F or PS	Can withstand heat and poor soils
Cercis occidentalis	Western Redbud	Ht 75-90 ft. W 10-18 ft.	N	F or PS	All year interest; resistant to oak root fungus
Quercus spp. (many)	Q. kelloggii Q. llobata Q. doudlasii				
Umbellularia californica	California Bay	Ht 25+ ft. W 25+ ft.	N	F	Mass for windbreak or screen



INCENSE CEDAR

WESTERN REDBUD

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Ornamental Grasses

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Andropogon gerardii	Big Bluestem; Turkey Foot	Ht 3-5 ft. W 3 ft.	N	F to PS	Not fussy as to soil and moisture; effective screen; good accent plant
Bouteloua spp.	Bouteloua	Ht 2 ft. W 2 ft.	Y	F	Tough, heat and drought tolerant
Briza media	Rattlesnake Grass; Quaking Grass	Ht 1-2 in.	Y	F	Clusters of nodding seed-bearing spikelets
Deschampsia flexuosa	Crinkled Hair Grass	Ht 2 ft. W 1 ft.	Y	PS	Excellent in dry, woodland shade
Leymus arenarius	Blue Lyme Grass	Ht 2-3 ft. W 2 ft.	N	F to PS	Low, vigorous clumps of blue-green leaves; good soil binder
Miscanthus sinensis	Maiden Grass	Ht to 6 ft. W to 6 ft.	Y	F to PS	Silvery green foliage turns bronze in fall
Muhlenbergia capillaris	Pink Muhly	Ht 3 ft. W 6 ft.	N	F to PS	Dark green mounded form with feathery reddish flowers
Muhlenbergia rigens	Deer Grass	Ht 4 ft. W 4 ft.	N	F to PS	Dense clumps of foliage with yellow or purple flower spikes
Nassella cernua	Nodding Needle Grass	Ht 3 ft. W 2 ft.	N	F	Deep green leaves; purple awns to 4½ ft.
Panicum virgatum	Switch Grass	Ht 4-7 ft. W 2-4 ft.	Y	F to PS	Foliage turns yellow in fall, then beige
Pennisetum spp.	Fountain Grass	Ht 3 ft. W 3 ft.	Y	F to PS	"Little Bunny" dwarf 1½ ft. wide and high
Sporobolus airoides	Alkali Sacaton	Ht 3 ft. W 3 ft.	N	F	Tough, deep rooted; can take alkaline conditions
Stipa gigantea	Giant Feather Grass	Ht 2-3 ft. W 2-3 ft.	Y	F	Open, airy flowers can rise to 6 ft.

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

Herbs

Botanical Name	Common Name	Mature Size	DR[1]	Sun[2]	Remarks
Borago officinalis	Borage	Ht 2-3 ft. W 2 ft.	N	F to PS	Tolerates poor soil; edible flowers
Origanum spp.	Oregano; Marjoram	Ht 2-3 ft. W 2-3 ft.	N	F	Many uses in the kitchen; may need some afternoon shade
Salvia spp.	Sage	Ht varies W varies	N	F	Not all are low water plants or used as herbs
Thymus spp.	Thyme	Ht varies W varies	N	PS	T. vulgaris (common thyme) a good choice
Rosmarinus officinalis	Rosemary	Ht varies W varies	N	F	Choose hardiest types; very versatile indoors and out
Foeniculum vulgare	Fennel	Ht 3-5 ft. W 2 ft.	N	F	Perennial type used for seeds and leaves; annual type for edible leaf bases

GIANT FEATHER GRASS

BLUE LYME GRASS

Remember: All plants need some water to help get established in their new homes. The terms "drought tolerant," "low water," and "water-wise" usually refer to the water requirements of an established plant.

1. DR = Deer Resistant 2. Sun: F = full sun, PS = partial shade

SAVE WATER SAVE POWER SAVE MONEY

10 Easy Steps to Water Conservation

1. Inspect and fix all leaky appliances. Hundreds of gallons per day could be dripping away!
2. Install ultra low-volume toilets and low-flow showerheads.
3. Wash only full loads of laundry and dishes.
4. Take short showers or shallow baths.
5. Don't leave water running unnecessarily.
6. Don't water the pavement. Concrete doesn't grow.
7. Use hose nozzles that can be shut off. A single hose can use 300 gallons of water per day!
8. Maintain your lawn with grass blades 2-3 inches high. This way the blades shade each other.
9. Water your lawn early in the day (or late at night), and never on a windy day to avoid evaporation. Lawns prefer a leisurely soak to a quick shower.
10. Practice water-conserving landscaping techniques such as Xeriscaping.

SAVE WATER SAVE POWER SAVE MONEY

Waterways

A NEWSLETTER TO THE CUSTOMERS OF THE NEVADA IRRIGATION DISTRICT

NID
NEVADA IRRIGATION DISTRICT

Free Day Use Coupon ...Page 4

Good Snowpack, Good Water Outlook ...Page 3

Volume 31 • Number 1 • Spring 2010

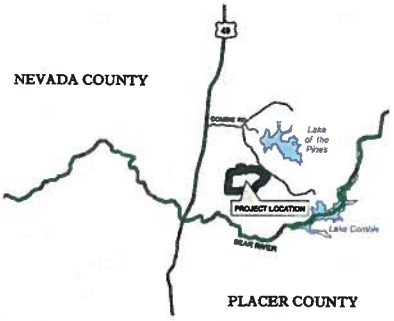
A Long Climb

NID, Neighbors Bring Water to Rodeo Flat

High on a ridge, overlooking Lake of the Pines, Glen Fuller and his neighbors are anxiously awaiting the NID pipelines that will bring high quality drinking water and fire protection to their homes.

Residents off Timber Ridge Drive, Rodeo Flat Road and Ridge Top Court, just southwest of Lake of the Pines, enjoy a beautiful residential area but one that has been plagued for years by dry and failing water wells.

These water worries are now coming to an end. Pipe has been delivered to the site and crews from Hansen Brothers Enterprises, Inc. of Grass Valley have begun laying it in the ground. Water service is expected to be available by mid-August.



Rodeo Flat

Ready at Rodeo Flat

Residents Glen Fuller and Nancy Bolton look over water system plans with NID project engineer Keane Sommers and construction inspector Tony Moscini.

Fuller, a semiretired engineer, and neighbors including Hank Stoffell, Nancy Bolton and Art Rangel, have been working with NID for several years to plan and finance the overall $1.8 million water improvement project.

They worked through policy, planning and financial issues and convinced their neighbors to vote for the formation of the Rodeo Flat Assessment District to pay for part of the needed improvements. Residents voted 29-2 in favor of the project.

Fuller credits the NID Board of Directors and management for policy changes in recent years that have placed priority on expanding service within the district and for using district property tax revenues to pay some of the costs.

Even with NID financial sup-

(Please see Rodeo Flat, Page 2)

Building a More Reliable Water System for NID Customers

More than $70 million in major capital improvements are in progress or ready for construction as NID continues efforts to build a safer and more reliable water system infrastructure.

Significant upgrades are in store for the raw water delivery system as well as the treated water delivery system. Here's an overview of the district's largest improvement projects:

A major upgrade is under way at the E. George Water Treatment Plant on Banner Mountain. Completion is expected by late 2010.

Banner Cascade Pipeline Project

This overall $41 million project will improve reliability of source water to two water treatment plants and make more water available to wide areas of Nevada County. It includes 6.4 miles of large diameter raw water pipeline and 5.5 miles of treated water lines on Banner Mountain near Nevada City. The project will divert some of the water from the Cascade Canal, which has safety issues and has been running at capacity.

The NID Board of Directors in February awarded a $23.4 million construction contract to Teichert Construction, which is beginning work this spring. A local preference clause in the contract makes local contractors eligible for 14.8 percent of the project total. Completion is scheduled for late 2011.

E. George Water Treatment Plant

In an ongoing two-year project, NID is upgrading and expanding the Elizabeth L. George Water Treatment Plant near Nevada City. The overall $14.9 million improvement is designed to increase plant capacity to 24 MGD (million gallons per day) while adding new filtration and settling basins.

Cement Hill Pipeline Project

This community water project, supported through a vote of local property owners, is making treated drinking water available to 240 parcels in the Cement Hill Road area near Nevada City. The $10 million project includes a 1 million-gallon storage tank, a pump station, 11 miles of pipeline and 55 fire hydrants.

Construction began early this year and is slated for completion by early 2011, although the district has encountered resistance in its plan to purchase a needed tank site. At press time, officials remained hopeful the matter could be resolved out of court.

DS Canal Flume Replacement

The Board of Directors in February awarded a $4.9 million contract for the replacement of eight old wood and metal flumes on the DS Canal near Nevada City. Contractor on the job is T&S Construction Co., Inc. of Sacramento.

Very costly to maintain, the flumes are the last of 31 original flumes on the DS Canal, constructed by NID in 1926-28 to carry water from Scotts Flat Reservoir into the Grass Valley-Nevada City area.

Completion of the overall $6.5 million project will increase delivery capacity and allow NID to lift an existing downstream freeze on new and larger irrigation water services.

Support For Ag Growers

NID offers advice and assistance to commercial agricultural producers who seek to improve the efficiency of their irrigation.

Soil Moisture Monitoring

A soil moisture management program is now in its third year and is helping 18 vineyards and three orchards in Nevada and Placer counties. Davis-based consultant Jim Brockmeyer uses soil moisture monitoring equipment and provides online data to help growers irrigate with measured precision. For information on future programs, contact the NID Operations Dept.

USDA Funding Opportunities

Local growers producing or selling at least $1000 per year may be eligible for 50-75 percent cost share funding for water efficiency improvements such as ditch lining, converting from flood irrigation or installing tail water return systems. Funding may be available through the U.S. Department of Agriculture National Resources Conservation Service. For information, contact the local NRCS office at (530) 3417, ext. 101.

Master Gardeners Offer Advice, Assistance

The Nevada County Master Gardeners maintain a Demonstration Garden at the NID Business Center off West Main Street in Grass Valley.

The Master Gardeners began development of the garden in 1991 and continue to offer it as a public resource. NID provides the land and water for the community project. The garden is open for public viewing during normal business hours and is also used for many different classes and workshops.

For information, call (530) 273-0919. The program is based in the Veterans Memorial Building, 255 South Auburn Street, in Grass Valley.

Good Water Outlook for 2010 Irrigation Season

Based on recent precipitation and snow survey data, NID expects good water supplies this year, allowing normal water deliveries to irrigation water users as well as treated drinking water customers.

In the official April 1 snow survey (taken Mar. 26) district snow surveyors measured 94 percent of average water content in the mountain snowpack and significant precipitation followed into mid-April

By Apr. 10, the district's foothills reservoirs, Scotts Flat, Rollins and Combie, were at or near capacity. Meanwhile, the district's seven mountain reservoirs were filling as the snowpack runoff season began.

"The district has an adequate water supply to make full deliveries to our customers this year," said NID Operations Supv. Sue Sindt. "All indications are that it should also be a good year for power production and public recreational activities."

NID snow surveyors Thor Larsen and Jessica Erickson measure the snowpack at Webber Peak.

As of Apr. 13, seasonal precipitation (measured July 1-June 30) at Bowman Reservoir had reached 52.49 inches, which is 86 percent of the 123-year annual average for the date.

NID's 10 reservoirs were on the rise and holding about 172,600 acre-feet of water, which is 94 percent average levels. The district's storage capacity is 250,280 acre-feet (an acre-foot equals one acre covered one foot deep).

Obituary

R. Paul Williams *1925-2010*

Former Division IV Director R. Paul Williams, the longest-serving elected official in NID history, died on Feb. 3 at his home in rural Lincoln. He was 84.

Mr. Williams was elected to seven terms on the NID Board of Directors, serving from 1981-2009.

Upon his retirement, Mr. Williams was recognized for his years of contributions to the district's growth and success and for his strong support of agricultural water use within the district.

Mr. Williams was retired from a 28-year career in the U.S. Air Force, having served during WW II, Korea and Vietnam. He spent time as a gunner, navigator, bombardier and as a pilot who flew an F86-D faster than the speed of sound.

"To me, Paul was a hero in every way, in his service to his country, his community and his family ," said NID General Manager Ron Nelson. "His legacy is a permanent part of this organization."

NID NEWS BRIEFS

BE SAFE NEAR WATER

Spring runoff is pushing area streams and rivers to higher levels and faster flows. Be safe around area waterways, including NID canals, which sometimes have steep, slippery banks. Parents are advised to keep children safely away from water hazards.

MINIMAL 2010 RATE INCREASES

Customers will see small water rate increases this year under action taken in December by the NID board. Directors approved an average 2.6 percent increases, which is half the amount called for in the district's five-year financial plan.

CLASSES FILL QUICKLY

Two NID-sponsored workshops on effective irrigation of pastures, orchards and vineyards filled quickly, with the maximum 60 participants registered for the May classes. The district expects to sponsor similar workshops again next year. For information, call instructor Keith Crabtree at (530) 269-1217.

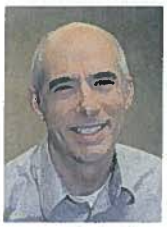
WATER QUALITY REPORT

NID treated drinking water continues to meet and exceed state and federal public health standards. Results of the district's 2009 water quality testing and monitoring program have been compiled and published and are being distributed to all treated water customers this spring.

NID's annual water quality report arrives this spring.

www.nidwater.com

Personnel Notes



Wight Retirement

NID Water Operations Manager **Don Wight** spends his last day on the job Apr. 30, closing out a 29-year career with the district. Wight joined the district as a carpenter, studied water treatment and moved up through the ranks to treated water superintendent and then operations manager, a position he has held for the past six years.

Williams Retirement

Longtime Purchasing Supervisor **Jim Williams**, the district's senior employee, retired Mar. 5 from a 35-year career with NID. Born and raised in Grass Valley, Williams plans to enjoy retirement in his hometown.

Rodeo Flat

Continued From Page 1

port, the new water system is still expensive to the Rodeo Flat property owners, each of whom will pay about $28,000 to fund the project and pay capacity and connection charges.

Fuller said neighbors had looked at individual costs of up to $50,000 when they first looked into the project. He said the Board of Directors, General Manager Ron Nelson and Assistant Manager Tim Crough have been very sympathetic and helpful to the group's efforts.

The Rodeo Flat project includes a new pump station at NID's existing Timber Ridge storage tank site and about 8000 feet of buried main lines to connect the system to the neighborhood. The work also includes seven fire hydrants and the acquisition of a nearby parcel for a storage tank that will be needed for the future.

How to Contact Your Elected Directors

DIVISION I - *Nevada City Area*
Nancy Weber, (530) 265-0424
DIVISION II - *Grass Valley-Chicago Park*
John Drew, (530) 272-5257
DIVISION III and 2010 Board President
Lake of the Pines-Alta Sierra
Scott Miller, M.D., (530) 268-8778
DIVISION IV - *Lincoln-North Auburn*
Jim Bachman, (916) 645-2059
DIVISION V - *Penn Valley-Lake Wildwood*
Nick Wilcox, (530) 432-2171

Save Our Water
www.saveourH2O.org

www.nidwater.com

Recreation Update

New Attractions at Rollins, Scotts Flat

NID and its recreational partners are continuing to improve outdoor attractions at Rollins and Scotts Flat reservoirs. Here's what you'll find in 2010:

Scotts Flat

Grass Valley-based outfitter Wolf Creek Wilderness will set up shop at the Scotts Flat day use area this year, offering kayak rentals and lessons seven days a week, Memorial Day weekend through Labor Day weekend.

Across the lake at Cascade Shores, the district is completing the planting of a grove of dogwood trees. Located near the entry, the grove is dedicated to the late former NID director Dave Southern, a longtime Cascade Shores resident.

Rollins

The big news at Rollins is the reopening of The Lure Restaurant at the Orchard Springs Campground. The Lure had been a longtime popular attraction but has been closed in recent years. The reopening is made possible through a proposal submitted by Colfax restaurant operator Jason McKinney, who plans lunch and dinner service Memorial Day through Labor Day.

Boat rentals are available at all four Rollins campgrounds, including the NID-managed Orchard Springs, which has kayaks, fishing boats and a patio boat.

Both Lakes

Good fishing is anticipated this year after the resumption of fish planting at both Rollins and Scotts Flat. Statewide fish plants were suspended last year during environmental studies conducted by the state Dept. of Fish & Game.

NID and its contract campground operators have continued with numerous campground cleanups and improvements, including new picnic tables and fire rings.

Due to a good precipitation year, water levels are expected to remain high at both reservoirs through the 2010 recreation season.

FREE Day Use Pass

This coupon may be redeemed for one free family admission (or one vehicle with up to four people) at the Day Use Area at Scotts Flat Lake or the Orchard Springs Campground at Rollins Lake (*value: $6.50*).

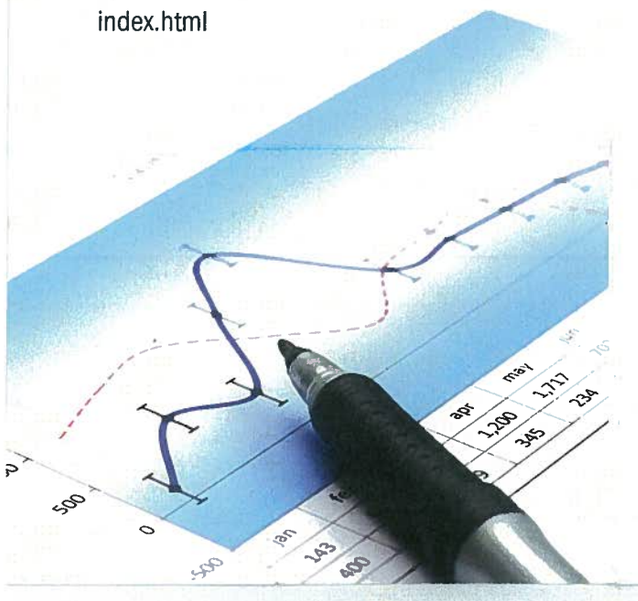
This offer is to show appreciation to NID customers and to introduce or re-introduce you to the district's fine recreational facilities.

If you would like to donate a (non-perishable) food or other item for the less fortunate in the community, donation boxes will be located at the gates.

Clip and Save • *(Good for the 2010 Season)*

Did you know?

Every year, water utilities provide customers with a detailed report on the quality of their drinking water. To find your utility's report, contact your local utility or visit www.drinktap.org or www.epa.gov/safewater/dwinfo/index.html



As your water provider, we serve more than water. We provide value, public health, fire protection, reliability, and peace of mind. Our job is to ensure that your water keeps flowing not only today, but well into the future. It's all part of our service commitment to you and everyone in our community.

American Water Works Association

www.awwa.org
©2009 American Water Works Association
Catalog No. 70147

Printed on Recycled Paper

Go ahead, call me chean

the Value of H_2O

A liquid asset

In a world of sky-rocketing prices on everything from food to homes to fuel, your tap water remains one of the best bargains around.

- At a fraction of a penny per gallon, tap water provides safety, convenience, and freedom.
- Less than 1% of the average person's total personal income is spent on water and wastewater services.
- An 8-oz. glass of water can be refilled approximately 15,000 times for the same price as a six-pack of soda.
- Your water bill pays for a lot more than simply water. You get sophisticated water treatment, frequent testing and monitoring, and a vast underground infrastructure that delivers safe, plentiful water right to your tap.
- Studies show that bottled water is no purer than tap water, yet bottled water costs about 1,900% more.
- American water utilities monitor for more than 100 contaminants and must meet close to 90 regulations for water safety and quality.
- Community water supplies are tested every day—far more frequent testing than for bottled water.
- Many North American water systems add small amounts of fluoride to their water supplies to help prevent tooth decay. Child cavity rates have been reduced by 20% to 40% where fluoridation has been implemented.

A little comparative shopping...

On average, a gallon of tap water in the United States costs a fraction of a penny. You simply can't find a better deal for a commodity that means so much to your daily life. Compare that with the cost of some other liquids you might use on a daily basis.

ONE GALLON
of tap water = less than 1/2 of 1 cent

ONE GALLON
of bottled water = $1.43–$8.00

ONE GALLON
of soda = $2.80–$4.60

ONE GALLON
of milk = $3.79–$4.24

ONE GALLON
of gasoline = $2.49–$3.75

ONE GALLON
of table wine = $18.50–$37.95

ONE GALLON
of café-lattés $35–$52

ONE GALLON
of imported olive oil = $135–$525

ONE GALLON
of fine French perfume = $60,160

Based on 2009 US prices.

Treated Water

SAFE DRINKING WATER FOR A GROWING POPULATION

Irrigation Water

MEETING THE NEEDS OF LOCAL AGRICULTURE

Hydroelectric Power

PRODUCING CLEAN HYDROELECTRIC ENERGY

Recreation

PROVIDING HEALTHY OUTDOOR PUBLIC RECREATION

Environmental Stewardship

PROTECTING WATERSHED, MANAGING WATER RESOURCES, COMMUNITY-BASED PARTNERSHIPS AND COLLABORATION

NID

NEVADA IRRIGATION DISTRICT

nidwater.com

ON THE COVER

Small photos, from top; mountain water storage, canal system, irrigation water, modern water treatment plant, safe and healthy drinking water

Nevada Irrigation District

Main Office
1036 West Main Street • Grass Valley, CA 95945
(530) 273-6185 • Toll-free (800) 222-4102
For location of underground facilities: Underground Service Alert (USA)
(no charge to calling party) (800) 642-2444

Emergencies
Normal business hours: (530) 273-6185
Weekends, after hours: (530) 273-3346
Placer County: 1-800-222-4102

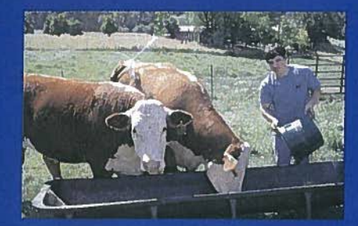
NID Hydroelectric Department
28311 Secret Town Road, Colfax, CA 95713
(530) 273-8571 • 389-8409

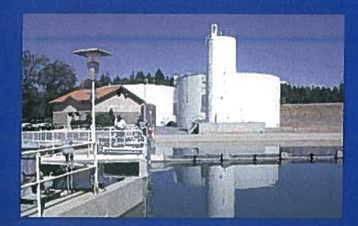
NID Placer Maintenance Yard
Gold Hill Road, Lincoln
(530) 273-6185 • Toll-free (800) 222-4102

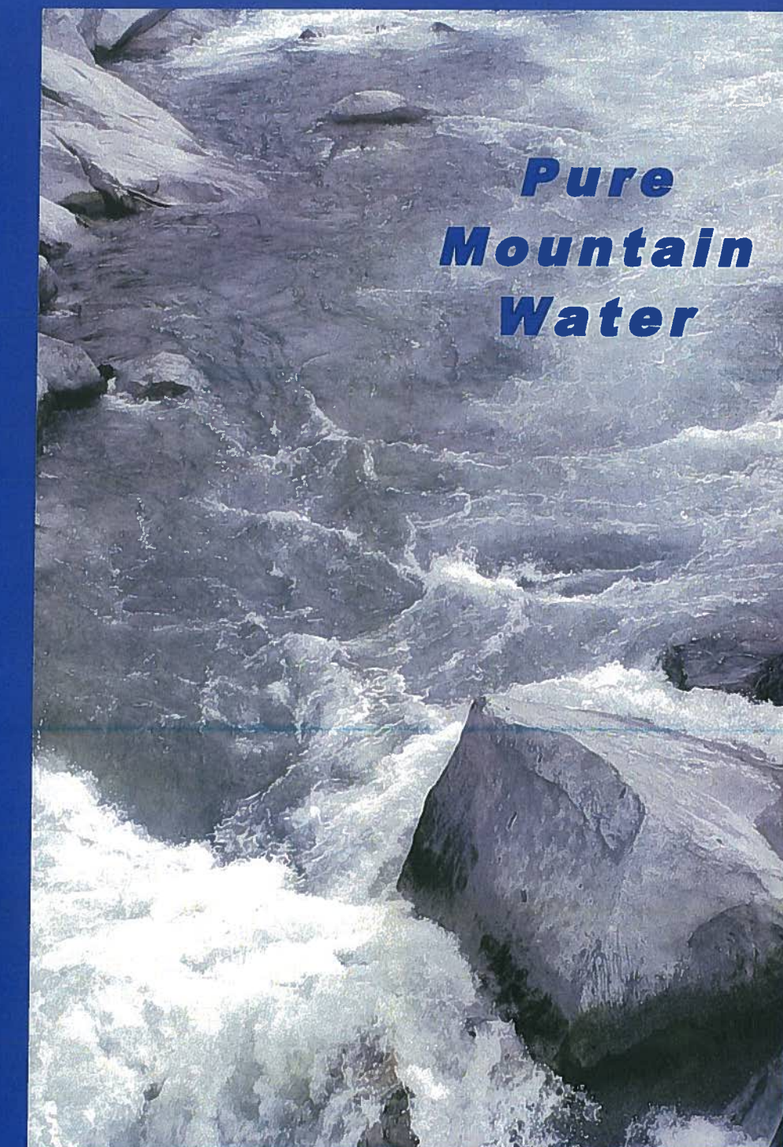
PARTNERSHIP FOR SAFE WATER

ACWA

Revised December 2008







NID

Since 1921

Nevada Irrigation District

Your Community Water Supplier

Serving Customers in

Nevada, Placer & Yuba Counties, California

www.nidwater.com

What is NID?

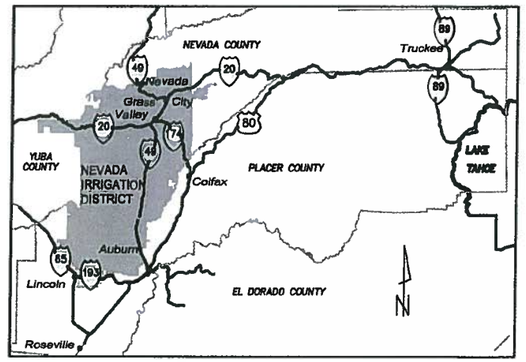
The Nevada Irrigation District is an independent California special district owned and operated by and for the people who own land within its 287,000-acre boundaries.

The district is organized primarily to supply water for irrigation, municipal, domestic and industrial purposes. NID water is available in wide areas of Nevada and Placer counties and the district also has storage and distribution facilities in Sierra and Yuba counties.

Unique in many respects, NID collects water from its own high mountain watershed, operates a network of water treatment plants, produces hydroelectric power, and provides outdoor recreation and environmental stewardship.

NID is governed by a five-member Board of Directors, elected by district voters. The board is the district's policy-making body and policy is carried out by approximately 180 full- and part-time employees.

The district makes every effort to upgrade, modernize and adopt new technology for better efficiency and a more reliable water system. Despite continued growth in its customer base (nearly 25,000), the district has added few employees in recent years. NID's employee/customer ratio stands at about one employee for every 139 customers.



NID takes in 287,000 acres in the Sierra Foothills

As a state agency, NID operates under rules and regulations adopted under authority conferred by the California Water Code. NID board meetings are conducted in public and the district's records are open to public inspection during normal business hours.

NID is headquartered at an 18-acre site located on West Main Street in Grass Valley. The district also has a Placer County maintenance yard on Gold Hill Road between Auburn and Lincoln. The NID Hydroelectric Department is based in an office and shop complex near Interstate 80 and Secret Town Road, northeast of Colfax.

Then and Now

Formed in 1921, NID has grown and matured into a diversified water agency that is meeting the needs of an expanding and changing district population.

The district was established on Aug. 15, 1921 by Nevada County voters, following a campaign led by the Nevada County farm adviser and local agriculturalists. They convinced the electorate that a reliable, year-around water supply was a key to building a better community. At its formation, 202,000 acres were included in NID boundaries.

Digging a Canal in Rough & Ready, 1919

Five years later, in 1926, residents of Placer County chose to join the district and another 66,500 acres were added. Today, NID takes in about 287,000 acres.

During the 1920s, NID obtained many important water rights that it still holds today and the district continues efforts to develop its water rights. The acquisition of land to store and deliver water was a very important step in the district's development.

Another important milestone occurred in 1966 when NID entered into hydroelectric energy production with the completion of the $65 million Yuba-Bear Power Project.

Today, NID supplies water to homes, farms and businesses. Along the way, NID water is used for electricity, public recreation and important wildlife habitat.

NID's Grass Valley office, 2000s

Facts & Figures About NID and its Watershed

Rain and Snowfall Data

With precipitation records dating to the 1800s, NID is a foremost source for local weather information.

NID has been keeping weather records for Bowman Reservoir (elev. 5,650 ft.) since 1929. The 69.2-inch annual precipitation average at Bowman compares to an annual average of 56 inches at the 2,700-foot elevation near Nevada City and 52 inches at 2,400 feet in Grass Valley. Precipitation totals are measured for the 12-month period beginning July 1 and ending June 30.

NID is a participant in the California Cooperative Snow Survey Project. District snow surveyors conduct snow surveys regularly during the winter and spring months to predict water availability.

Snow surveys are used to predict water availability locally and statewide.

After the probe pole is inserted into the snowpack, reaching ground level, the pole is weighed to determine water content in the snow.

Water Sources

As stewards of the watershed, NID manages the natural water supply for the public.. Our water originates at the upper reaches of the Middle Yuba and South Yuba rivers, Bear River, Canyon Creek, Deer Creek and several tributaries.

Water System

NID uses 400 miles of canals and another 300 miles of pipeline to transport water to its customers. Some of NID's canals and flumes were born in the Gold Rush.

Highest Dams

NID's highest dam is the rock fill-earth core dam at Rollins Reservoir, built in 1965 and standing 242 feet tall. The Jackson Meadows dam (1965) is second at 195 feet, Scotts Flat dam (1965) is 175 feet high and the Bowman South Arch dam (1925) is 171 feet high.

Oldest Dams

French Dam, constructed in 1858-59, is the district's oldest dam still in use. Other dams that originated in the 1800s include Bowman rockfill, 1872; and Faucherie, Sawmill and Jackson, all built prior to 1880. In the Lower Division, Van Giesen Dam at Combie Reservoir is the oldest, built in 1928.

NID Top to Bottom

The highest elevation on NID mountain watershed is the peak of 8,373-foot English Mountain which rises east of Bowman Reservoir. The district's highest reservoir is French Lake at 6,560 feet.

The district's lowest elevation water service is at 150 feet above sea level south of Lincoln in Placer County.

At the 6,560-foot elevation, French Reservoir, left, is NID's highest

NID's system stretches to the farmlands of the Lincoln area, left.

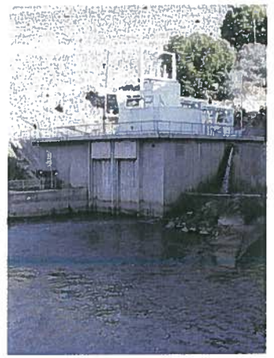
NID Water Storage

(Reservoir Capacity in Acre-Feet)

MOUNTAIN DIVISION	
Jackson Meadows	69,205
Bowman	68,510
French Lake	13,940
Faucherie	3,980
Sawmill	3,030
Jackson Lake	1,330
Milton	295
FOOTHILL DIVISION	
Rollins	65,988
Scotts Flat	48,547
Combie	5,555
Total:	**280,380**

Recreation and Power

AS IT FLOWS to the homes, farms and businesses of the Sierra foothills, NID water is used to produce hydroelectric energy and provide recreation for residents and visitors.



A high school class tours the Rollins Power Plant, above.

A view of the Rollins plant, right.

Hydroelectric Power

NID is a leader among Northern California water agencies in the production of clean, hydroelectric energy. Revenues from hydroelectricity are important in maintaining NID's extensive water distribution system.

The district has seven power plants that generate enough electricity to supply the equivalent of 60,000 homes.

NID has a generation capacity of 83.545 megawatts, produces an average 375 million kilowatt hours of energy each year, and sells its output to Pacific Gas & Electric Co.

The district began producing power in 1966 with the completion of the $65 million Yuba-Bear Power Project. The project included the Chicago Park and Dutch Flat No. 2 powerhouses. The Rollins powerhouse was added in 1980. To make use of existing water releases, small power plants were added during the 1980s at Bowman, Scotts Flat and Combie reservoirs.

NID Power Plants

(Capacity/megawatts)

Chicago Park	39
Dutch Flat No. 2	24.57
Rollins	13.5
Bowman	3.6
Combie South	1.5
Scotts Flat	0.875
Combie North	0.5
Total:	83.5 MW

Water Recreation

NID's mountain and foothill reservoirs provide wide recreational experiences and are important attractions for the local tourism industry.

Camping, fishing, swimming, sunning, boating, water skiing, sailing and other activities are popular at both Rollins and Scotts Flat reservoirs. Parks, campgrounds, and beaches at the reservoirs are operated by NID and in some areas by private operators under contract. The district strives to make recreation self-supporting without financial burdens on water ratepayers.

Recreation user fees are set by the NID Board of Directors and must be approved by the state departments of Water Resources and Fish & Game.

In the high country, NID has campgrounds at Faucherie and Jackson Meadows reservoirs which are operated for the district by the U.S. Forest Service. Nature, solitude, scenery and good camping and fishing are main attractions.

Sailors and kayakers gather at Scotts Flat Reservoir

NID Treated Water Service

Through the years, NID has changed with the communities it serves. The district remains committed to the supply of irrigation water but since the 1970s most new customers have applied for treated water service. Today, three of every four customers use treated drinking water. Average water use is 400 gallons per home per day.

Treated water service areas are located in and around Grass Valley, Nevada City, Banner Mountain, Glenbrook Basin, Loma Rica, Alta Sierra, Lake of the Pines, Penn Valley, Lake Wildwood, Smartsville and North Auburn.

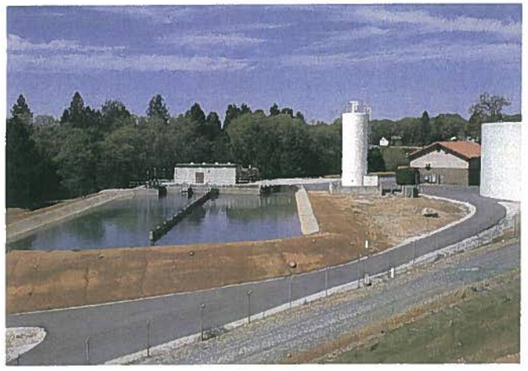
Generally, treated water is available in the more populated areas. It is expensive to extend treated water main lines into rural areas where there are few customers to share the costs. In recent years, the district has been successful in working with local property owners to form local water quality improvement districts.

NID presently operates 7 water treatment plants that supply some 3.5 billion gallons, or approximately 11,000 acre-feet, of treated drinking water per year. The plants are operated by state-licensed and certified technicians. Water treatment processes include chlorination, coagulation, flocculation, sedimentation and filtration. NID does not fluoridate its water supplies. NID treated water meets and exceeds public health standards set by the California Department of Health Services.

The district operates a state-certified water laboratory where water samples from throughout the district are tested regularly.

NID Water Treatment Plants

Plant	Capacity (million gallons per day)
Loma Rica	8.0
Elizabeth George	10.0
Lake Wildwood	4.0
North Auburn	6.0
Lake of the Pines	5.0
Cascade Shores	0.34
Smartsville	0.085



NID's Loma Rica Water Treatment Plant

NID Irrigation Water Service

In recent years, NID has supplied an average 145,000 acre-feet of raw water per year. About 90 percent of this total is used for local agriculture. At the lower end of the system, surplus water is sold to users outside the district.

NID serves approximately 5400 raw water customers. Most purchase their water on a seasonal basis — the six-month irrigation season normally runs Apr. 15 through Oct. 14. Some irrigation customers purchase water on a year-round basis.

Irrigation water is used to irrigate pasture for cattle, sheep, horses and other livestock. NID water irrigates several golf courses. Irrigation water is used in gardens, nurseries, orchards and vineyards for both commercial and home production. Grapes, apples, peaches, nuts, berries, corn, rice, wheat and oats are among the local crops.

NID water is used in local vineyards, left.

A water release into the Chicago Park Canal, right.

Irrigation water fills ponds and reservoirs for stock watering, fire supression and recreation. Availability of irrigation water is an important factor in the preservation of open space, greenbelt areas.

There are an estimated 97,000 irrigable acres in the Nevada Irrigation District, about a third of which are presently in irrigation.

the NID story

NEVADA IRRIGATION DISTRICT

MOUNTAIN WATERSHED

Most NID water begins as snow on a 70,000-acre mountain watershed. The highest peak on district watershed is 8,373-foot English Mountain. As the snowpack melts, runoff is captured in seven mountain division reservoirs. NID watershed is located on the upper reaches of the middle and south forks of the Yuba River, Bear River, Canyon Creek, Deer Creek and several tributaries.

MOVING THE WATER

From the mountain division, NID water flows through the Bowman-Spaulding Canal, via Fuller Lake, to PG&E's Lake Spaulding. It is then routed down either the South Yuba Canal to Scotts Flat and the Nevada City-Grass Valley area, or down the PG&E Drum System along the Bear River where it is used to generate power for NID and PG&E before supplying customers in southern Nevada and Placer counties.

NID SERVICE AREA

NID water is supplied to nearly 22,000 agricultural and treated water customers in the district's 287,000-acre boundaries. Treated water service areas are supplied through a network of eight water treatment plants. Surplus raw water is supplied to other users outside the district.

THE WATER WEB

By the time NID water reaches the end of the system, on the south side of Lincoln in Placer County, at an elevation of 150 feet above sea level, the water has traveled approximately 100 miles and has dropped 5,000 or more vertical feet. NID carries water through 400 miles of canals and 300 miles of pipeline.

State of California
The Resources Agency
Department of Water Resources
WATER USE AND EFFICIENCY BRANCH
P.O. Box 942836
Sacramento, CA 94236-0001

Phone: (916) 651-9676
Web site: http://www.water.ca.gov/wateruseefficiency
e-mail: landscape@water.ca.gov

(A copy of this brochure is available in PDF format at **http://www.water.ca.gov/wateruseefficiency/docs/water_efficient_landscapes.pdf**)

This brochure was written by Julie Saare-Edmonds, landscape specialist for DWR's Water Use and Efficiency Branch. Design and layout was provided by Alice Dyer of DWR's Division of Planning and Local Assistance.
OSP 10 117345

water efficient
L A N D S C A P E S

In California, the largest use of all urban water is watering landscapes. When a landscape or irrigation system is poorly designed or poorly maintained, or the landscape consists of plants not suited to the dry and often hot California climate, water demand increases as a result of excessive evaporation, leaks, and runoff. Water consumption can be greatly reduced with careful planning, good plant selection, efficient irrigation systems, and good water management and maintenance practices.

Since California experiences frequent and sometimes prolonged droughts together with an ever increasing demand, there is a great need for us to use water efficiently. But this doesn't mean we have to give up our gardens. We can use water more efficiently and still have colorful, esthetically pleasing landscapes—including some turf areas for recreation.

This brochure is intended to help you create a landscape that is not only water efficient, but attractive, colorful, and low maintenance. The designs illustrated here are typical back yards, but the principles of water efficient gardening apply to front yards as well.

Planning ahead

Planning is the key to a successful water wise landscape. It is very tempting to go to a garden center and buy plants because they catch your eye, but not knowing where to place them and how much water they need are the beginnings of an unnecessarily high water using landscape. By planning ahead, costly mistakes can be avoided.

Contact your local water provider to see if they offer any services such as water audits or landscape planning. Some agencies offer landscaping classes and provide water conservation devices. Some also have demonstration gardens where you can witness water efficient gardens in person, see how attractive they can be, and get ideas for your own site.

To get started, measure the landscape and draw the area and any existing landscape features to scale. This will give you an idea of the numbers of plants you will need, the size of the lawn and how much irrigation pipe, sprinkler heads, and mulch you will need to buy.

Consider the size, sun exposure, and slope of the area to be landscaped. Avoid lawns on slopes that are difficult to mow and water. If possible, reduce slopes in the landscape that encourage runoff and waste water.

Think about who will use the landscape and how they will use it. These factors determine the type of plants required and how it will be maintained. Don't forget the need for shade and privacy screening.

When drawing the actual planting plan, avoid the temptation to place too many plants for the area. A crowded garden will use more water, cost more, be prone to diseases, and require more maintenance.

Consult books such as *Sunset Western Landscaping Book* about garden design. Many books available are very good for useful advice and ideas. Some are written with the dry west in mind and focus on landscaping with the proper types of plants for warm, dry climates.

If this phase of the project is too difficult, hire a licensed landscape architect or designer. A landscape architect might be able to design the irrigation system for you or you can consult with an irrigation design specialist. Be sure to keep a copy of the landscape plans for future reference.

How much grass do you need?

Lawns use more water than any other part of a landscape and they cover large amounts of acreage statewide. Oftentimes lawns are installed because an alternative was never considered. There are alternatives to lawns, so in the planning stage decide if lawn is really a requirement in your yard. Think of who will use it and how often, who will mow it, fertilize it, remove the thatch, etc.

Perhaps a lawn is not needed at all. If a grass area is really just space filler, consider alternatives such as hardscapes, rock gardens or an unthirsty groundcover. This is especially important on areas with slopes that tend to shed water faster than it can soak in. Water draining into street gutters and storm drains often discharges directly into streams and this runoff from landscapes frequently contains fertilizers, pesticides, and other pollutants.

If you choose to plant a turf area after considering these factors, minimize the size of the lawn and choose a grass type that doesn't require lots of water and fertilizer.

Warm season grasses such as Hybrid Bermuda Grass and St. Augustine Grass use much less water than cool-season grass such as Kentucky Bluegrass. Certain Dwarf Tall Fescues use somewhat less water than Bluegrass.

Warm season grasses typically have a short winter dormant period, but winter dormancy occurs when many people are not actively using their gardens and even dormant, warm season grass provides a usable surface for people and pets. If the look of dormant grass is objectionable, it can be overseeded with another type of grass for the winter.

Good choices make good landscapes

Once a decision regarding the turf area has been made, choose trees and large shrubs next. Make these choices carefully, they are the "backbone" of any landscape and poor choices will result in high water use, poor performance, and frequently costly maintenance or removal.

When selecting trees and large shrubs, choose varieties that will still fit into your yard when they mature. Learn what your climate zone is and buy plants that are suited to it. Choose deciduous trees for shade and evergreen trees for screening.

Try to group plants by water requirements, such as very low (e.g. drought tolerant California natives, such as Blue Oaks, Western Redbud), low (e.g. Rosemary, Lavender), medium (e.g. Photinia, Euonymus), and high (e.g. Australian Tree Fern, Umbrella Sedge). Keep the high water-using plants to a minimum as focal points.

Set all shrubs and tree root balls somewhat high in the planting hole so that the top of the root ball will not settle below grade.

If young trees need staking, use two or three stakes tied loosely and just high enough on the trunk to keep the trunk from bending over. Remove them once the trees can stand on their own. While stakes can support a newly planted tree, if left too long, they will actually cause the tree to grow weakly. Shorten the staking poles so that they will not rub the bark of the new tree.

New lawns can be seeded, hydroseeded or planted with sod. There are advantages to all of these methods; therefore, budget, time of year, and availability of products will determine the right grass planting method for your landscape. A good landscaping book will outline the steps to preparing, planting, and maintaining a lawn.

After the plants are planted, cover the ground around trees and shrubs with a two-to-three-inch layer of organic mulch, keeping it away from the plant stems. Mulch will keep the soil cool and moist in warm weather and insulate it during winter. Mulch also has the added benefit of controlling weeds and enriching the soil by adding organic matter.

Routine maintenance keeps a landscape looking great

Regular maintenance of a landscape will keep it looking great and resource efficient. By working on small tasks on a continuous basis the large tasks will be limited.

- Check the irrigation system frequently for leaks, broken sprinklers, and clogged emitters; repair with the correct parts.
- Adjust the sprinklers as needed. If water runs off the landscaped area before the irrigation cycle is complete, adjust the timer to run several times with a shorter duration each time. For example, instead of running it for 15 minutes continuously, adjust the timer to run three times that day for 5 minutes each time, with an interval in between to let the water soak in. This is especially important on slopes and high traffic areas.
- Check the soil moisture depth with a soil probe or large screwdriver. If you use a screwdriver, push it in to the soil until you feel resistance. That is the approximate depth of where the soil is dry. If the moisture extends well below the root zone cut back on the water somewhat by shortening the time of an irrigation cycle or adding more time between cycles.
- Observe how a decrease in water affects the landscape and make adjustments as needed.
- Refresh the mulch layer in the spring.
- Prune only when necessary to shape the plant or remove dead or diseased parts.
- If fertilizer is necessary, use a balanced fertilizer, avoiding high Nitrogen mixtures that will cause excessive growth and could impact groundwater quality.
- When you mow, "grasscycle" the clippings. The clippings left behind on the grass will break down without causing a buildup of thatch.
- Aerate lawns occasionally to improve water infiltration.
- In times of drought, deep soak shrubs and trees only after they show signs of water stress, and water only in off peak hours. If a drought becomes severe, community leaders may ask people to stop watering their lawns, but any trees planted in lawn areas will still need an occasional soaking to survive. Deep soak these trees as you would any other tree in the landscape by drip, bubbler or garden hose.

If a garden is comprised mostly of water efficient plants, the landscape can be sustained on minimal irrigation through a drought and will be able to recover when water conditions improve.

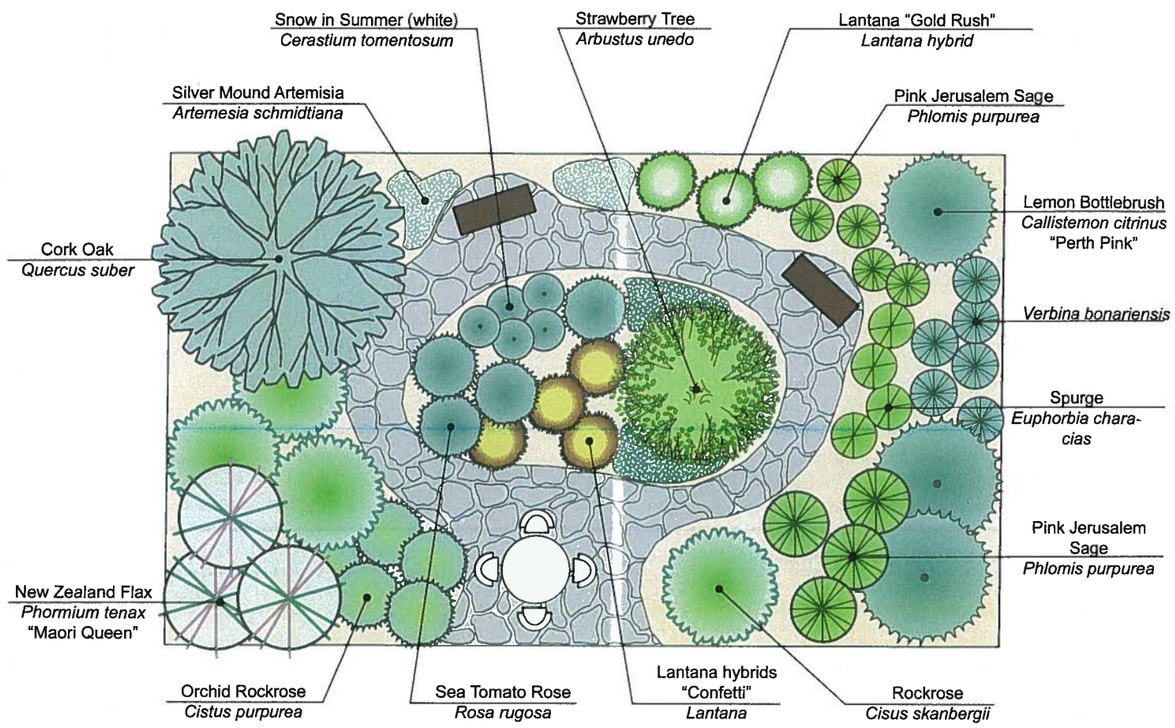
The big picture

If good horticultural practices are followed, the dependence on chemicals in the garden can be reduced significantly. Mulching and grasscycling can greatly reduce the need for chemical fertilizers. Likewise, when less water is used, fertilizers and pesticides are not washed away. Less water controls excessive growth and reduces the amount of succulent new growth that is attractive to insect pests.

Since too much water causes many problems with plants, it makes sense to be water wise. It will save money and time, as well as give the gardener the satisfaction of doing his or her part in solving California's real water challenge.

strolling garden

Turfless is effortless—well, almost.
If you don't need grass, just a quiet place to enjoy nature and be outside, try installing a strolling garden. Many water efficient plants are not fussy and don't require a lot of maintenance. Occasional pruning to rejuvenate and improve shape is all that many of these plants need. Unthirsty plants, organic mulch, and a permeable gravel path make this garden a real water saver. This garden, with a landscaped area of about 900 sq. ft., requires about 1,550 gallons for July in the Central Valley and only about 1,000 gallons on the Coast during July.



Some features to look for in irrigation controllers are:

- multiple independent programs (for different types of plant zones)
- several start times, cycle and soak (for heavy or compacted soil or sloped areas)
- nonvolatile memory and battery backup (to keep the schedule current after a power failure)
- water budgeting in percentage (%) increments (to water according to what the plants really need)
- rain shut-off device (to save water when the landscape is watered by rain)

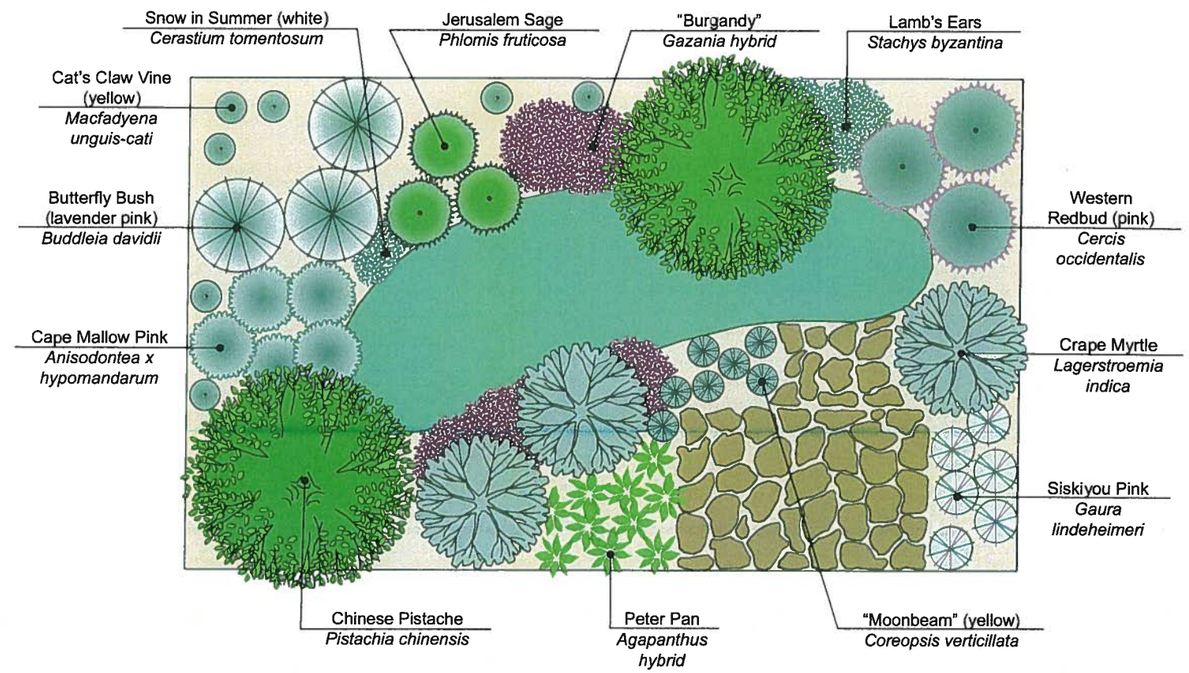
These irrigation guidelines are general and may not always reflect the needs of your particular site.

The fun part

Once the irrigation system is installed, the lawn, trees, and shrubs can be planted. If your site has very sandy or heavy clay soil, amend the soil to increase the fertility and water holding capacity or to improve drainage. Plant shrubs according to the plan so that their leaves will just touch once they become established. This will ensure that the ground will be shaded by foliage but there will be adequate air circulation. This "room to breathe" will make appreciating the foliage and flowers much easier.

water efficient landscape

What's right about this landscape?
Warm-season grass, permeable surface patio, water efficient plants with nearly year-round color, mulch in shrub areas, deciduous trees for summer shade and winter sun, a California native, shrubs attractive to hummingbirds and butterflies. This garden, with a landscaped area of 1,800 sq. ft., requires about 5,800 gallons of water to irrigate for the month of July in the Central Valley. A smaller lawn would make this landscape even more water efficient. A landscape of the same size with thirsty plants and a bluegrass lawn would require an additional 2,000 to 3,000 gallons of water for the month of July.



For help with selecting trees, shrubs, and groundcovers consult a good gardening encyclopedia such as *Sunset Western Garden Book*, your local Cooperative Extension, or a reputable nursery. Your local Urban Forester or tree foundation can give valuable advice about which trees grow well in your area.

Another excellent reference is *A Guide to Estimating Irrigation Water Needs of Landscape Plantings in California*, which is available on the Department of Water Resources Web site at:
http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf

Beginning on page 45, this publication gives the water needs of landscape plants in the six major climate regions of California. Guides of this type are valuable in the design stage by aiding in the selection of plants for groupings with similar water needs. These groupings of plants of similar water requirements are also known as hydrozones.

Irrigation

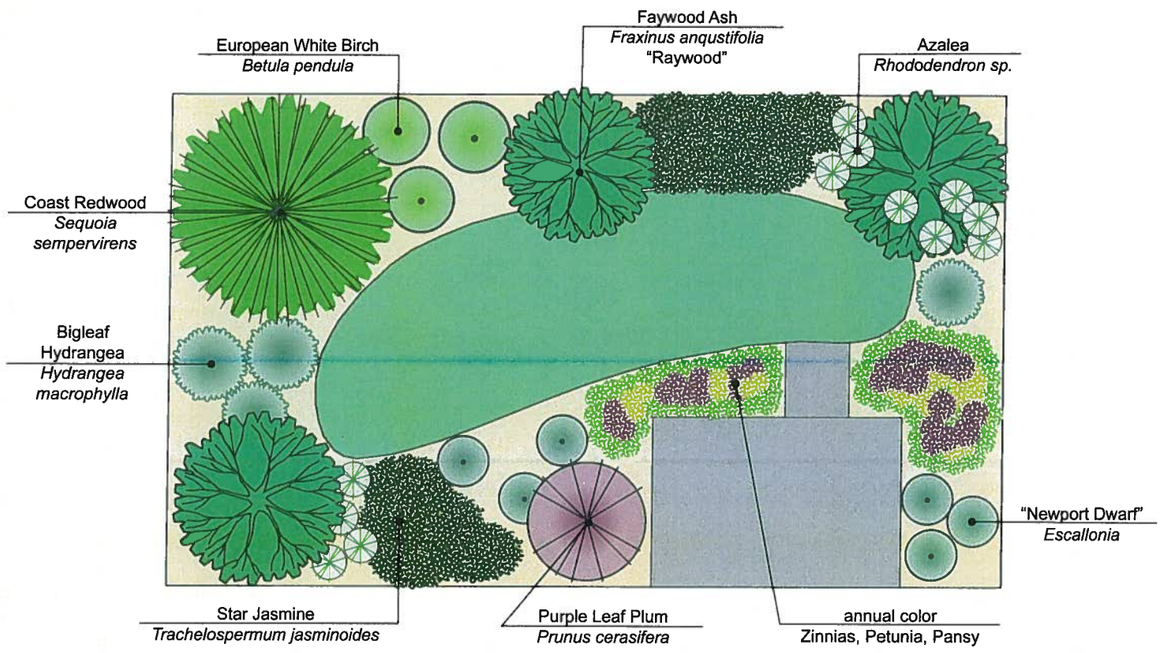
After the plants are chosen, design and install an efficient irrigation system—one that will deliver a sufficient amount of water where it's needed. If you need information or help to design an irrigation system, ask at an irrigation supply store or hire a licensed landscape contractor who specializes in irrigation systems to design and install it.

Several of the major irrigation equipment manufacturers sell inexpensive irrigation design manuals online and at supply stores. A good irrigation design manual will address important aspects of sprinkler design such as sprinkler layout, water pressure, choosing the right sprinkler for the job, head to head coverage, and matching precipitation rates. Some manufacturers offer free irrigation design services.

typical landscape

What's wrong with this landscape? (from a water conservation point of view)
Large lawn with cool-season grass, impervious patio, and a lot of high water using plants (Hydrangea, Azaleas, Birches, Annual color and Coast Redwood). This garden, with a 1,600 sq. ft. landscaped area, requires about 8,400 gallons of water to irrigate for the month of July in the Central Valley. This landscape requires over 2,500 gallons of water more per month (in July) than the previous example.

What could be a better version?
Although this landscape uses several water efficient plants, the water use is still high. Smaller lawn, warm season grass, less high water using plants, mulch, and avoiding large trees in smaller yards make landscapes much more resource efficient. For example, Redwoods need a lot of moisture and grow too large.



Always be sure to keep a drawing of the sprinkler layout and a list of parts used (including brand names and model numbers) for future reference. This will make any future repairs or additions much easier.

Use sprinklers that will apply water evenly. Use stream rotors on lawns and bubblers in shrub and tree areas. The better quality pop-up spray sprinklers work well in smaller areas, but avoid using sprinklers that create a fine mist because much of that water is lost to evaporation and overspray.

Check the operating pressure with a pressure gauge at an outdoor faucet so that you can select the right sprinkler for the job. Sprinklers are labeled to show how far they spray at different pressures. Operation at too high of pressure will create a lot of water-wasting mist and too little pressure will cause uneven coverage. Microspray and drip irrigation are other good choices for tree and shrub areas. Microspray and drip also work well on container gardens and window boxes. Microspray and drip systems apply water slowly and just where it's needed.

When you water, apply it infrequently, deeply (throughout the root zone), and evenly. This will encourage deep rooting, which will make plants better able to withstand hot, dry spells.

Lawns require water about once or twice a week in warm weather. Trees and shrubs require watering less frequently. Because of this shrubs and trees should always be on separate zones from turf.

In the spring, fall, and winter all plants need much less water than is required in summer. Consequently, watering time should be much shorter and less frequently in the off peak seasons.

One way to make watering much easier is by using an irrigation controller, also called a sprinkler timer or clock. Timers can save gardeners a lot of time by watering automatically, but they can waste a lot of water if not reprogrammed to water less as the seasons change.

If an irrigation controller is to be used, be sure to purchase one with multiple functions. Buy one with extra stations in case you need to add irrigation zones later. Most importantly, adjust the timer monthly, weekly if needed, so that the irrigation time set for the summer is not set during the rest of the year.

During hot or cool spells most controllers can be easily adjusted without disturbing the original program. By using the "seasonal adjust" or "budget adjust" feature, frequent changes to the amount of time watering can easily be accomplished simply by pushing a button.

The amount of water applied can be increased or decreased in 10% increments. When considering that July is usually the peak demand for water, it can be considered to be the 100% mark.

For example, during April the irrigation could be turned on and the controller set for 60% of the amount it will be watered in July. This can be accomplished by pushing the seasonal adjust button until the display shows 60%. The controller can be adjusted upwards gradually as the weather warms.

Likewise in fall, the season adjust can be adjusted downward beginning in August for most areas of California. This can continue through October or November. By November the irrigation system can be turned off in most places in the state.

Rainfall may be enough for most areas, but if supplemental irrigation is required during the winter, use the manual "on" switch to run the irrigation when the landscape shows signs of water stress. The controller can also be reprogrammed to run less frequently than it would during the rest of the year. Consider installing a rain shut-off switch to prevent watering while it's raining.

Use a soil probe or large screwdriver to check the soil moisture. It may look dry on the surface, but be moist underneath. If the soil is still moist, plants probably won't need to be irrigated yet. Always observe how a change in the irrigation schedule affects the landscape.

water wise plants

There are many water wise plants to choose from that thrive in California's mostly moderate climate. These include both many attractive natives and plants introduced from other Mediterranean-like climates. These unthirsty plants enable any gardener to create a water conserving landscape. In addition to the plants shown in these water efficient landscape designs, here is a list of a few more of the many water wise plants available.

SHRUBS

Blue Hibiscus, *Alyogyne huegelii*
Coyote Brush, *Baccharis pilularis*
Barberry, *Berberis x stenophylla*
Bush Anemone, *Carpenteria californica*
Bush Morning Glory, *Convolvulus cneorum*
Smoke Tree, *Cotinus coggygria*
Euryops, *Euryops pectinatus*
Pineapple Guava, *Feijoa sellowiana*
Texas Ranger, *Leucophyllum sp.*
Pomegranate, *Punica granatum*

TREES

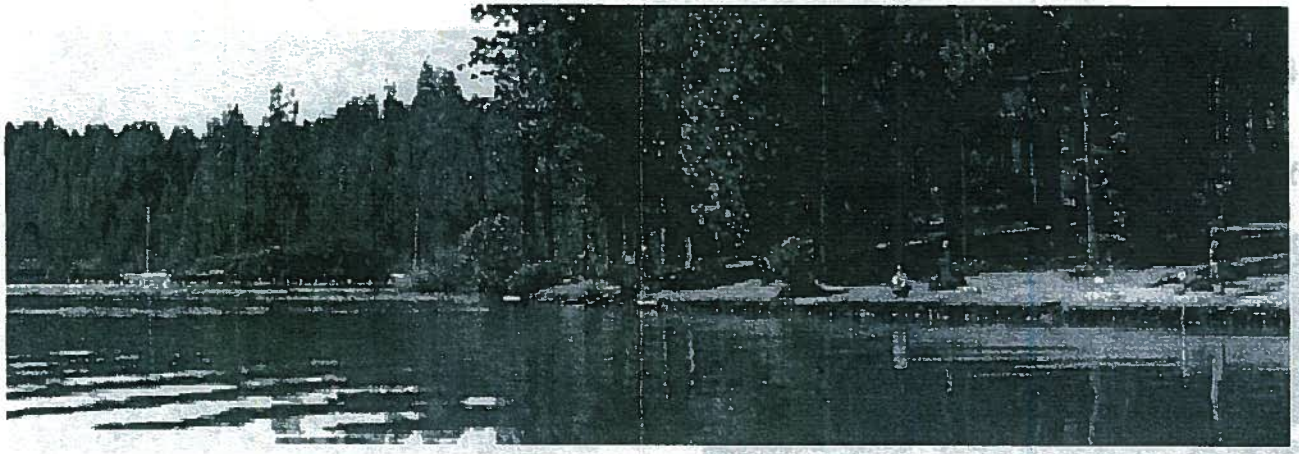
Madrone, *Arbutus menzlesii*
Bottle Tree, *Brachychiton populneus*
Pindo Palm, *Butia capitata*
Australian Beefwood, *Casuarina stricta*
Honey Locust, *Gleditsia triacanthos*
Sweet Bay, *Laurus nobilis*
Interior Live Oak, *Quercus wislizenii*
Locust, *Robinia x ambigua*
Texas Mountain Laurel, *Sophora secundiflora*
Chaste Tree, *Vitex agnus-castus*

GROUNDCOVERS

Bearberry, *Arctostaphylos uva-ursi*
Carmel Creeper, *Ceanthous griseus horizontalis*
Red Spike Ice Plant, *Cephalophylum sp.*
Chamomile, *Chamaemelum nobile*
Creeping Coprosma, *Coprosma x kirkii*
Trailing Lantana, *Lantana montedivensis*
Creeping Mahonia, *Mahonia repens*
Pork and Beans, *Sedum rubrotinctum*
Australian Bluebell Creeper, *Sollya heterophylla*
Wooly Thyme, *Thymus pseudolanuginosus*

PERENNIALS

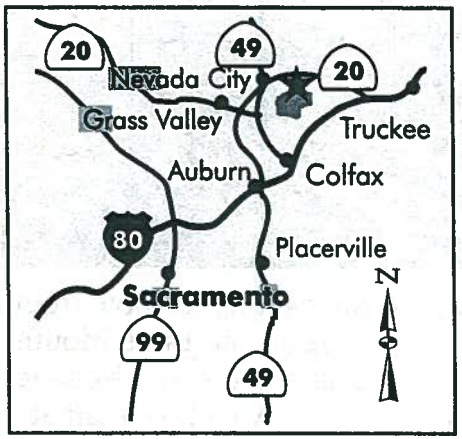
Yarrow, *Achillea millefolium*
Columbine, *Aquilegia hybrids*
Wormwood, *Artemisia* "Powis Castle"
Italian Arum, *Arum italicum*
Cast Iron Plant, *Aspidistra elatior*
Fortnight Lily, *Dietes iridioides*
Siberian Wallflower, *Erysimum x allionii*
Blanketflower, *Gaillardia grandiflora*
Sunrose, *Helianthemum nummularium*
Crown Pink, *Lychnis coronaria*



"The Family Resort"

Make Scotts Flat Lake your vacation headquarters, whether your pleasure be a day on the clear blue waters, a weekend of camping, a complete vacation . . . or just a picnic beside the lake.

This 4-season resort features spectacular sunsets in spring and fall.



Located 8 miles East of
Nevada City off Hwy 20.

1 hour from Sacramento
1½ hours from Reno, Nevada
3½ hours from San Francisco

Call
(530) 265-5302
for Reservations

Near Historic Nevada City

Scotts Flat LAKE

Boating • Fishing • Hiking
Camping • Relaxing

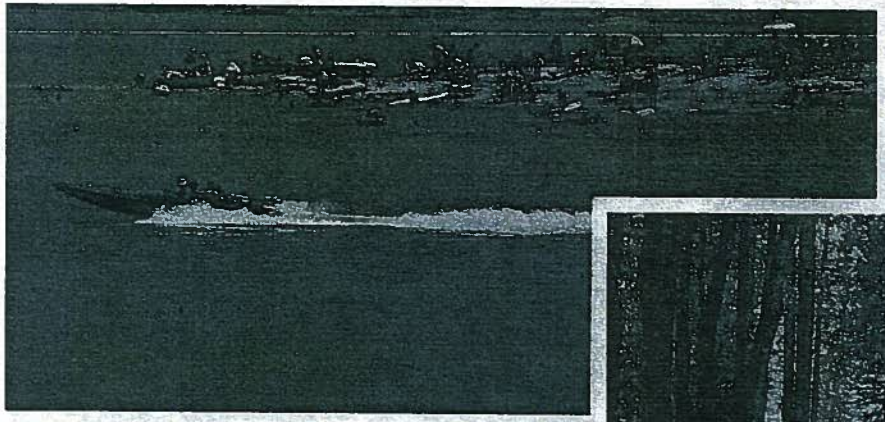
Scotts Flat Lake Recreation Area

18848 State Highway 20
Nevada City, CA 95959

(530) 265-5302 (Reservations)
(530) 265-8861 (Other calls)

Relax and Enjoy The Gold Country in the Sierras

SCOTTS FLAT RECREATION AREA is the gateway to the Tahoe National Forest . . .



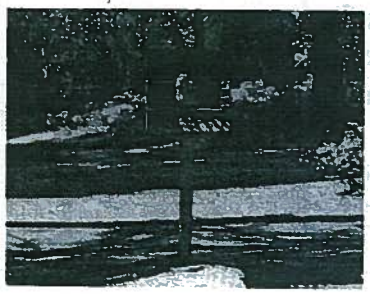
Water sports in the clear waters of Scotts Flat Lake are especially delightful: boating, swimming and water skiing.

At an elevation of 3,000 feet, the lake is an ideal headquarters for a complete vacation and family fun. Modern RV and trailer sites, hot showers, attractive tent sites and RV sanitary dump stations are all available at Scotts Flat Lake Recreation Area.

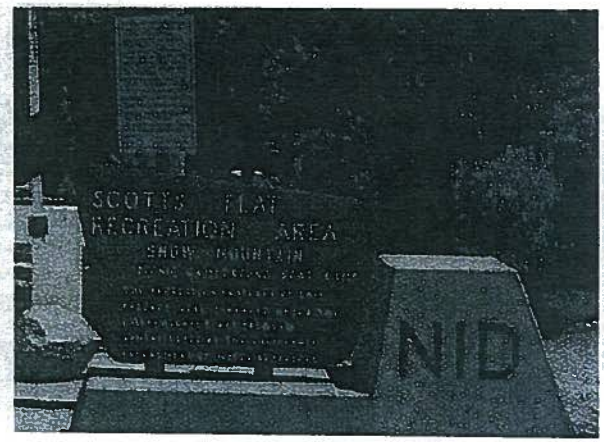
Complete boating facilities are featured including boat with motor rentals, concrete boat launching ramp, buoy moorings, and gas and oil. Open land boat and trailer storage space is also available.

Visit the Marina Store for all of your boating or fishing needs including premixed gas. A very picturesque picnic area with swimming beaches and barbecue grills and tables are available for day use. A well stocked store, flush toilets and hot showers, and playground are nearby to supply all your needs. The facility also offers ice and a laundromat.

Fishing for the fighting rainbow trout is excellent and Small and Large Mouth black bass, Brown Trout and Kokonee are abundant. Resort living is relaxed at Scotts Flat Recreation Area. Spend the day fishing, enjoy the water sports: swimming, boating, water skiing; relax in peace in the beautiful surroundings or take a hike through the wooded forest.



For your added peace and quiet we allow NO MOTOR BIKES, FIREWORKS or JET PROPELLED WATERCRAFT.



Winters are mild . . . although we do get some snow. Spring with its wild flowers and the beautiful fall colors makes this area truly a four-season vacationland.

Scotts Flat Recreation Area is the ideal place to spend your vacation and we hope you will come to visit us. We'll be happy to have you with us and will devote all our time and effort toward making your vacation what you want it to be.

For Reservations or Information:
(530) 265-5302
between 7 am and 3 pm

Or write to:
Scotts Flat Lake
18848 State Highway 20
Nevada City, CA 95959

For Non-Reservation Information:
(530) 265-8861

Water-wise Landscaping

Vol. 1 Issue 2

Water-Efficient Gardens
Still Not Convinced?

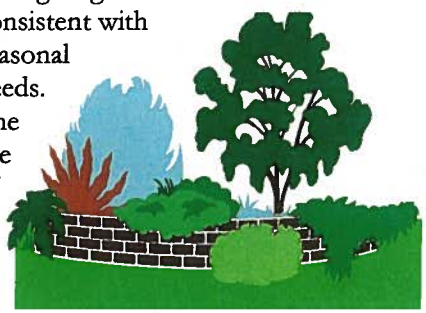
Do you think water-efficient landscape means a dry, uninteresting landscape? Hopefully you read the article about this landscaping technique in ***Issue 1.***

Water-efficient landscape employs several design techniques to fulfill its promise of water-wise, resource-efficient, and eye-appealing landscapes. Adding water features, patios, and walkways, irrigating efficiently, placing plants with like cultural requirements together, using plants with higher water requirements in an effective but limited manner, limiting turf grass areas, and using mulches are all part of water-efficient landscape.

Here are the answers to some common misconceptions and questions about water-efficient landscape.

I have an established landscape that I enjoy. Can I still use water-efficient landscape principles?

Yes. You can make sure that your irrigation system is operating correctly, that leaks are promptly repaired, and that the amount of water delivered during irrigation is consistent with seasonal needs. The use of proper pruning and mowing techniques, coupled with applications of mulch to help conserve soil moisture, are all water-efficient landscape techniques.



I have heard that only certain plants can be used in water-efficient landscape and that I shouldn't plant azaleas. Is this true?

No! Any plant can work in this type of landscape as long as it is in its appropriate environment. Water-efficient landscape principles and proper plant selection guidelines recommend that when selecting plants for your landscape you always consider the existing characteristics of the intended plant location. If you want to plant azaleas, for example, select a location that offers some shade; acidic soil that is moist, well drained, and rich in organic matter. Place together plants with similar water needs. Water-efficient landscape designs include limited use of high water plants aggregated in focal areas of the landscape.

I want to use native plants in my landscape. How do they work with water-efficient landscape?

Native plants that grow in your area are generally good choices in a water-efficient landscape design because they are acclimated to the environment. Native plants that need little summer water, once established, are good selections for the outer areas of the landscape. As mentioned in the answer above, consider the cultural characteristics of each plant before selecting a planting location. Many native plants, for example, require good drainage and won't thrive in heavy, clay soils.

I like the idea of using mulch in my planting beds because of its many benefits. What kinds of mulches are available?

First, consider composting your yard waste. Composting provides a good source of mulch and reduces landfill levels. Nurseries and landscape material suppliers sell mulch in bags or bulk. Many local programs, such as fire safety and air quality control, have chipping programs. Although not as beneficial to the landscape as organic mulches, inorganics, such as stone, cloth, and plastic, are an option.

I want to set my automatic irrigation system timer. How do I know how often to water the lawn?

Lawns perform best when they receive regular (two to three times per week), deep watering. Generally, lawns can use 1 to 1 ½ inches of water a week in hot, dry weather and about ½ to ¾ inches in cooler months, if it hasn't rained. The irrigation system can be turned off during rainy seasons. Watering time is, of course, dependent on the amount of water your system

UNIVERSITY *of* CALIFORNIA - Agriculture & Natural Resources

COOPERATIVE EXTENSION • PLACER & NEVADA COUNTIES **website: ceplacernevada.ucdavis.edu**

PLACER: 11477 E Avenue • Auburn, CA 95603 Tel: **(530) 889-7350** **Fax:** (530) 889-7397 **E-Mail:** ceplacer@ucdavis.edu

NEVADA: 255 So. Auburn Street • Grass Valley, CA 95945 Tel: **(530) 273-4563** **Fax:** (530) 273-4769 **E-Mail:** cenevada@ucdavis.edu

delivers per hour. Irrigation suppliers, nurseries, and your local Cooperative Extension office have information on how to determine watering times for your irrigation system. Water your lawn as the soil begins to dry out but before the grass wilts. Irrigate in the morning before 10:00 a.m.

Water-efficient landscape principles also talk about regular maintenance, which, for me, includes some mowing. How often should I mow my grass and how high should I set the blade?

When mowing your lawn, set the mower blade to cut to a height of 3 inches. If you mow lower, a shallow root system can develop because the grass blades are not large enough to provide necessary nutrients to the roots. Grass with a shallow root system is more susceptible to pests and drought. Remove about 1 inch of grass each time you mow. One inch of grass quickly decomposes and returns nutrients to the soil – so you don't have to collect the clippings. If you do not wish to leave the clippings or use a mulching mower, remember that grass clippings are an excellent source of "greens" for the compost pile.

I like the idea of saving water through creative landscaping; however, I live in a community with deed restrictions that specify how much grass and what type of plants to use. What should I do?

You can use water-efficient landscape principles in planning, designing and maintaining your landscape. However, local requirements may restrict your flexibility in selecting plants for an optimal design.

Principles, such as planning and maintaining an efficient irrigation system, become more important in your situation. You may consider working with your community to amend the existing requirements to allow for creativity, efficiency, and conservation of resources. The UC Cooperative Extension Master Gardeners can provide information and are available to speak to groups about resource-efficient landscaping.

I'm looking forward to establishing my water-efficient landscape so that I can eliminate yard work.

Water-efficient landscapes require a lot less maintenance than traditional landscapes, but no landscape is maintenance free. By applying water-efficient landscape principles, such as putting the right plant in the right place and irrigating plants as needed, the landscape is no longer one giant entity in which every plant gets the same care. You add nutrients and water only when they're needed. You treat damage or disease only when and where it's required. In this way, you reduce the amount of money you spend on fertilizers, pesticides, fungicides, and irrigation. Regular maintenance, such as pruning, mowing, and checking the irrigation system, is important for the health of any landscape.

Want more information? Still have some questions? Contact your local U.C. Cooperative Extension office and ask to speak to a Master Gardener. We love to talk gardening.

References

California Master Gardener Handbook. **2002**. UC ANR Publication 3382.

Xeriscape Principles. Southwest Florida Water Management District. *www.swfmd.state.fl.us*

Resources

Placer County Water Agency
http://www.pcwa.com

Water Wise Gardens of California
http://www.usbr.gov/mp/watershare/

Water Education Foundation
http://www.water-ed.org

Water Saver Home
http://www.h2ouse.org

Written and compiled by JOANN MOORE, UCCE Master Gardener, and KEVIN MARINI, UC Program Representative

WATER-WISE LANDSCAPING is a collaborative project of the University of California Cooperative Extension, UCCE Master Gardeners of Placer and Nevada Counties, Placer County Water Agency, and the US Bureau of Reclamation. For more information call 530-889-7388 or visit http://ceplacernevada.ucdavis.edu

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristic), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam-era veterans or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities or with respect to any of its employment policies, practices, or procedures.

University Policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200; (510) 987-0096

University of California, United States Department of Agriculture, Placer and Nevada Counties Cooperating

Printed courtesy of Nevada Irrigation District

Water-wise Landscaping

Vol. I Issue 1

Tips for Water Efficiency

Water is a finite resource that is renewed only at the whim of nature. With growing populations and increasing development, it is essential that we look at water as a precious resource not to be wasted. It is estimated that up to 50% of water consumed by the average urban household is used for landscape plants and turf grass.

To manage water in your yard, you can gradually introduce drought-tolerant plants into an existing garden or design and plant a new water-efficient landscape. "Water-Efficient Landscape" is a generally accepted term for a landscape which uses plants that have low water requirements and are able to withstand periods of drought. Water-efficient landscapes are a conscious attempt to develop plantings compatible with the environment. California has a Mediterranean type climate with warm, dry summers and cool, wet winters. Take this into account when you select plants.

Water-efficient gardens do not have to look like seas of gravel and plastic, or cacti and rocks. They can be full of beautiful green plants, but they must have low water requirements. Use the following tips to keep the number of thirsty plants and grasses in your landscape to a minimum.

> *"It is estimated that up to 50% of water consumed by the average urban household is used for landscape plants and turf grass."*

Plan your landscape to match the exposure at the site, the drainage, water availability, wind direction, and soil type. As a general rule, southern and western exposures result in the greatest water loss. Excessive use of rock in southern or western exposures can cause temperature increases in and around the house. Use sun-loving, drought-tolerant plants to save water in these locations.

Define separate irrigation zones for plants with similar water requirements. Use water-loving shade plants like hostas and ferns sparingly in an area close to the house or patio. Put drought-tolerant plants like *Grevillea* and *Mahonia* together in a separate area. Hydrozoning, using irrigation zones for plants with similar water needs, can minimize water usage. Place shrubs that need watering once a week on a different water line than summer annuals that need daily water. Plants that require little or no summer water are effective in outer areas.

Reduce lawn areas. Use turf grass for function more than appearance. Grass is a good choice where children play but avoid long narrow strips of turf and isolated islands of grass that are difficult and wasteful to water. In outlying areas, use drought-resistant grasses or meadow mixes instead of lawn.

Save water with effective irrigation. Using the proper irrigation practices can lead to a 30-80% reduction in water usage. For flowers and shallow-rooted shrubs, drip irrigation is efficient and reduces pest and disease problems caused by wet foliage.

UNIVERSITY *of* CALIFORNIA - Agriculture & Natural Resources

COOPERATIVE EXTENSION • PLACER & NEVADA COUNTIES **website: ceplacernevada.ucdavis.edu**

PLACER: 11477 E Avenue • Auburn, CA 95603 Tel: **(530) 889-7350** **Fax:** (530) 889-7397 **E-Mail:** ceplacer@ucdavis.edu

NEVADA: 255 So. Auburn Street • Grass Valley, CA 95945 Tel: **(530) 273-4563** **Fax:** (530) 273-4769 **E-Mail:** cenevada@ucdavis.edu

Use a low-volume sprinkler system for lawn areas. Lawns require enough weekly water to penetrate the soil to a depth of 4-6 inches. Daily watering with a hand-held sprinkler is ineffective and wasteful. Adjust irrigation timing at least 4 times a year as the seasons change. Do not irrigate during the winter months.

The following is just a glimpse of a few Water-Efficient Plants:

Trees
Crape Myrtle
Lagerstroemia indica
Incense Cedar
Calocedrus decurrens
California Buckeye
Aesculus californica

Shrubs
Manzanita
Arctostaphylos (many)
Western Redbud
Cercis occidentalis
Wild Lilac
Ceanothus (many)

Perennials
Yarrow
Achillea (many)
Matilija Poppy
Romneya coulteri
Russian Sage
Perovskia

Use water-efficient plants and those that originated in climatic conditions similar to yours. Water-efficient landscape plants are not limited to natives. A huge array of plants with low water requirements is available at local nurseries. Plants with higher water requirements can be grouped together in limited areas. Use islands of intensely managed and irrigated plantings for accent. A small arrangement of bright color can make a strong, tasteful statement with less water than rambling shrubs or turf.

Include hardscape design elements such as decks, patios, walkways, arches, and seating areas. Accent them with container plants or water features. While conserving water, they can make outdoor "rooms" that add interest and utility to your landscape.

Use mulches to reduce evaporation, minimize erosion, keep soil cool, and improve the soil. Mulches will also reduce the number of weeds that compete for valuable moisture.

A well-planned water-efficient gardens combine beauty and function. It offers low maintenance, lower water bills, and a beautifully varied landscape.

References:

Xeriscaping: Creative Landscaping. http://cecalaveras.ucdavis.edu/xeri.htm

California Master Gardener Handbook. 2002. Dennis R. Pittenger, editor, UCANR Pub. 3382.

Resources

Placer County Water Agency
http://www.pcwa.com

Water Wise Gardens of California
http://www.usbr.gov/mp/watershare/

Water Education Foundation
http://www.water-ed.org

Water Saver Home
http://www.h2ouse.org

Written and compiled by RONNIE INGRAHAM, UCCE Master Gardener, and KEVIN MARINI, UC Program Representative

WATER-WISE LANDSCAPING is a collaborative project of the University of California Cooperative Extension, UCCE Master Gardeners of Placer and Nevada Counties, Placer County Water Agency, and the US Bureau of Reclamation. For more information call 530-889-7388 or visit http://ceplacernevada.ucdavis.edu

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristic), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam-era veterans or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities or with respect to any of its employment policies, practices, or procedures.

University Policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200; (510) 987-0096

University of California, United States Department of Agriculture, Placer and Nevada Counties Cooperating

Printed courtesy of Nevada Irrigation District

Water-wise Landscaping
Vol. I Issue 3

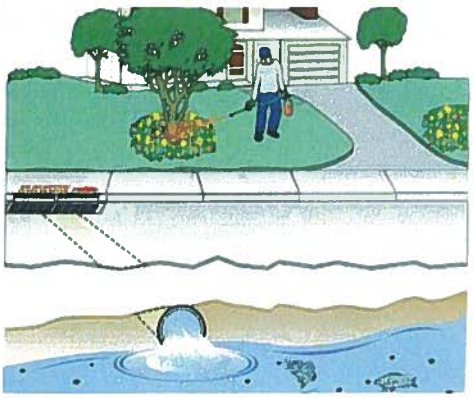
The Watershed Experience

The first time someone asked me about my local watershed, I stared deep into the blue sky above, contemplated, took a deep breath, and then replied, "Well, I know we have one, but I am not sure what or where it is."

Well, little did I know we were literally standing on top of one. On the crest of a tall ridge, we peered down to view the beautiful North Fork of the American River winding through the canyon below us. It turns out we each live in a watershed and our individual actions can impact the health of these areas in positive and negative ways.

What is a Watershed?

A watershed is generally defined as an area that drains to a common body of water or waterway, such as a stream, river, lake, estuary, wetland, aquifer, or the ocean. A watershed can be a large area like a section of a major river or a rather small area like a neighborhood creek. Regardless of the size or location of any given watershed, each is important to understand and protect.



> *"Watersheds provide so many elements that are crucial to the health of the environment for all living things. "*

Watersheds provide so many elements that are crucial to the health of the environment for all living things. They serve as essential habitat for plants and animals. They provide drinking water and energy production. They are the places we go to experience natural beauty, enthusiastic recreation or solemn repose.

Since all living things depend on fresh, clean water, it is imperative that we become intimately connected with our local watersheds and identify ways to restore and sustain these precious ecologies.

What are the Problems?

In order to rejuvenate and nurture our watersheds, we first need to be able to identify the key issues involved with their deterioration.

Pollutants

The myriad of pollutants that enter our waterways cause a tremendous amount of damage to our watersheds. The Watershed Watch Campaign states, "Pollution in our watersheds degrades the environment, harms wildlife habitat, impacts the economy and jobs, causes higher taxes and fees, and ultimately affects the health of humans." Intended or not, we can no longer ignore the unfortunate human impacts upon our watersheds.

There are two sources of pollutants: "Point" and "Nonpoint" Point sources are direct contamination of water through such means as ditches, pipes, or deliberate dumping. Monitoring and regulation are in place for this type of pollution and as technology improves, point source pollution continues to be somewhat controlled.

Nonpoint source pollution, on the other hand, is indirect contamination through water runoff. Some examples would be oily water from roads, sediment from construction projects, or pesticides from over-fertilized lawns draining into our creeks and rivers. It is very difficult to control nonpoint source pollution, which accounts for the overwhelming majority of chemicals in our waterways. Also, the realization of the extent of nonpoint source pollution and its effects on watershed health is relatively recent. In fact, many people still do not realize that the water that flows down our storm drains goes directly into our watersheds, completely untreated.

UNIVERSITY *of* CALIFORNIA - Agriculture & Natural Resources

COOPERATIVE EXTENSION • PLACER & NEVADA COUNTIES **website: ceplacernevada.ucdavis.edu**

PLACER: 11477 E Avenue • Auburn, CA 95603 **Tel: (530) 889-7350** **Fax:** (530) 889-7397 **E-Mail:** ceplacer@ucdavis.edu

NEVADA: 255 So. Auburn Street • Grass Valley, CA 95945 **Tel: (530) 273-4563** **Fax:** (530) 273-4769 **E-Mail:** cenevada@ucdavis.edu

Invasive Plants

The flora of any given watershed area relates directly to the wildlife it supports and the ecology it participates in. When a native plant is displaced by a different species, habitat may be lost and the area may become unsuitable for wildlife forage. Additionally, as stated in a 2002 Nevada County Resources Report, "Some of these aggressive, invasive exotics present serious problems because they degrade natural areas, exclude native species, disrupt ecosystem processes, alter fire frequencies, reduce recreational values, and restrict economic returns on crops." A good example of a ferocious invasive plant infesting our watersheds is yellow star thistle.

Awareness and Education

A legitimate barrier to healthy watersheds is the lack of public awareness regarding the issues. The need for environmental education in our schools and developing communities is stronger than ever.

Also, on the state and federal levels, there are a multitude of large agencies attempting to manage and study the different facets of any given watershed. Their goals are very specific and their resources are not tailored to addressing the needs of all management areas (e.g. recreation, drinking water, and salmon spawning). Hence, as stated in a 2002 report to the Legislature from the State Water Resources Control Board,

> *"Increasingly, in response to overlapping authorities and the challenges of protecting and restoring impaired waters, watershed partnerships have formed. These partnerships are not usually designed or instigated by government agencies, but they evolve as a result of local leadership—landowners, county officials, water districts, resource conservation districts, educators, and the general public - to improve environmental conditions and to manage natural resources more effectively on a watershed scale."*

If our watersheds are going to get the attention they deserve, agencies at the local level must work together to educate and increase public awareness of environmental issues. In this way, we can connect with our watersheds and lend a hand in their management.

What can we do?

There are so many ways to help restore and sustain our precious watersheds, both as individuals and as part of a group. Here are some suggestions.

1. ***Learn about your watershed.*** Take a walk near your waterways and observe. Visit the sites listed below in References. Find local groups working to protect your watershed and volunteer. Learn how development decisions, land use, and recreation affect water resources.
2. ***Garden wisely.*** Use least toxic methods in your yard and garden, reducing reliance on pesticides and herbicides. Water wisely to prevent runoff and don't over fertilize. Provide habitat for wildlife in your backyard by planting native plants. Use appropriate plants and mulch to prevent soil erosion. Dispose of pesticides and fertilizers properly through your Household Hazardous Waste collection.
3. ***Support Environmental Education and Action.*** Through education, communities can learn how their actions directly affect watershed health and, in turn, all living things.

References

2002 Report to Legislature by State Water Resources Control Board http://resources.ca.gov/watershedtaskforce/AB2117LegReport_041102.pdf.

*EPA Adopt Your Watershed Program.*www.epa.gov/owow/watershed.

Resource Conservation Districts Placer County: http://www.carcd.org/wisp/placer/, Nevada County: http://www.carcd.org/wisp/nevada/.

Sacramento River Watershed Program www.sacriver.org.

KEVIN MARINI, UC Program Representative

WATER-WISE LANDSCAPING is a collaborative project of the University of California Cooperative Extension, UCCE Master Gardeners of Placer and Nevada Counties, Placer County Water Agency, and the US Bureau of Reclamation. For more information call 530-889-7388 or visit http://ceplacernevada.ucdavis.edu

The University of California prohibits discrimination against or harassment of any person employed by or seeking employment with the University on the basis of race, color, national origin, religion, sex, physical or mental disability, medical condition (cancer-related or genetic characteristic), ancestry, marital status, age, sexual orientation, citizenship, or status as a covered veteran (covered veterans are special disabled veterans, recently separated veterans, Vietnam-era veterans or any other veterans who served on active duty during a war or in a campaign or expedition for which a campaign badge has been authorized) in any of its programs or activities or with respect to any of its employment policies, practices, or procedures.

University Policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's nondiscrimination policies may be directed to the Affirmative Action/Staff Personnel Services Director, University of California, Agriculture and Natural Resources, 1111 Franklin, 6th Floor, Oakland, CA 94607-5200; (510) 987-0096

University of California, United States Department of Agriculture, Placer and Nevada Counties Cooperating

Printed courtesy of Nevada Irrigation District

Appendix K:
NID Water Regulations

NEVADA IRRIGATION DISTRICT
WATER SERVICE REGULATIONS
TABLE OF CONTENTS

SECTION 1 1-1

INTRODUCTION 1-1
1.01 PURPOSE AND HISTORY OF DISTRICT 1-1
1.02 WATER SUPPLY AND FACILITIES 1-1
1.03 ORGANIZATION OF THE DISTRICT 1-2
1.04 MEETINGS OF BOARD 1-2
1.05 PURPOSE OF REGULATIONS 1-2
1.06 MODIFICATIONS TO REGULATIONS 1-2

SECTION 2 2-1

DEFINITIONS 2-1
2.01 ACRE FOOT (Ac Ft) 2-1
2.02 AGENT 2-1
2.03 APPLICANT 2-1
2.04 AWWA 2-1
2.05 BOARD 2-2
2.06 CHARGES 2-2
2.07 CONDUIT 2-2
2.08 CUSTOMER 2-2
2.09 DISTRICT 2-2
2.10 DISTRICT APPROVAL 2-3
2.11 DISTRICT FACILITY 2-3
2.12 EMPLOYEE 2-3
2.13 FACILITIES 2-3
2.14 GENERAL MANAGER 2-4
2.15 GOVERNMENT CODE 2-4
2.16 LANDOWNER 2-4
2.17 MINER'S INCH (M.I.) 2-4
2.18 OPERATE 2-5
2.19 OUTSIDE DISTRICT 2-5
2.20 PARCEL 2-5
2.21 PERSON 2-5
2.22 PREMISES 2-6
2.23 PRIVATE FACILITY 2-6
2.24 RAW WATER 2-6
2.25 REGULATIONS 2-6
2.26 BOARD SECRETARY 2-6
2.27 TREATED WATER 2-7
2.28 WATER CODE 2-7
2.29 WATER MAIN 2-7
2.30 WATER SERVICE 2-7
2.31 WATER USER 2-8
2.32 WITHIN DISTRICT 2-8

SECTION 3 3-1

GENERAL CONDITIONS OF WATER SERVICE 3-1
3.01 CUSTOMER COMPLIANCE 3-1
3.02 CONTROL OF DISTRICT FACILITIES 3-1
3.03 ALL WATER BELONGS TO DISTRICT 3-1

3.04 PLACE AND USE OF WATER 3-1
3.05 WATER CONSERVATION 3-2
3.06 TITLE TO WATER DELIVERED 3-2
3.07 OUTSIDE DISTRICT WATER USE 3-2
3.08 NON-LIABILITY OF DISTRICT 3-2
3.09 ENGINEERING SERVICES 3-3
3.10 UPDATING SPECIFIC CHARGES 3-3
3.11 ADDITIONAL CONDITIONS CONTAINED IN APPLICATIONS 3-3
3.12 ENFORCEMENT OF REGULATIONS 3-3

SECTION 4 4-1

TREATED WATER SERVICE 4-1
4.01 SUPPLEMENTAL DEFINITIONS 4-1
4.01.01 Fully Treated Water 4-1
4.01.02 Tank or Temporary Construction Water 4-1
4.01.03 Commercial Use 4-1
4.01.04 Non-commercial Use 4-1
4.01.05 Conveyance Agreement 4-2
4.01.06 Water Development Agreement 4-2
4.01.07 Standby Charge 4-2
4.01.08 Standby Factor 4-2
4.01.09 Minimum Size Water Service 4-2
4.02 STANDBY CHARGES 4-3
4.02.01 General 4-3
4.02.02 Uncollected Standby 4-3
4.02.03 Parcel Divisions 4-4
4.02.04 Properties Having Another Source of Water 4-4
4.02.05 Variances Granted by the Board 4-4
4.03 WATER SERVICE REQUEST 4-5
4.03.01 Route Slip 4-5
4.03.02 Application 4-5
4.03.03 Exception to Signed Application 4-5
4.04.01 General 4-6
4.04.02 Meter Installation Charge 4-6
4.04.03 Capacity Charge 4-6
4.05 WATER PRESSURE 4-7
4.05.01 Variations of Water Pressure 4-7
4.05.02 Low Pressure 4-7
4.05.03 High Pressure 4-7
4.05.04 Excessive Pressure Variations Caused by Customer’s Equipment 4-7
4.05.05 Water Heaters 4-8
4.06 METER INSTALLATIONS 4-8
4.06.01 General 4-8
4.06.02 Location 4-8
4.06.03 Parcel Requirements 4-9
4.06.04 Extent of Service Through Meter 4-9
4.06.05 Sizing 4-10
4.06.06 Customer Responsibilities 4-10
4.06.07 Frequency of Meter Readings 4-11
4.06.08 Non-registering and Unreadable Meters 4-11
4.06.09 Testing Meters 4-11
4.07 CHANGE OF EXISTING SERVICE 4-12
4.07.01 Upsizing 4-12
4.07.02 Downsizing 4-12
4.07.03 Relocating 4-12
4.08 WATER RATES 4-13

4.09 OFF RATE 4-13
4.10 NON-BENEFICIAL USE OF WATER ADJUSTMENT 4-14
4.11 WATER AVAILABILITY LETTERS 4-14
4.11.01 General 4-14
4.11.02 Administrative Processing Fee 4-14
4.12 WILL SERVE LETTERS 4-15
4.12.01 General 4-15
4.12.02 Extension Not Required 4-15
4.12.03 Extension Required 4-15
4.13 OUTSIDE DISTRICT TREATED WATER SERVICE 4-16
4.14 PRIVATE PIPELINES 4-16
4.14.01 General 4-16
4.14.02 Leakage 4-17

SECTION 5 5-1

RAW WATER SERVICE 5-1
5.01 SUPPLEMENTAL DEFINITIONS 5-1
5.01.01 Raw Water 5-1
5.01.02 Seasonal Irrigation Service 5-1
5.01.03 Winter Water Service 5-1
5.01.04 Annual Raw Water Service 5-1
5.01.05 Intermittent Flow Service 5-2
5.01.06 Fall/Stock Water 5-2
5.01.07 Demand Water Service 5-2
5.01.08 Tank or Temporary Construction Water 5-2
5.01.09 Miner's Inch (M.I.) 5-2
5.01.10 Rotation 5-2
5.01.11 Surplus Water 5-3
5.01.12 Closed Raw Water Integrated Conduit System 5-3
5.01.13 Service Outlet 5-3
5.01.14 Mutual Water Company, Special District, or Entity 5-3
5.02 WATER SERVICE REQUEST 5-3
5.02.01 Route Slip 5-3
5.02.02 Application 5-3
5.02.03 Cancellation 5-5
5.02.04 Early Application Discount 5-5
5.02.05 Change in Seasonal Irrigation Service 5-5
5.03 WATER USE EXCLUSIONS 5-6
5.03.01 Integrated Raw Water Conduit 5-6
5.03.02 Fish Cultivation 5-6
5.03.03 Water Use for Residential Purposes 5-6
5.04 SERVICE OUTLETS 5-7
5.04.01 General 5-7
5.04.02 Location 5-7
5.04.03 Installation Charges 5-9
5.04.04 Multiple Service Outlets 5-9
5.04.05 Removal 5-9
5.04.06 Account Charges 5-10
5.04.07 Relocation 5-10
5.05 WATER RATES 5-10
5.06 PRIVATE FACILITIES 5-10
5.06.01 Use Of 5-10
5.06.02 Operation and Maintenance 5-11
5.06.03 Excessive Leakage 5-11
5.06.04 Non-payment of Accounts 5-11
5.07 HYDROELECTRIC DEVELOPMENT 5-11

5.07.01 Natural Streams 5-11
5.08 MUTUAL WATER COMPANIES AND SPECIAL DISTRICTS 5-12
5.09 PRORATION OF CAPACITY 5-14
5.10 WATER AVAILABILITY LETTERS 5-14
5.10.01 General 5-14
5.10.02 Administrative Processing Fee 5-14
5.11 RAW WATER OUTAGE ADJUSTMENT 5-15
5.12 DROUGHT CONTINGENCY PLAN 5-15

SECTION 6 6-1

RENDERING AND PAYMENT OF BILLS 6-1
6.01 TERMS OF PAYMENT 6-1
6.01.01 Treated Water and Annual Raw Water 6-1
6.01.02 Seasonal Irrigation Service 6-1
6.01.03 STANDBY 6-3
6.02 MULTIPLE ACCOUNTS 6-3
6.03 BILLING TO THE AGENT/RENTER 6-3
6.04 NON-PAYMENT OF ACCOUNTS 6-4
6.05 SECURITY DEPOSITS 6-4
6.06 RETURNED CHECKS 6-5
6.07 DISCONTINUANCE OF SERVICE 6-5
6.07.01 Non-payment of Bills 6-5
6.07.02 Noncompliance with the District's Regulations 6-5
6.07.03 Customer Service Discontinuance Request 6-5
6.08 OUTSIDE DISTRICT CUSTOMER CHARGES 6-6
6.09 DISPUTED OR ERRONEOUS BILLS 6-6
6.10 TIME AND MATERIAL CHARGES 6-6
6.11 UNSPECIFIED CHARGES 6-6
6.12 TERM PAYMENTS 6-7

SECTION 7 7-1

CUSTOMER SERVICES 7-1
7.01 ROUTINE TURN ON AND TURN OFF 7-1
7.02 TURN ON FOR NONPAYMENT 7-1
7.03 EMERGENCY TURN ON 7-1
7.04 SPECIAL METER READINGS 7-2
7.05 SERVICE CALL 7-2

SECTION 8 8-1

FIRE SERVICES 8-1
8.01 GENERAL 8-1
8.02 DISTRICT LIABILITY 8-1
8.03 LOCATION 8-1
8.03.01 General 8-1
8.03.02 Treated Water System 8-2
8.03.03 Raw Water System 8-3
8.04 PUBLIC FIRE HYDRANTS ON TREATED WATER SYSTEMS 8-3
8.04.01 General 8-3
8.04.02 Installations 8-4
8.04.03 Hydrant Removal 8-4
8.04.04 Installation of a Hydrant Near Existing Hydrant 8-4
8.04.05 Relocation of Hydrant 8-4
8.05 PRIVATE FIRE SERVICE ON TREATED WATER SYSTEM 8-5
8.05.01 General 8-5
8.05.02 Installation 8-5
8.05.03 Service to More Than One Parcel 8-6

8.05.04 Charges for Water Service 8-6
8.06 PUBLIC FIRE SERVICE ON RAW WATER SYSTEMS 8-7
8.06.01 General 8-7
8.06.02 District Installation 8-7
8.06.03 Applicant Installation 8-7
8.06.04 Maintenance Responsibilities 8-8
8.06.05 Discontinuing Service 8-8
8.06.06 Charges for Water Service 8-8

SECTION 9 9-1

BACKFLOW PREVENTION 9-1
9.01 GENERAL 9-1
9.02 TYPES OF PROTECTION 9-1
9.03 DISTRICT RESPONSIBILITY 9-2
9.04 WATER USER'S RESPONSIBILITY 9-3
9.05 DISCONTINUANCE OF SERVICE 9-3
9.06 RETROFIT PROGRAM 9-3
9.07 REDUCTION IN DEGREE OF PROTECTION 9-3
9.08 INCREASE IN DEGREE OF PROTECTION 9-4
9.09 PRIVATE BACKFLOW PREVENTION DEVICES 9-5

SECTION 10 10-1

TREATED WATER SYSTEM EXTENSIONS 10-1
10.01 GENERAL 10-1
10.01.01 Supplemental Definitions 10-1
10.01.02 Extension Requirements 10-2
10.01.03 Water Availability 10-3
10.01.04 Service Feasibility Study 10-3
10.01.05 Developer Option 10-3
10.02 EXTENSION SPECIFICATIONS 10-3
10.02.01 Minimum Pipe Diameter 10-3
10.02.02 Development Standards 10-4
10.03 DEVELOPER CONSTRUCTED 10-5
10.03.01 Letter of Agreement 10-5
10.03.02 Plan Check and Inspection Fee 10-5
10.03.03 Conveyance Agreement 10-6
10.03.04 Performance Guarantee 10-6
10.03.05 Construction 10-7
10.03.06 District Acceptance 10-7
10.04 DISTRICT CONSTRUCTED 10-7
10.04.01 General 10-7
10.04.02 Type of Agreement 10-7
10.04.03 Construction Cost 10-8
10.04.04 Payment Schedule 10-8
10.05 DISTRICT FINANCIAL PARTICIPATION 10-8
10.06 REIMBURSEMENT FEE 10-8
10.07 PREPAYMENT OF CAPACITY CHARGES 10-11
10.08 REQUEST FOR VARIANCE 10-11
10.08.01 Request Procedure 10-11
10.08.02 Review of Variance 10-12
10.08.03 Expiration Date 10-12
10.08.04 Appeal Of Variance 10-13
10.09 PRIVATE PIPELINE REPLACEMENT 10-13
10.09.01 General 10-13
10.09.02 District Participation 10-13
10.09.03 Private Pipeline Owner Contribution 10-14

10.10 TREATED WATER SERVICE TO LARGE SIZE RESIDENTIAL LOTS 10-14
10.10.01 General 10-14
10.10.02 Applicability 10-15
10.10.03 Excess Footage 10-15
10.10.04 Excess Footage Charge 10-15
10.10.05 Reimbursement 10-16
10.11 TREATED WATER SERVICE TO NEW PUMP ZONES 10-16
10.11.01 General 10-16
10.11.02 Applicability 10-17
10.11.03 Design Considerations 10-17
10.11.04 Reimbursement 10-17

SECTION 11 11-1

RAW WATER SYSTEM EXTENSIONS 11-1
11.01 GENERAL 11-1
11.01.01 Supplemental Definitions 11-1
11.01.02 Purpose 11-1
11.01.03 Extension Review 11-1
11.02 PRIVATELY OWNED 11-2
11.03 DISTRICT OWNED 11-2
11.03.01 Capacity 11-3
11.03.02 Other Design Considerations 11-3
11.03.03 Letter of Agreement 11-3
11.03.04 Plan Check and Inspection Fee 11-3
11.03.05 Conveyance Agreement 11-3
11.03.06 Performance Guarantee 11-4
11.03.07 Construction 11-4
11.03.08 District Acceptance 11-4
11.03.09 Operation and Maintenance Considerations 11-4
11.03.10 District Financial Participation 11-5
11.03.11 Front Footage Reimbursement 11-5

SECTION 12 12-1

INTERFERENCE WITH DISTRICT FACILITIES 12-1
12.01 UNLAWFUL ACTS 12-1
12.02 ABATEMENT OF NUISANCE 12-1
12.03 DAMAGE TO DISTRICT PROPERTY 12-2
12.04 UNAUTHORIZED TAKING OF WATER 12-2

SECTION 13 13-1

ACCESS, RIGHT-OF-WAY AND PROPERTY MANAGEMENT 13-1
13.01 SUPPLEMENTAL DEFINITIONS 13-1
13.01.01 Private Road 13-1
13.01.02 Road Maintenance 13-1
13.01.03 Prescriptive Easement 13-1
13.01.04 Spill Channels 13-1
13.02 ACCESS TO FACILITIES AND LAND 13-1
13.02.01 District Access 13-1
13.02.02 Private Facilities 13-2
13.02.03 Land Surveys 13-2
13.03 PRESCRIPTIVE EASEMENTS 13-2
13.04 SPILL CHANNELS 13-2
13.05 PRIVATE ROADS 13-3
13.05.01 Routine Use 13-3
13.05.02 Specific Damage 13-3
13.05.03 District Contribution 13-3

13.05.04 Right-of-Way Agreements 13-4
13.06 DISTRICT ROADS 13-4
13.07 QUIT CLAIMS 13-4
13.08 EASEMENTS ON DISTRICT LANDS 13-4
13.09 ABANDONMENT OF RAW WATER FACILITIES 13-5
13.09.01 General 13-5
13.09.02 Resolution of Intention to Abandon 13-5
13.09.03 Resolution of Facility Abandonment 13-5
13.09.04 Current Customers 13-6

SECTION 14 7

PHYSICAL ENCROACHMENTS TO DISTRICT FACILITIES 7
14.01 SUPPLEMENTAL DEFINITIONS 7
14.01.01 Physical Encroachments 7
14.01.02 Authorization 7
14.01.03 Encroachment Permit 7
14.01.04 Permittee 7
14.01.05 Unauthorized Physical Encroachment 8
14.02 AUTHORIZATION 8
14.02.01 Preconstruction Requirements 8
14.02.02 Construction Work 8
14.02.03 Water Outage Necessary for Construction 8
14.03 ENCROACHMENT PERMITS 9
14.03.01 Issuance 9
14.03.02 Maintenance of Physical Encroachment 9
14.03.03 Revocation 9
14.04 UNAUTHORIZED PHYSICAL ENCROACHMENT 10
14.04.01 Notification and Penalty 10
14.04.02 Immediate Threat to District Facilities 11
14.05 DOCKS 12
14.05.01 Scope 12
14.05.02 Supplement to General Encroachment Regulations 12
14.05.03 Application Requirements 12
14.05.04 Requirements for Dock Location, Design and Installation 13
14.05.05 Safe Siting 15
14.05.06 Other Approvals 15
14.05.07 Insurance 16
14.05.08 Reservoir Use Fees 16
14.05.09 Fees 16
14.05.10 Revocation of Permit 17

SECTION 1

INTRODUCTION

1.01 PURPOSE AND HISTORY OF DISTRICT

The Nevada Irrigation District was formed August 15, 1921, by a vote of the people to collect, store and deliver irrigation water to farmers and ranchers. The District now encompasses approximately 287,000 acres and provides both agricultural and treated water to connections that will soon reach 25,000 due to projected growth increases.

eff. 6/11/03

1.02 WATER SUPPLY AND FACILITIES

The District's water supply originates in the upper reaches of the middle and south Yuba River as well as from the Bear River and Deer Creek waterflows. The District owns 10 storage reservoirs containing a capacity of 280,380 acre-feet. Treated water facilities include 8 treatment plants, 39 storage tanks and 325 miles of pipeline. The District also owns and operates five hydroelectric power plants. Power from the District Plants is sold to Pacific Gas and Electric Company. The plants provide on an average year about 350 million kilowatt hours of energy, an amount estimated to serve the equivalent of 85,000 homes. Two other plants, producing about 4 million kilowatts hours annually, are operated by the District under terms of private financing contracts, with the District sharing in revenue. Recreation facilities, operated by concessionaires and the United States Forest Service, are also provided at four of the District's reservoirs.

eff. 6/11/03

1.03 ORGANIZATION OF THE DISTRICT

Under the provisions of the Irrigation District Law, California Water Code Sections 20500 et seq, the affairs of the District are administered by a Board of Directors consisting of five members who are elected for a term of four years. Each Board member is elected by qualified voters within a certain division of the District. The District employs a General Manager, who reports directly to the Board, and a staff of about 170 employees to perform the daily operations of the District.

eff. 6/11/03

1.04 MEETINGS OF BOARD

The Board holds regular meetings on the second and fourth Wednesdays of each month, at the District's main office, located at 1036 W. Main St., Grass Valley, California. The public is welcome and encouraged to attend these meetings.

1.05 PURPOSE OF REGULATIONS

These Regulations are published pursuant to Section 22257 of the Irrigation District Law and provide for the equitable distribution and use of water within the District.

1.06 MODIFICATIONS TO REGULATIONS

These Regulations may be modified, amended or supplemented at any time by Board action.

eff. 6/11/03

2Section 2

SECTION 2

DEFINITIONS

2.01 ACRE FOOT (Ac Ft)

Term used in water measurement. By California statute, one acre foot equals 43,560 cubic feet or 325,851 gallons.

eff. 6/11/03

2.02 AGENT

Any person hired or under contract with or acting on behalf of the District.

eff. 6/11/03

2.03 APPLICANT

Any person applying for District service.

eff. 6/11/03

2.04 AWWA

American Water Works Association

eff. 6/11/03

2.05 BOARD

The elected Board of Directors of Nevada Irrigation District.

eff. 6/11/03

2.06 CHARGES

Includes tolls, rates, fees and any charges for service rendered by District.

eff. 6/11/03

2.07 CONDUIT

Includes canals, laterals, ditches, flumes, pipes and appurtenances.

eff. 6/11/03

2.08 CUSTOMER

Any person supplied or entitled to be supplied with water service by the District in accordance with established regulations, rates and charges.

eff. 6/11/03

2.09 DISTRICT

Nevada Irrigation District, organized and operating under the State of California, Division 11 of the California Water Code.

eff. 6/11/03

2.10 DISTRICT APPROVAL

Approved by the Board, or a delegated employee, such as the General Manager.

eff. 6/11/03

2.11 DISTRICT FACILITY

Any facility which is owned by the District.

eff. 6/11/03

2.12 EMPLOYEE

Employed by the District on a regular basis to conduct the day-to-day business of the District.

eff. 6/11/03

2.13 FACILITIES

Any device or structure used for the storage, transmission, distribution, treatment, measurement of water, or for hydroelectric power production.

eff. 6/11/03

2.14 GENERAL MANAGER

Signifies the General Manager, as appointed by the Board, or the General Manager's authorized representative.

eff. 6/11/03

2.15 GOVERNMENT CODE

Refers to that portion of the California Codes governing generally the organization, powers, and responsibilities of governmental agencies and political subdivisions formed and existing within the State of California.

eff. 6/11/03

2.16 LANDOWNER

Holder of title of land located within the boundaries of the District.

eff. 6/11/03

2.17 MINER'S INCH (M.I.)

Term used in water measurement. By Northern California statute, one miner's inch equals 1.5 cubic feet per minute, or 11.22 gallons per minute.

eff. 6/11/03

2.18 OPERATE

Includes operation, maintenance, repair and replacement activities.

eff. 6/11/03

2.19 OUTSIDE DISTRICT

Property lying outside District boundaries, or excluded from District, and not subject to assessment.

eff. 6/11/03

2.20 PARCEL

Shall mean each separate lot or unit of land denominated by the county assessor as possessing and holding a separate parcel number, under the mapping and numbering systems of such assessor.

eff. 6/11/03

2.21 PERSON

Any person(s), firm, association, organization, partnership, business trust, corporation, company, or other entity.

eff. 6/11/03

2.22 PREMISES

Integrated land area including improvements operated under the same ownership and management.

eff. 6/11/03

2.23 PRIVATE FACILITY

Any facility not owned by the District.

eff. 6/11/03

2.24 RAW WATER

Water which has not been processed and is not safe for human consumption.

eff. 6/11/03

2.25 REGULATIONS

Refers to "Regulations Relating to Water Service" and includes all rules and regulations providing for the equitable distribution and use of water.

eff. 6/11/03

2.26 BOARD SECRETARY

Appointed by the Board to act as secretary to the Board.

eff. 6/11/03

2.27 TREATED WATER

Water which has been processed to make it safe for human consumption.

eff. 6/11/03

2.28 WATER CODE

Refers to that portion of the California Codes dealing with appropriation and control of water, and the formation and powers of an irrigation district.

eff. 6/11/03

2.29 WATER MAIN

District treated water pipeline used for water distribution.

eff. 6/11/03

2.30 WATER SERVICE

Includes the availability of water to a premises through District facilities and any water supplied through such facilities.

eff. 6/11/03

2.31 WATER USER

Any person actually supplied with water service by the District.

eff. 6/11/03

2.32 WITHIN DISTRICT

Property lying within the District boundaries.

eff. 6/11/03

3Section 3

SECTION 3

GENERAL CONDITIONS OF WATER SERVICE

3.01 CUSTOMER COMPLIANCE

Each customer, by applying for or receiving water service from the District, agrees to be bound by and to comply with all Regulations of the District, as adopted from time to time by the Board.

3.02 CONTROL OF DISTRICT FACILITIES

All District facilities are under the exclusive control of the Board and its designated employees; and no other person shall interfere with, regulate or control any such facilities, or the water flowing therein, without authorization of the Board.

3.03 ALL WATER BELONGS TO DISTRICT

The District expressly reserves the right to recapture, reuse and resell all waters within the boundaries of the District. No water user acquires a proprietary right by reason of use.

3.04 PLACE AND USE OF WATER

Except with the prior written authorization of the District, no customer shall use, or permit the use of any water furnished by the District on any premises, or for any purpose other than that specified in the application for service, nor shall any customer resell any water furnished by the District.

3.05 WATER CONSERVATION

A water user who wastes water, either willfully, carelessly, or due to defective or inadequate private facilities, may be refused further water service until the user takes corrective action.

3.06 TITLE TO WATER DELIVERED

Title to water furnished by the District, the risk of loss thereof and full responsibility for the carriage, handling, storage, disposal and use thereof shall pass from the District to the water user at the service point from the District facility.

3.07 OUTSIDE DISTRICT WATER USE

No use of District water will take place outside the District, except when it is deemed surplus to the needs of the District and the Board has declared the water surplus and approved an agreement for its sale. No outside District water user acquires a proprietary right by reason of past use. Applicants must reapply for service every three years on metered accounts and once a year for non-metered accounts. Outside District user(s) located within the interior boundaries of the District shall not be permitted to upsize their service without expressed approval by the Board.

eff. 6/22/88

3.08 NON-LIABILITY OF DISTRICT

The District will exercise reasonable care and diligence to deliver a continuous supply of water to its customers. However, the District is not, and will not, be liable for any loss, damage, or inconvenience to any water user by reason of shortage, insufficiency, suspension, or discontinuance of water service, or the increase of decrease of water pressure. Each water user agrees to hold the District and its employees and agents free and harmless from liability and damages caused by such loss, damage, or inconvenience.

3.09 ENGINEERING SERVICES

All water users and applicants requiring special engineering, inspection and administration, relating to providing water service, as well as for relocation or modifications to District facilities, will compensate the District for such special services.

eff. 1/1/94

3.10 UPDATING SPECIFIC CHARGES

All specific charges provided for in these Regulations will be reviewed and updated, if found necessary, on a periodic basis. All reviews will be conducted on an actual cost of service basis to provide for the most equitable charges possible.

3.11 ADDITIONAL CONDITIONS CONTAINED IN APPLICATIONS

Applications for water service may contain additional conditions and requirements relating to service. By signing the application, the customer acknowledges compliance with those additional conditions, as well as these Regulations.

3.12 ENFORCEMENT OF REGULATIONS

The General Manager shall enforce the provisions of the Regulations and will provide explanations and information as may be necessary and proper in connection with the Regulations. The General Manager may also make minor modifications to all forms contained in Appendix B of these Regulations.

eff. 6/11/03

4Section 4

SECTION 4

TREATED WATER SERVICE

4.01 SUPPLEMENTAL DEFINITIONS

4.01.01 Fully Treated Water

Water receiving treatment that will meet all applicable state health standards for a treated water system.

eff. 6/11/03

4.01.02 Tank or Temporary Construction Water

Water utilized from a non-permanent service point normally drafted from a fire hydrant, for temporary purposes, such as for construction activities. Water may also be provided from the District's raw water system. This class of water is not to be used for domestic purposes, except in an emergency situation as determined by the District.

eff. 8/12/87; rev. 6/11/03

4.01.03 Commercial Use

All uses of water except those categories included as non-commercial use.

eff. 6/11/03

4.01.04 Non-commercial Use

All uses of water by individual residences, as well as by public agencies, schools, churches, and documented non-profit entities.

eff. 6/11/03

4.01.05 Conveyance Agreement

An agreement entered into by the District and a developer, as discussed further in Section 10.03.03, which provides for the installation and conveyance of certain facilities to be owned and operated by the District related to the treatment, transportation, distribution and/or storage of water and further specifies the capacity charge payable upon connection to such facilities.

eff. 6/11/03

4.01.06 Water Development Agreement

A written agreement between the District and developer relating to the installation of certain treated water system improvements or to special capacity charges. This term was utilized in referring to Board Resolution 74-55.

eff. 6/11/03

4.01.07 Standby Charge

A charge levied against a parcel which is not receiving treated water service from the District to compensate for the costs of maintaining and operating existing District facilities capable of serving the parcel.

eff. 6/11/03

4.01.08 Standby Factor

A retroactive standby charge from the date the pipeline was installed, or accepted by the District, to the date the parcel was divided.

eff. 6/11/03

4.01.09 Minimum Size Water Service

Considered to be a 5/8-inch metered treated water service.

eff. 6/11/03

4.02 STANDBY CHARGES

4.02.01 General

There shall be a charge, as shown in Schedule 4-A, to each parcel located in the District, which parcel is adjacent to, and has direct access to, a District treated water main which can provide a minimum size service. A parcel which is located so that a connection may be made to a District water main without necessity of obtaining any additional "non-District" easements or rights of access from any party will be considered as having direct access. The necessity of obtaining an encroachment permit or equivalent permission from the state or county division of government designated as controlling a roadway or easement, shall not prevent the levy of a standby charge. A parcel will be considered adjacent to a District water main when a principal part of the parcel's frontage has access to the water main as further discussed in Section 10.01.01(c) of these Regulations.

A court decree or proscription of the Department of Real Estate, Corporation Commission or other state or county body or official against using land for residential or commercial purposes shall not excuse such land from being subject to a standby charge as a parcel.

4.02.02 Uncollected Standby

Prior to acceptance of an application for water service, any uncollected standby, whether or not billed, shall be collected. Standby charges are collectable from the date the parcel became adjacent to, and had direct access to, a District water main and as determined by past agreements and inception dates of the standby charge.

The standby charges paid by the owners of a parcel shall remain with and run with the parcel and may not be transferred or assigned except that the successor owner of the same parcel shall receive credit for all standby charges paid by predecessor of the same parcel.

4.02.03 Parcel Divisions

If a parcel shall be divided into two or more parcels adequately fronting a District water main, for the purpose of this provision, each division of the larger parcel shall be entitled to credit for its ratio of the total standby charges previously paid by the larger parcel. The ratio shall be the number one over the number representing the total number of parcels existing after the division. The standby charge shall be calculated as if the parcels formed by the division shall have existed on the date the pipeline was installed or accepted by the District.

If there is an existing metered service prior to the division of a parcel, there is no credit given to the new parcels created that have no water service.

The standby factor may be deferred until the water service is requested.

4.02.04 Properties Having Another Source of Water

A parcel which is subject to a standby charge, but which has a well or raw water service prior to installation of the District water main, may not be subject to the standby charge upon District approval. Should water service be requested at a later date, back standby charges and late charges will be collected from the date the parcel became subject to a standby charge.

eff. 9/15/95

4.02.05 Variances Granted by the Board

When a system extension variance is granted by the Board, as discussed in Section 10.08, a standby charge from the date the District main was installed or accepted by the District shall be paid prior the District's acceptance of the application for water service for that parcel.

4.03 WATER SERVICE REQUEST

4.03.01 Route Slip

As a first step in receiving water service, an applicant must fill out Form 4-A, Request for New Treated Water Service, Information Route Sheet, or Form 4-B, Request for Transfer of Treated Water Service, Information Route Sheet.

4.03.02 Application

If water service is available to the parcel, as determined by the District, the owner will be required to sign a formal application Form 4-C, except as noted in Section 4.03.03, and pay the appropriate connection fee and any other fees and/or deposits that are payable under these Regulations. Applicants for tank or temporary construction water need to fill out Form 4-D and do not go through the route sheet procedures.

4.03.03 Exception to Signed Application

In order to continue water service to properties that are owned by Federal National Mortgage Association (FNMA), an authorized representative may sign the application for water service in lieu of FNMA. $150.00 must be paid on the account to be applied against the water service charges and the account must be kept current.

eff. 2/22/95; rev. 6/11/03

4.04 CONNECTION FEES

4.04.01 General

The connection fee is made up of two components; the meter installation charge and the capacity charge. As discussed further in Section 4.04.03, the actual capacity charge for a particular water service may vary based on prior agreements covering the service.

4.04.02 Meter Installation Charge

This charge is shown in Schedule 4-A and compensates the District for the cost of installing a meter and related piping and appurtenances at a District specified location. Customers requesting an alternate location of a meter assembly other than that specified, if approved, may be charged additional costs as provided in Section 4.06.02.

rev. 01/26/05

4.04.03 Capacity Charge

The capacity charge represents the customer's share of capital costs associated with the District's treated water system. Cost components are included for the treatment plant, storage tank and transmission pipelines and are based on the anticipated capacity requirements of a water service. These charges are non-refundable if service is terminated at a later date.

Capacity charges are shown in Schedule 4-A; however, in the case of water services covered by conveyance agreements or water development agreements, special capacity charges may be indicated. All water development agreements based on Board Resolution 74-55 provide for no capacity charge for a minimum size water service since the original developer had paid these charges, or installed the necessary water system improvements as part of the development. (The term "water development agreement' is no longer utilized in writing agreements.)

4.05 WATER PRESSURE

4.05.01 Variations of Water Pressure

Due to the foothill terrain predominating District treated water service areas, large variations of pressure can occur along a short stretch of any water main. Under normal conditions, the District attempts to maintain a minimum pressure of 20 pounds per square inch (psi) at its water main. It is the customer's responsibility to provide adequate size service lines on the customer side of the meter assembly, as well as any pumping facilities needed to compensate for water pressure losses between the meter assembly to the point of water use.

4.05.02 Low Pressure

If the District determines that a new service point would provide a normal pressure of less than 20 psi at the District's water main, the customer will be informed of the low pressure situation at the time of application. The customer will be required to acknowledge in writing that a notification was received prior to District approval of the application.

4.05.03 High Pressure

If the District determines that a new service point may provide pressure in excess of 80 psi at the District's water main, the customer will be notified of the high pressure at the time of application and that the installation of a pressure-reducing valve, along with a pressure relief valve, may be advisable. The customer will be responsible for installation and maintenance of the valves.

The District will provide the installation of a pressure-reducing valve at no cost to the existing customer where actions by the District cause an increase in the normal sustained operating pressure in the water main to exceed 80 psi. Upon installation, the pressure-reducing valve becomes the property and responsibility of the customer.

4.05.04 Excessive Pressure Variations Caused by Customer's Equipment

A customer shall not install any pump, quick closing valve, or other equipment or devices which cause excessive pressure drops or surges in the District's water system. Violation of this

regulation will be cause for immediate termination of service. The customer will be liable for all damages to District facilities resulting from the installation of any such equipment.

4.05.05 Water Heaters

Water heater installations should be made in conformity with the applicable plumbing code. In addition, customers with back flow protection devices or pressure reducing valves installed as part of their water service should consult with a professional plumber for advice on thermal expansion safeguards.

The District will not be responsible for the safety of domestic or commercial water heaters, boilers or tanks on the premises of any customer.

eff. 6/11/03

4.06 METER INSTALLATIONS

4.06.01 General

In order to equitably distribute, conserve and limit capacity in the District's water system, all treated water services will be metered in a manner meeting District approval. The District will own and maintain the meter assembly to and including the customer's service valve located on the customer's side of the meter.

4.06.02 Location

The District reserves all rights in determining the location of metered services. The location of the water meter shall be determined by the District prior to accepting application for service. The location will be based on the most economical installation and providing proper access for meter reading and maintenance. Customers requesting an alternate location, if approved, shall pay all costs associated with installing the meter assembly and related piping and appurtenances based on the District's cost estimate, but not less than the charge shown in Schedule 4-A.

Rev. 01/26/05

4.06.03 Parcel Requirements

Each parcel of land being served treated water must have at least one meter connection. A meter connection may not be used to serve two or more parcels. An exception to the above is the use of one meter connection to serve a green belt area common to several parcels which contain commercial type development. In this case, the owners of the parcels being served must either form an association or assign a trustee who is responsible for the upkeep of the common area and responsible for paying water use charges. Each of the parcels involved in the green belt area must have its own meter connection for water uses other than service to the green belt area.

In certain instances the District, at its sole discretion, may permit a single parcel to have more than one meter connection. Examples include a shopping center with varied tenant water requirements or two residences located on one parcel. The District may require parallel meter assemblies with downstream valved interties for certain customers who are sensitive to water outages caused by periodic maintenance or testing of the meter assembly.

4.06.04 Extent of Service Through Meter

The District provides metered service by using two different concepts, individual meters and master meters.

Individual meters are used for residential, commercial and industrial parcels and lots as well as townhomes, residential condominiums and mobile home subdivision lots. In general, individual meters are placed along the street frontage of each parcel at lot corners. In the case of individually metered condominiums and townhomes, the meters are placed in the general vicinity of each cluster of units in a manner acceptable to the District and the onsite waterlines leading to the meter complexes are conveyed to the District for ownership. Separate meters are required for green belt and common use areas in these types of developments.

Master meters are used for apartment buildings, mobile home parks, motels, hotels, campgrounds, hospitals, skilled nursing facilities and board and care facilities. Master meters are generally placed along the project's frontage near the District's water main in a manner meeting District approval. In certain instances, the District may require conveyance and ownership of

water mains located inside the project in order to properly serve areas lying beyond the project or to provide for future looping of the District's water distribution system. In these cases, master meters may be placed along the interior of the project in the general vicinity of the main building clusters in a manner meeting District approval.

Condominiums developed for office, professional, commercial, or industrial uses may be metered individually or by a master meter at the discretion of the owner. If a master meter is selected, an association or trustee must be assigned the responsibility for paying all water use charges.

The metering concepts discussed above shall also apply to the conversions of existing buildings. As an example, conversions of a building to residential condominiums will require a meter for each unit.

From time to time, new state and county statutes may be adopted allowing for new types of developments. The metering concept to be used, either master meter or individual meters, in cases of types of developments not specifically discussed in these Regulations, will be determined by the District on a case-by-case basis.

eff. 6/11/03

4.06.05 Sizing

The customer will make the basic determination as to the size of meter required; however, the District reserves the right to approve the size of service allowed.

Services to individual homes are normally limited to 5/8-inch or ¾-inch size.

4.06.06 Customer Responsibilities

The customer is responsible for the acquisition and maintenance of any required easements or permits; the installation, maintenance and operation of the private service pipeline and

appurtenances thereof located on the customer's side of the service valve. See additional responsibilities as outlined in Section 4.14 of these Regulations.

The customer must ensure that no landscaping, encroachments or any other form of property improvement shall be so placed as to cause a hindrance to the access between the road or street and the meter service box. Hindrance of District access to the meter may cause water service to be cut off. The customer's plumbing shall be connected to the meter box in a manner that will not hinder the maintenance or reading of the meter.

4.06.07 Frequency of Meter Readings

In general, meters shall be read on a bimonthly basis. As it is not always practical to read meters at equal intervals, the period between reading dates may vary and still be considered two months for billing purposes.

Special readings will be made on commencement and termination of service and as required by special circumstances.

rev. 04/25/06, 09/12/07

4.06.08 Non-registering and Unreadable Meters

If a meter fails to register or cannot be read due to circumstances beyond District's control, such as snow cover, consumption shall be estimated based on prior usage or in the event there is not sufficient prior history, from any water usage information available.

Where a meter cannot be read without undue difficulty because of an obstruction, the customer will be notified and requested to correct the condition. If the condition is not corrected by a given date, the District will remove the obstruction at the customer's expense.

4.06.09 Testing Meters

The District will test the accuracy of any of its meters upon the request of a customer, who will deposit the cost of such test as shown in Schedule 4-B.

The customer may, if he desires, witness the test. If a meter is found to be working improperly, it will be repaired or replaced by the District. If it is determined that the meter is registering more than five percent over the actual quantities passing through it, District will return the deposit for the test and adjust the billing. The period covered by the billing adjustment shall not exceed the preceding six months. If the meter registers within the limit of error specified above, the test deposit will be retained by the District.

4.07 CHANGE OF EXISTING SERVICE

4.07.01 Upsizing

When a customer requests an existing metered service to be upsized and no modification work will be required outside of the meter box, the customer cost for said service shall be the difference between the smaller and larger meter installation and capacity charges, as shown in Schedule 4-A, plus an additional charge to cover labor costs as shown in Schedule 4-B.

When work outside the meter box is required, such as a new service line or tap, the customer cost will be the full amount of the larger size meter installation charge and the difference between the meter size's capacity charges, as shown in Schedule 4-A.

eff. 6/11/03

4.07.02 Downsizing

A charge, as shown in Schedule 4-B, will be made to cover labor cost. In these cases, no modifications would be made outside of the meter box. No refund of meter installation or capacity charges will be given.

4.07.03 Relocating

Any relocation of District meters and/or service laterals will require approval by the District. Customers requesting the relocation of an existing meter shall pay all costs associated with the

relocation based on the District's estimated cost, except that the customer shall not be charged less than the stated fee for the following standard relocations:

(a) Customer requested relocation of a meter assembly involving a meter size of 3/4-inch or less, a relocation distance of no more than 15 feet horizontally and/or 2 feet vertically, and not requiring a new tap to the water main nor other extra ordinary effort will be accomplished for the fee as shown in Schedule 4B (Relocating).

(b) Customer requested relocation of a meter assembly involving a meter size of 3/4-inch or less, requiring a new tap on the water main, the installation of no more than 15 feet of new service lateral between the water main and the new location of the meter, and not requiring any other extra ordinary effort will be accomplished for the fee as indicated on Schedule 4A for installation charges, which pertains to the size of each meter involved in the relocation.

eff. 12/12/90; rev. 6/11/03; rev. 1/26/05

4.08 WATER RATES

All water rates are determined on a cost of service basis and are normally adjusted once a year. Water Rate Schedules 4-E through 4-L have been developed based on such factors as use of water, type of customer, treatment level and location of user.

eff. 7/11/90; rev. 3/26/04

4.09 OFF RATE

All customers who have their services shut off are subject to the off-rate charges shown in Schedule 4-I.

eff. 7/11/90; rev. 1/26/05

4.10 NON-BENEFICIAL USE OF WATER ADJUSTMENT

An adjustment for non-beneficial use of treated water may be granted by the District per parcel, per owner, if the usage during the period is at least 2.5 times the usage for a comparable period of normal use. Not more than one adjustment, based on this section, shall be allowed to the same owner within a ten-year period. Request for adjustment must be made in writing by the property owner. Form 4-E is used to calculate the adjustment.

eff. 10/10/84

4.11 WATER AVAILABILITY LETTERS

4.11.01 General

Upon receiving a written request, the District will issue a letter giving the current status of water availability to a project or parcel of land. This letter will state, in general terms and without making a commitment to serve the project, whether the project is within the District's boundaries, or within the various treated water system plan boundaries, and if capacity is currently available and under what conditions. The District will attempt to identify any potential problems that may be associated with making water available to the project (i.e. such as possible high or low pressure).

eff. 6/11/03

4.11.02 Administrative Processing Fee

An administrative processing fee of $50.00 shall be charged for water availability letters that require review by staff. This fee shall not apply for letters prepared for parcels with existing water or standby accounts. This fee may be waived if it is determined to be in the best interest of the District that the letter be issued.

eff. 12/12/90

4.12 WILL SERVE LETTERS

4.12.01 General

A written request for a commitment of specific capacity to a project or parcel of land may be made to the District. A Will Serve Letter, however, will not be issued to any project requiring a county or city use permit, general plan or zoning change, or tentative map until the appropriate agency has conditionally approved the project. If issued, these letters may have specific time limits and will identify any conditions relating to providing water service as well as those items covered in a water availability letter as discussed in Section 4.11.

4.12.02 Extension Not Required

The owner of property not requiring an extension of the treated water system and otherwise qualifying for service by paying a standby charge may receive a Will Serve Letter covering a minimum size water service. No time limit will be stated in the letter unless a larger than minimum size service is requested. A commitment for an upsized service or additional services may be made by the District for a period of six months from the letter issuance date. This commitment terminates at the end of this period if the water service application process is not completed and all applicable fees and charges paid.

4.12.03 Extension Required

The owner of property requiring an extension of the treated water system and qualifying for water service pursuant to these Regulations, may receive a Will Serve Letter form the District. In order to maintain the capacity commitment, preliminary improvement plans meeting the requirements of the District and payment of the plan check and inspection fee deposit must be received by the District within six months of the date of issuance of the letter. Within one year of letter issuance, a conveyance agreement must be entered into.

4.13 OUTSIDE DISTRICT TREATED WATER SERVICE

The District shall provide treated water to existing outside District customers on a surplus basis only. This service will be for a maximum of three (3) years, at which time a renewal of the water application will be required. District will not accept new treated water service connections if the lands to be served lie outside the District Boundaries.

The District will not allow an off-rate charge as discussed in Section 4.09 of these Regulations. If service is requested to be turned off, the meter will be removed and the right for service terminated until such time as the lands are annexed into the District and the then current connection fees or other changes are paid.

eff. 7/9/86

4.14 PRIVATE PIPELINES

4.14.01 General

In earlier years, prior to adoption of these Regulations, the District allowed treated water service through a private pipeline that served two or more customers. Meter assemblies were subsequently installed by the District on these private pipelines to provide accountability of water use to each individual customer. In these instances, the property owners receiving water service off the private pipeline are responsible for the acquisition and maintenance of any required easements or permits, as well as the maintenance and operation of the pipeline and appurtenances thereof. The meter assembly, as discussed in Section 4.06.01 of these Regulations, will remain the property of the District.

In certain instances, the District may participate in the replacement of private pipelines with District-owned water mains. See Section 10.09 of these Regulations.

4.14.02 Leakage

If the District determines that a private pipeline has leakage, the property owners receiving water via the private facility will be notified that repairs must be made within a time period, as determined by the District, or water service will be discontinued. In addition to the above, District reserves the right to prorate and bill for the estimated leakage to each of the property owners served off the private pipeline. The District may also, at its option, install a master meter at the head of a private pipeline that serves two (2) or more properties and prorate the cost of the unaccounted lost water to each property owner.

5Section 5

SECTION 5

RAW WATER SERVICE

5.01 SUPPLEMENTAL DEFINITIONS

5.01.01 Raw Water

Untreated water to be utilized for purposes other than human consumption.

5.01.02 Seasonal Irrigation Service

Water delivered from approximately April 15 and ending approximately October 14, unless otherwise determined by the Board. Dates may vary to meet individual crop needs or maintenance of District facilities.

eff. 6/11/03

5.01.03 Winter Water Service

Water delivered approximately October 15 and ending approximately April 14, unless otherwise determined by the Board.

eff. 9/25/91

5.01.04 Annual Raw Water Service

Deliveries made year round at rates of flow that may differ between the irrigation and the winter seasons. No new accounts are accepted for this category of service.

eff. 5/24/89

5.01.05 Intermittent Flow Service

Water delivered which cannot be supplemented by an auxiliary supply from the District, and in District's opinion cannot be considered a firm supply.

5.01.06 Fall/Stock Water

A service available during the period from October 15 to December 1, both dates inclusive. This service will only be provided when and where District has available water and is secondary to seasonal or demand water.

eff. 12/12/90

5.01.07 Demand Water Service

Water requested for a predetermined period. This service will only be provided when and where District has available water in excess of requirements for seasonal water.

5.01.08 Tank or Temporary Construction Water

Water utilized from a non-permanent service point for temporary purposes such as for construction activities. This class of water is not to be used for domestic purposes.

eff. 8/12/87

5.01.09 Miner's Inch (M.I.)

Term used in water measurement. By California statute, one miner's inch equals 1.5 cubic feet per minute, or 11.22 gallons per minute.

5.01.10 Rotation

A method of delivering water where two or more customers of close proximity receive water on a predetermined schedule. The amount of the delivery must balance to the constant flow of the purchase.

5.01.11 Surplus Water

Water which is surplus to the needs of lands within the District boundaries.

5.01.12 Closed Raw Water Integrated Conduit System

Any District or privately owned closed conduit facility, i.e., pipeline, which is utilized to convey raw water and has more than one service connection being used for annual deliveries.

5.01.13 Service Outlet

A service connection intended to divert, deliver and measure water to a customer.

5.01.14 Mutual Water Company, Special District, or Entity

Any entity legally organized for the purposes of distribution and purchase of water to specifically identified parcels of land.

eff. 6/11/03

5.02 WATER SERVICE REQUEST

5.02.01 Route Slip

As a first step in receiving a new water service, an applicant must fill out Form 5-A, Raw Water Service, Information Route Sheet. Applicants for an intermittent flow service do not need to fill out this form.

5.02.02 Application

If a water service is available to the parcel, as determined by the District, the applicant will be required to sign a formal application as discussed hereafter and pay the appropriate installation charges, plus any other fees and/or deposits that are payable under these regulations.

(a) Seasonal Irrigation Service. New Owner must sign Form 5-B and have it on file at the District's office on or before April 1 in order to ensure a supply of water for the

current irrigation season. Applications for service are effective until there is a change in ownership.

eff. 03/11/98

(b) Winter Water Service. Applicant must sign Form 5-B.

(c) Annual Raw Water Service. Transfer applications for existing annual raw water service will be made on Form 5-C. No new applications will be accepted. Annual accounts turned off at the customer's request, or for non-payment, will be transferred to a seasonal account.

eff. 5/24/89

(d) Intermittent Flow Service. Applicant must sign Form 5-D. Water sales will be established in acre-feet by District through pump ratings, sprinkler flow, actual diversions, acreage irrigated or any combination of these methods as may be deemed appropriate to determine the amount of water to be used.

(e) Fall Water Service. Application shall be made on Form 5-B, available at District office.

eff. 12/12/90

(f) Demand Water Service. Application for service shall be made on Form 5-B and should be made at least five days before service is required.

(g) Tank or Temporary Construction Water. Application shall be made on Form 4-D.

(h) Surplus Water. Application for use of water outside the District boundaries shall be by agreement on Form 5-E and must be on file at the District's office on or before April 1 of each year in order to be considered for a supply of water for the current irrigation season. All applications for surplus water are subject to Board approval.

(i) Rotation. Applications must be received by April 1, in order that schedules for rotation delivery can be developed prior to commencement of irrigation season. If an equitable rotation schedule cannot be reasonably developed due to changes in water purchases, or property owners not returning applications on a timely basis as indicated above, District, at its discretion, may order that the water be delivered on a continuous flow basis. Applications for rotation delivery received after April 1 will be delivered water on a continuous basis for the season.

5.02.03 Cancellation

Upon request of the customer, cancellation of the current seasonal irrigation service may be made during any time of the season, either in whole or in part. The quantity of such seasonal irrigation water delivered shall be charged on a pro-rated basis up to the date of cancellation and a service call fee, as shown on Schedule 7-A, shall be charged.

eff. 7/12/89; rev. 6/11/03

5.02.04 Early Application Discount

Applications for seasonal irrigation service received on or before April 1, together with full payment, shall have a 5% discount on their charges. This discount shall not apply to those types of entities referred to in Section 5.08.

eff. 3/10/93

5.02.05 Change in Seasonal Irrigation Service

During the irrigation season, charges for requested increases or decreases may be prorated with the addition of a service call charge as shown on Schedule 7-A.

eff. 12/11/94

5.03 WATER USE EXCLUSIONS

5.03.01 Integrated Raw Water Conduit

Applications for water service will not be accepted from a closed raw water integrated conduit system where said service is proposed to be used for annual deliveries.

5.03.02 Fish Cultivation

The District will not sell water to cultivate and/or sustain fish life.

5.03.03 Water Use for Residential Purposes

The Federal Safe Drinking Water Act definition of a Public Water System (PWS) includes the District's raw water delivery system. Guidelines implementing the definition of a PWS prohibit the District from providing raw water for human consumption. Therefore, use of raw water for drinking and cooking is excluded for all customers, unless processed by an approved home treatment facility as provided in this section.

(a) Applications For New Water Service

The District will not accept new applications for raw water service where the proposed water use is for residential purposes, regardless of the applicant's intent to use bottled water, hauled treated water, or provide a home treatment facility. No applications will be accepted for annual raw water service.

(b) Water For Drinking or Cooking

Existing District raw water customers not using a well or spring for all drinking and cooking needs must be connected to a Public Water System, use bottled water or hauled treated water, or use water processed by an approved home treatment facility.

(1) Bottled or Hauled Treated Water

Bottled or hauled treated water used for drinking or cooking must be delivered to the parcel(s) by a commercial distributor who has agreed, in writing, to District conditions.

(2) Home Treatment Facility

A home treatment facility used to produce water for drinking or cooking must be approved by the Department of Health Services. The facility must be operated, maintained, and monitored by the District or its agent, under contract with the owner.

(c) Cost and Expense

All costs for providing water for drinking and cooking, including District costs, will be at the owner's expense.

eff. 03/22/00

5.04 SERVICE OUTLETS

5.04.01 General

All service outlets will contain a means of measuring the amount and/or flow rate of water delivered to a customer. Except as otherwise indicated in these Regulations, water sales will be measured in miner's inches.

5.04.02 Location

The District shall have the sole discretion and authority on the final selection of the location for raw water service outlets. This site selection prerogative shall pertain to services from raw water pipelines, open canal facilities and, where applicable, certain natural randoms or streams. The outlet location shall be determined prior to District accepting an application and collecting the installation fee. The following shall be used in location of service outlets:

(a) The District shall endeavor to accommodate the customer in selecting the location. However, the District must give consideration in the selection of the point of service to the integrity of the hydraulics in the conveyance system. Any location which will create undue expense for operation and maintenance of the system or will create unacceptable distortion to the hydraulics of the facility or stream will not be permitted by the District.

(b) Any service outlet location for a raw water service which will require additional appurtenances such as a special measuring structure, check structure or screening device in order to ensure water delivery for the service point, shall be constructed by the District at the sole cost of the applicant, in accordance with District standards.

(c) Where approved, the amount of the purchase from natural randoms or streams, supplied by the District, shall be sales of no less than one (1) miner's inch of water. The District, through pump ratings, sprinkler flows, actual diversions, or any combination of the above methods, will determine the amount of purchase.

Changes in purchase amount of irrigation water will be allowed only after field review by the District Staff, and a determination made that a change is in order. Inspections of the services from natural randoms or streams will be made by the District to insure that the amount of water purchased is in compliance with the seasonal application.

eff. 7/9/86

(d) There shall be no new services located on the following types of facilities since they shall be utilized for storage and transmission purposes only: inverted or standard siphons, except where approved centralized service manifolds have been established, drop pipes or chute flumes, elevated flumes or pipes, penstocks, or reservoirs.

eff. 6/22/88

(e) In some instances, due to the canal size and the irrigation water demands, the service box outlet will only be installed during the non-irrigation season.

5.04.03 Installation Charges

These charges for a standard installation are shown in Schedule 5-B and are due at the time formal application is made. The cost of additional appurtenances, if required, will be added to the standard installation charges.

5.04.04 Multiple Service Outlets

More than one point of service may be permitted by the District for delivery of the customer's entitled water, provided the customer will take the water in a manner acceptable to the District. An additional outlet, or outlets, will be installed by the District at customer's expense, including installation as shown in Schedule 5-B and annual charges as shown in Schedule 5-C. If the customer fails to comply with conditions prescribed by the District, the use of an additional box, or boxes and/or water service may be discontinued.

5.04.05 Removal

A service outlet will be removed at the expense of the District after notification by the property owner on Form 5-F, provided by the District. Once an outlet(s) has been removed, re-establishing water service shall be in accordance with these Regulations, including the appropriate installation charges.

On outside District accounts, the service outlet will be removed if water is not purchased every other year. If an application for service is not received by April 1 of the second year, the property owner shall be notified in writing that, if water is not purchased within 30 days of the date of notification, the outlet shall be removed and the account deleted.

eff. 1/1/89

5.04.06 Account Charges

Until such time as an outlet is removed, an annual charge as shown in Schedule 5-C will be collected with or without the purchase of water. This charge does not guarantee or imply that raw water will be available at a future date for an inactive account.

eff. 1/1/89

5.04.07 Relocation

Relocation of an existing raw water service outlet will be accomplished as outlined under Sections 5.04.01 and 5.04.02 and will be done for the new service outlet installation charge as shown in Schedule 5-B.

eff. 5/27/87

5.05 WATER RATES

All water rates are determined on a cost of service basis and are normally adjusted once a year. Water Rate Schedules 5-C through 5-R have been developed based on such factors as location, billing period and reliability of water flow.

eff. 6/11/03

5.06 PRIVATE FACILITIES

5.06.01 Use Of

Upon approval of the District, private facilities may be used to transport and distribute raw water provided that the facilities are in good repair, will not cause excessive water losses, and are adequate in capacity to serve additional water. The District will construct and maintain, at the head of private facilities, such controls as diversion structures, gates and/or measuring devices as necessary to control water flow, purchased by owners of the private facilities. The District will

not provide service through a private facility without first receiving approval from the owners of the private facility on Form 5-G provided by the District.

See Section 2 of these Regulations for further clarification on the use of private facilities.

eff. 6/11/03

5.06.02 Operation and Maintenance

District responsibilities for operation and maintenance ends at the beginning of the private facilities.

5.06.03 Excessive Leakage

If the District determines that a private facility has excessive leakage, the facility owner(s) will be notified that repairs must be made within a time period, as determined by District, or water service will be discontinued.

5.06.04 Non-payment of Accounts

Customers receiving raw water from a private facility serving two or more customers, shall have the amount of water reduced at the head of the private facility for non-payment of their accounts.

The District will not in any way be responsible for insuring that water is received by the paying customers on the private facility.

eff. 10/11/89; rev. 6/11/03

5.07 HYDROELECTRIC DEVELOPMENT

5.07.01 Natural Streams

Pursuant to Water Code Section 22280, the District will collect from a hydroelectric power producer with a rated plant capacity of 100 kilowatts or more, desiring to utilize District water

flowing in a natural stream or waterway, a charge for the use of said water. The charge will be determined by multiplying ten percent of the standard weighted average price, as published by Pacific Gas and Electric Company pursuant to California Public Utilities Commission Decision Number 91109, by the energy produced by District water. If the charge, as determined above on an annual basis, is less than the standard weighted average price multiplied by 5,000 kwhs, the latter will be collected as a minimum charge for that particular twelve-month period.

Each water sale for power generation purposes will be covered by an agreement, signed by the power producer and approved by the Board. Articles of the agreement will cover insurance requirements, method of measuring District water and power produced, payments to District, hold harmless considerations, agreement termination, protection of District water, continued water use qualifications and other items deemed necessary by the District.

eff. 6/11/03

5.08 MUTUAL WATER COMPANIES AND SPECIAL DISTRICTS

The District will sell agricultural water to mutual water companies, special districts, or other entities at its service point in accordance with these Regulations and providing the following conditions are met:

(a) Prior to approval by the Board, the developer must first meet the requirement of Section 11.01.03 of these regulations which provide for the orderly development and extension of the District's raw water system.

(b) The following documents have been filed with the District: The Articles of Incorporation for a mutual water company, or rules and regulations, or bylaws of the mutual water company, special district, or other entity. The current list of property owners with map showing boundaries and water system and the name and telephone number of a contact person who is to be responsible for the distribution of water within these boundaries.

(c) Board approval of the entity, mutual water company or special district prior to the sale of water.

(d) Prior to March 15 of each year, submission of a written request for water containing the following information: Amount of water desired, county parcel numbers of the land on which crops are to be raised, type of crop, and acres irrigated.

Water sold under this policy is to be used only for agricultural use. It shall be the responsibility of the mutual water company, special district, or other entity to obtain any necessary licenses or permits from the County, State, or other such agencies as may be required to place the water to any other use.

If the primary use of district water sold under this policy is for any purpose other than the irrigation of crops, this policy will not prevail.

(e) A 15% administrative fee will be charged to mutual water companies, special districts, or other entities.

This fee will cover the cost of special handling of these accounts by the District to ensure that the mutual water company, special district, or other entity is in compliance with these Regulations. If a mutual water company, special district, or other entity elects to continue its registration with the State of California, then this administrative fee will not apply.

(f) All mutual water companies, special districts, or other entities who purchase water from the District for agricultural purposes only will be required to pay for their water in full prior to April 1 each year.

eff. 12/12/90

5.09 PRORATION OF CAPACITY

When deemed necessary, due to lack of available capacity in District facilities, the Board may order that the available capacity be prorated. Proration shall be on an acreage basis, with the water sale rounded to the closest sale increment as shown in Schedule 5-G.

Due to the lead time required to prepare the tabulation for proration, and unless otherwise provided, a minimum of 90 days lead time shall be allowed prior to instigating a proration schedule. Any proration schedule that is adopted shall remain in effect for a minimum of 180 days, unless ordered otherwise by the Board. Any property owners choosing not to purchase and use any or all of their prorated share shall advise District. The unused shares shall be prorated and distributed among those property owners requesting additional water.

When ordering proration, the Board may take into consideration water usage based on the following priorities: (1) Residential and stock water, (2) Orchards and perennial crops, (3) Pasture and annual crops, (4) Garden and row crops, and (5) other.

5.10 WATER AVAILABILITY LETTERS

5.10.01 General

Upon receiving a written request, the District will issue a letter giving the current status of water availability to a project or parcel of land. This letter will state whether the project is within the District's boundaries, the project's entitlement to a prorated share of water, nearest raw water conduit, and will attempt to identify any potential problems that may be associated with making water available to the project. These letters will generally be effective for a one-year period from the date of issuance.

5.10.02 Administrative Processing Fee

An administrative processing fee of $50.00 shall be charged for water availability letters that require review by staff. This fee shall not apply for letters prepared for parcels with existing

water or standby accounts. This fee may be waived if it is determined to be in the best interest of the District that the letter be issued.

eff. 12/12/90

5.11 RAW WATER OUTAGE ADJUSTMENT

When major rehabilitation or emergency work is required on a District raw water facility and a customer is affected by a continuous water outage for more than two (2) consecutive weeks, excluding weekends, that customer may request and receive an account adjustment.

The adjustment will be calculated by multiplying the number of outage days beyond the initial two (2) week period by the average daily water charge for the customer's size of service.

eff. 3/26/86

5.12 DROUGHT CONTINGENCY PLAN

Under drought conditions, the District adopted a Drought Contingency Plan on December 9, 1992. In order to provide for demand reduction goals for water supplies, deliveries will be based upon a schedule from April 1st Forecast in acre feet.

The Drought Contingency Plan will be followed according to its plan for maintaining a goal of 70,000 acre feet of water from water season to water season for carry over storage and for the health and safety of the District's domestic and agricultural water users.

The plan is described in the District Board and Management Policy Manual.

eff. 6/11/03

6SECTION 6

SECTION 6

RENDERING AND PAYMENT OF BILLS

6.01 TERMS OF PAYMENT

6.01.01 Treated Water and Annual Raw Water

All water charges are due and payable on issuance of the statement.

If not paid:

4 weeks from issuance – a notice of termination of service will be included with the bimonthly billing.

6 weeks from issuance – a turn-off notice shall be issued and a charge as shown in Schedule 6-A, shall be made for serving such order.

7 weeks from issuance – service may be turned off.

A charge, as shown in Schedule 7-A, shall be made for turn on.

8 weeks from issuance – a late payment penalty at the rate of 1 ½% per month, shall be added hereto.

eff. 6/93; rev. 6/11/03, rev. 8/10/05, rev. 09/12/07

6.01.02 Seasonal Irrigation Service

(a) Inside District Applicants. One-third of the total charges are due by April 1 or prior to receiving water. If there is a new owner, payment is due with the application.

eff. 03/11/98

One-third of the total charges due June 15, and if not paid by July 15, a notice of termination of service shall be mailed and a ten percent late payment penalty shall be added. If payment is not received by July 22, service may be turned off.

One-third of the total charges due August 15, and if not paid by September 15, a notice of termination of service shall be mailed and a ten percent late payment penalty shall be added. If payment is not received by September 22, service may be turned off.

A charge, as shown on Schedule 7-A, shall be made for turn-on.

(b) Outside District Applicants. One-third of the total charges to be paid with application.

One-third of the total charges due June 15, and if not paid by July 15, a notice of termination of service shall be mailed and a ten percent late payment penalty shall be added. If payment is not received by July 22, service may be turned off.

One-third of the total charges due August 15, and if not paid by September 15, a notice of termination of service shall be mailed and a ten percent late payment penalty shall be added. If payment is not received by September 22, service may be turned off.

A charge, as shown on Schedule 7-A, shall be made for turn-on

(c) Delinquencies. Applicants who are delinquent in the payment of water charges shall pay charges prior to District's acceptance of application for subsequent seasonal irrigation service or make satisfactory agreement with District for payment of same. An additional ten percent late payment penalty shall be added to all seasonal irrigation water accounts remaining unpaid on February 15.

eff. 6/11/03

6.01.03 STANDBY

All standby charges are due and payable on issuance of the statement. Standby charges are delinquent four months after issuance and may be transferred to the County Tax Rolls for collection.

eff. 6/11/03

6.02 MULTIPLE ACCOUNTS

Combining of two or more seasonal irrigation services for reduced rate purposes will be permitted when any of the following conditions are met:

(a) Applicant owns a single parcel of property and requires more than one seasonal irrigation service from different District facilities in order to serve this one parcel.

(b) Applicant owns more than one parcel or property which is served from the same canal system and operated as a single farming unit; and seasonal irrigation service is purchased for each parcel under separate applications. Property must be owned and listed on the county assessor's roll under the applicant's name.

eff. 5/27/87

6.03 BILLING TO THE AGENT/RENTER

Direct billing to the agent/renter can be made upon receipt of a written authorization from the property owner that the agent/renter has been designated as the agent of the property owner. If the owner desires a duplicate of the water statement which is sent to the agent/renter, a handling charge as shown in Schedule 6-A, will be applied.

6.04 NON-PAYMENT OF ACCOUNTS

Charges for water and other services, including penalties and supplemental charges, which are delinquent at the time specified for the delivery of outstanding charges to the county tax collector, may be added to and become a part of the annual assessment levied to the land upon which the service was rendered.

The District may refuse service to any land if outstanding charges for services already rendered such land are delinquent. (Section 22282.1 of the California Water Code)

The District may, under the provisions of Section 25806 of the California Water Code, record a lien on any or all lands owned or subsequently acquired by the person liable for such charges.

6.05 SECURITY DEPOSITS

The District may charge a security deposit, as shown in Schedule 6-A, for all outside District customers and for all inside District commercial accounts.

A simple interest of 5 ½% per annum shall be accrued on all security deposits effective January 1, 1981.

Deposits from commercial accounts shall be held for a period of one year. At the end of that period, the deposit plus interest may be applied to the account or refunded provided the account has been paid on a timely basis. Should a turn-off order be issued due to non-payment, a deposit equal to twice the highest bimonthly bill shall be required before the service can be turned on.

Deposits from outside District customers, providing the account has been paid on a timely basis, are held for a period of one year. At the end of that period, the deposit plus interest may be applied to the water account and the balance, if any, shall be refunded.

eff. 8/12/87; rev. 6/11/03, rev. 09/12/07

6.06 RETURNED CHECKS

Checks returned by the bank unpaid shall be returned to the account. A return check fee, as shown in Schedule 6-A, shall be added to the water account and any other bank charges that may be assessed due to the returned item.

eff. 2/13/85

6.07 DISCONTINUANCE OF SERVICE

6.07.01 Non-payment of Bills

Water service may be discontinued if a bill for services rendered has not been paid within the time prescribed by the District.

6.07.02 Noncompliance with the District's Regulations

If a customer fails to comply with any of these Regulations, the District will notify the customer of such failure. If the customer fails to comply within a reasonable time, the District may discontinue service.

6.07.03 Customer Service Discontinuance Request

If the customer gives the District a written request to disconnect the service, the District will notify the customer of the legal and financial impact of such request.

6.08 OUTSIDE DISTRICT CUSTOMER CHARGES

Any installation charges, or bimonthly charges listed as schedules in these Regulations, will be increased by twenty-five percent for outside District customers.
rev. 04/25/06, rev. 09/12/07

6.09 DISPUTED OR ERRONEOUS BILLS

Any request for review of a disputed or erroneous bill must be made in writing to the District office. Dispute of a bill shall not justify nonpayment thereof and the bill shall be paid in full when due pending the settlement of the dispute.

6.10 TIME AND MATERIAL CHARGES

The term time and material charges, as used in these Regulations, shall indicate a determination of costs based on the actual amount of labor, equipment and materials utilized, including applicable overhead factors. A deposit will be required based on the estimated costs and a final billing will be provided to the applicant or customer after completion. If final costs are in excess of the deposit, additional payment will be due within 30 days of receipt of final billing. If final costs are less than the deposit, the difference will be refunded.

6.11 UNSPECIFIED CHARGES

When these Regulations require that improvements or modifications be made by District at customer's sole cost and expense, the District may estimate these costs and make final charges based on the estimate, or it may utilize an actual time and material basis, as provided in Section 6.09, at the sole discretion of the District.

6.12 TERM PAYMENTS

The General Manager and the Finance Manager, at their discretion, may sign term payment agreements with individual property owners under the following guidelines:

(a) Up to a 60-month period and a maximum amount of $7,000.00 can be authorized for District fees and charges related to a new treated water service including but not limited to, capacity charges, meter and backflow prevention device installation charges, and buy-in fees to improvement districts. The interest rate to be charged on all term payment agreements will equal the current Bank of America prime rate plus 2.0 percent to be adjusted every January first. Late term payments will pay charges equal to the rate shown for the late payment penalty in Section 6.01.01 of these Regulations.

(b) Up to a 12-month repayment period can be authorized for customers to pay delinquent water account charges. A late payment penalty shall be charged at the rate shown in Section 6.01.01.

eff. 7/13/94; rev. 6/11/03; rev. 4/14/04

SECTION 7

CUSTOMER SERVICES

7.01 ROUTINE TURN ON AND TURN OFF

All customer requests for turn on and turn off shall be made in writing, or on Form 7-A available at the District office, signed by the property owner. Prior notice of 72 hours may be required in making routine turn on and turn off. A special service call fee, as shown in Schedule 7-A, is charged for making the turn on.

eff. 6/11/03

7.02 TURN ON FOR NONPAYMENT

Turn on of water service after being shut off for nonpayment may be made provided the account is paid in full, or if a satisfactory arrangement has been made prior to the turn on. The service may be turned on the same day if it can be done during District's normal operating hours; otherwise, the service will be turned on the following business day. A special service call fee, as shown in Schedule 7-A, shall be charged to the customer.

eff. 6/11/03

7.03 EMERGENCY TURN ON

If water service is required in advance of the timing outlined for routine or nonpayment turn ons, a turn on may be arranged if the customer pays a special service call fee in advance. This fee shall be charged to the customer, as shown in Schedule 7-A.

eff. 6/11/03

7.04 SPECIAL METER READINGS

A customer requesting a special meter reading shall be charged the fee shown in Schedule 7-A.

7.05 SERVICE CALL

During normal operating hours, a customer requesting a service call concerning the pressure or quantity of water being received may be charged the fee shown in Schedule 7-A, if it is determined that District facilities are operating satisfactorily and the problem lies within the customer's facilities.

After normal operating hours, the fee, as shown in Schedule 7-A, shall be charged to the customer.

eff. 03/11/98

8Section 8

SECTION 8

FIRE SERVICES

8.01 GENERAL

Three types of fire services are available; public fire hydrants and private fire services served by treated water systems and public fire services served by raw water systems. These fire services shall be used only for the purpose of extinguishing fires and for testing fire suppression systems.

8.02 DISTRICT LIABILITY

The District does not guarantee or represent that a specific or certain minimum water pressure or volume of water will be available through a fire service. Fire services will be subject to the variations of water pressure and flow and to the temporary shutdowns required in the operation and maintenance of the system or any interruptions of operations in the system. The District shall be held in no way responsible for and the applicant and/or local fire fighting entity must agree to hold the District free and harmless from injury or damage caused by the lack of water or pressure available to a fire service.

8.03 LOCATION

8.03.01 General

All fire services will be located at a site meeting the approval of the District. In determining if a location is suitable for the installation of a fire service, the District will take into consideration operation and maintenance requirements and other factors deemed important, at any proposed site.

eff. 6/11/03

8.03.02 Treated Water System

(a) New Service. Faulty equipment or procedures which may be utilized by entities operating fire services on high pressure water mains can lead to physical injury of personnel, property damage, and can cause water main failures.

No new public fire hydrants will be allowed on District water mains where static pressures are 150 psi or greater. Prior to allowing public fire hydrants on water mains where static pressures are between 100 and 149 psi, the District will review each request on an individual basis. Approval or disapproval of each request, which will be made at the sole discretion of the District, will be based on consideration of such factors as size, type, and condition of water main, actual pressure, location of pressure-reducing stations, lower pressure water mains and other hydrants.

New private fire services, located on water mains where static pressures are 100 psi or greater, will not be allowed unless the applicant signs an agreement acknowledging the risks involved in a high pressure service, and holding the District free and harmless from liability and damages relating to the service. In addition, if the pressure is 150 psi or greater, the applicant will not be allowed to install any private hydrants or hose outlet stations on the fire service.

Fire pumper connections installed with proper check valves will be allowed.

eff. 10/24/90

(b) Existing Services. Existing public fire hydrants located on water mains where static pressures are 100 psi or greater may be eliminated when in the sole judgment of the District an adequate substitute water source, normally a lower pressure water main is available. The local fire fighting entity, in which jurisdiction of any public fire hydrant being considered for elimination is located, will be consulted prior to final determination; and a written 30-day notice will be provided prior to the actual removal or relocation of the fire service. All removal and re-

plumbing costs will be absorbed by the District when such removal is the sole decision of the District.

eff. 5/23/90; rev. 6/11/03

8.03.03 Raw Water System

Due to potential of water loss and operation problems encountered with fire services off of the raw water system, the District will only allow such services under limited situations. If other alternatives, as determined by the District, are available to the fire fighting entity, no such service will be allowed.

No fire services will be allowed off of siphons or pipelines classified as transmission, as opposed to distribution lines. Locations subject to hydraulic conditions that restrict water flow will not be available for installation of a fire service.

eff. 3/13/85

8.04 PUBLIC FIRE HYDRANTS ON TREATED WATER SYSTEMS

8.04.01 General

An application, Form 8-A, must be signed by applicant and the local fire fighting entity in which jurisdiction the hydrant is located and approved by District prior to the installation, relocation or removal of a hydrant on a District water main.

The charge for the hydrant installation, relocation or removal, as set forth in these Regulations, shall be paid by the applicant and/or local fire fighting entity at the time the application is submitted to the District.

Fire hydrants installed under these Regulations shall belong to the District. The District may bear the expense of performing hydrant maintenance resulting from normal wear and tear when

such conditions are reported to the District. The District may levy a charge for fire hydrant maintenance.

8.04.02 Installations

The charge shown in Schedule 8-A will be collected for all installations and provides for installation of a 2 ½" x 2 ½" x 4 ½" nozzle dry barrel hydrant conforming to AWWA Specification C502.

8.04.03 Hydrant Removal

The charge to remove a hydrant and discontinue the service will be as shown in Schedule 8-A.

There will be no charge to remove a hydrant or stand pipe classified as less than 5 ¼-inch barrel diameter when the removal is done in conjunction with the installation, at the same location, of a new hydrant.

eff. 6/11/03

8.04.04 Installation of a Hydrant Near Existing Hydrant

If a fire hydrant is to be installed at or near a location where there is existing hydrant coverage, as a requirement precedent to installing the new hydrant, the District reserves the right of discontinuing the existing hydrant and to levy the appropriate charge as shown in Schedule 8-A.

8.04.05 Relocation of Hydrant

The charge for the relocation of a hydrant will be the total of the charge for the hydrant elimination, Schedule 8-A, plus the charge for the installation of a new hydrant. No credit will be given for salvaged material unless the hydrant conforms to AWWA Specification C502 and can be reused, with only minor reconditioning, in which case a credit will be given as shown in Schedule 8-A.

Where the relocation or installation of a fire hydrant does not require a new connection to the main, the charge will be based on the District’s actual cost.

8.05 PRIVATE FIRE SERVICE ON TREATED WATER SYSTEM

8.05.01 General

An Application, Form 8-B, must be signed by applicant and the local fire fighting entity in which jurisdiction the service is located, and approved the District prior to installation of the private fire service. The Applicant will make the basic determination as to the size of the service; however, the District reserves the right to limit the size of the service allowed. A fee to compensate the District for estimating the cost of the service will be collected at the time the application is submitted to the District. See Schedule 8-B.

After installation, the private fire service, up to and through to the outside edge of the vault, shall belong to the District.

eff. 1/1/94; rev. 12/08/04

8.05.02 Installation

Private fire services may be installed using three administrative processes, 1) District installed, or 2) Applicant installed using a Conveyance Agreement or 3) Applicant installed using an Applicant Constructed Private Fire Service Letter Agreement.

District installed private fire services shall be at the Applicant's cost as shown in Schedule 8-B.

Private fire services may be installed as a facility incidental to a water line extension being installed by a Developer under the provisions of a Section 10.03 Conveyance Agreement. The Applicant may also make arrangements to construct a private fire service to be connected to an existing water main by using the Section 10.03 Conveyance Agreement process in cases where the estimated installation costs exceed $15,000.

Fire services that are not incidental to a proposed water line extension project may be installed by the Applicant using a private contractor under the provisions of an Applicant Constructed

Private Fire Service Letter Agreement, example of which is shown in Form 8-D. This method governs plans, specifications, construction, inspection, and other requirements for the Applicant and his contractor. These letter agreements and conveyance of the completed fire service are subject to approval by the General Manager.

eff. 12/12/90; rev. 12/08/04

8.05.03 Service to More Than One Parcel

As long as all the parcels involved are properly fronted by a water main, as required under Section 10.01.02 of these Regulations, and upon the written application of all landowners, up to four contiguous parcels may be served by one private fire service.

Property owner(s) of each parcel being served by a Private fire service must have a valid application on file with the District indicating their responsibility for paying all charges and penalties, along with their responsibility for maintaining the system beyond the private fire service.

In certain instances the District, at its sole discretion, may permit or require a single parcel to have more than one private fire service connection. Examples include a shopping center/business center with varied tenant water requirements or two commercial buildings located on one parcel.

rev. 12/08/04, rev. 03/10/10

8.05.04 Charges for Water Service

No charge will be made for water used for extinguishing fires, but any water lost through leakage or for testing purposes or used in violation of these Regulations shall be paid for by the applicant at double the normal water consumption charges. If unauthorized water use or leakage continues for more than two billing periods after notification of the water use, the service may be discontinued.

A periodic charge, as shown in Schedules 8-C and 8-D, will be made to compensate the District for maintenance and the eventual replacement of the private fire service.

Pursuant to Section 6.04 of these Regulations, delinquent charges may be placed as a lien against the parcel, or all parcels benefiting from the service in the case of service to more than one parcel. User(s) of the service understand that the fire service may be discontinued for nonpayment of charges and accept all risk of such discontinuance for nonpayment.

eff. 1/22/86

8.06 PUBLIC FIRE SERVICE ON RAW WATER SYSTEMS

8.06.01 General

An application, Form 8-C, must be signed by the local fire fighting entity in whose jurisdiction the fire service is located and approved by District prior to installation of the service.

These types of fire services are subject to extreme variations in flow. Temporary, seasonal and extended shutdown periods may be required in normal operation of the system. Water delivered to the service may contain debris which could affect the quantity of water available to the fire service because of plugging or clogging.

8.06.02 District Installation

The District will install the outlet and shutoff valve immediately adjacent to the District facility at the applicant's cost.

8.06.03 Applicant Installation

The applicant will be responsible for construction of all facilities downstream from the shutoff valve, including pipeline, storage sump and hydrant.

8.06.04 Maintenance Responsibilities

District may bear the expense of performing maintenance resulting from normal wear and tear on its facilities when such conditions are reported to the District. The District may levy a charge for maintenance. Facilities downstream from the shutoff valve will be the responsibility of the applicant to maintain.

8.06.05 Discontinuing Service

The service shall be used only for extinguishing fires and no connections of any kind whatsoever, other than to hydrants and hose reels, shall be made or permitted to be made to the pipe(s) supplied by said service.

Discovery of any unauthorized service or any water leakage from the applicant's facilities will result in discontinuation of said fire service until corrective action is taken.

8.06.06 Charges for Water Service

No charge will be made for water used for extinguishing fires or for periodic flushing of the service to remove accumulated debris.

SECTION 9

BACKFLOW PREVENTION

9.01 GENERAL

The purpose of these Regulations is to provide for the protection of the District's treated water system from actual, or potential contamination by isolating within the water user's premises any possible source of such contamination or pollution.

In accordance with the requirements of the California Administrative Code, Title 17, Chapter V, Sections 7583 to 7605 inclusive, the water supplier has the responsibility to prevent contamination of the public water system by backflow. No water service connection to any premises shall be installed or maintained by the District unless the public water supply is protected, as required by said State regulations and the requirements stated below.

These Regulations supplement and do not supersede local plumbing regulations, codes, ordinances, or other State Department of Health Services' regulations relating to water supply.

9.02 TYPES OF PROTECTION

In general, types of backflow prevention devices to be located at the point of service shall be as follows:

(a) Double Check Valve Assembly

This device is utilized where a lesser degree of protection against backflow is desired.

(b) Reduced Pressure Principle Device

Utilized in situations where a higher degree of protection is required than can be obtained from a double check valve assembly.

(c) Air Gap Separation

Requires an actual separation of the District's water system and the water user's piping. This requirement is only used where a maximum of protection against backflow potential is necessary.

The District has reviewed the degree of hazard, probability of backflow occurring and complexity of piping with possibility of modification for various classes of treated water users. Based on this review, as well as present requirements as indicated in the aforementioned California Administrative Code, the District has established a listing of the minimum protection type of backflow prevention device required for each type of water service. These requirements are listed in Schedule 9-A. Changes to this schedule may be made upon written approval of the Manager.

9.03 DISTRICT RESPONSIBILITY

The District will install and maintain the required backflow prevention device. Only devices selected by the District and approved by the University of Southern California's Foundation for Cross Connection Control and Hydraulic Research, or approved by the California State Department of Health Services will be utilized.

The District shall cause inspections to be made at each backflow prevention device at least once a year. Only personnel certified for testing these devices by the California-Nevada Section of the American Water Works Association, the University of Southern California, or California State Department of Health Services, will perform the required tests. Test results and maintenance records shall be maintained by the District.

9.04 WATER USER'S RESPONSIBILITY

All costs incurred by the District for installation of the backflow prevention devices, as well as maintaining, replacing and testing these devices will be reimbursed by the water user to the District. These costs are shown in Schedules 9-B, 9-C, and 9-D.

The water user may be required to fill out a questionnaire regarding the degree of risk of backflow at the time water service is first requested and at other times deemed necessary by the District.

It is the further responsibility of the water user to inform the District of any change on its premises that might increase the risk of backflow into the District's treated water system.

9.05 DISCONTINUANCE OF SERVICE

The District may discontinue service of water to any premises and may physically disconnect the customer's piping from the District's water system if a backflow prevention device required by these Regulations is not installed, or if it is found that a backflow prevention device has been removed or bypassed, or for any other violation of these Regulations.

9.06 RETROFIT PROGRAM

Existing water services will be reviewed and prioritized according to their potential health hazard. On a staged basis, starting with higher risk services, the proper backflow prevention devices will be installed on a schedule to be determined by the District.

9.07 REDUCTION IN DEGREE OF PROTECTION

Where a change in Schedule 9-A, or the degree of hazard allows a customer to downgrade from a reduced pressure principle device to a double check valve assembly, the District, upon

determining that the premises requires less protection, will reduce the bimonthly charge to that associated with the double check valve assembly. No refund or partial refund of original installation charges will be made. If at a later date a reduced pressure principle device must be reinstated, the customer will be charged retroactively the difference between the lower and higher monthly charges, as shown in Schedules 9-C and 9-D, plus an interest factor to be determined by the District.

Where a change in these Regulations or the degree of hazard allows a customer to eliminate the backflow prevention device, the District, upon determining that the premises no longer requires the device and with approval of the customer, will remove the device at District cost and stop charging the bimonthly charge. No original installation charge refund will be made. If future circumstances require the reinstallation of a device, the full installation cost, as shown in Schedule 9-B, will be collected from the customer.

eff. 6/11/03, rev. 04/25/06, rev. 09/12/07

9.08 INCREASE IN DEGREE OF PROTECTION

Where a change in Schedule 9-A or the degree of hazard requires upgrading from a double check valve assembly to a reduced pressure principle device, the customer will be charged the difference between the installation charges of the two devices, as shown in Schedule 9-B and will be subject to the higher bimonthly charges associated with the reduced pressure principle device.

eff. 6/11/03, rev. 04/25/06, rev. 09/12/07

9.09 PRIVATE BACKFLOW PREVENTION DEVICES

At the sole discretion of the District, a privately owned backflow prevention device may be allowed when a reduced pressure principle device is required to protect the public water supply.

If approval from the District is received to install a privately owned device, the customer must sign an agreement which sets forth the terms and conditions deemed necessary by the District. The agreement will cover issues relating to the ownership, installation, operation, maintenance and testing of the device as well as District access.

eff. 7/13/98; rev. 6/11/03, 04/25/06

SECTION 10

TREATED WATER SYSTEM EXTENSIONS

10.01 GENERAL

The District's objective is to ensure that the water system will be able to provide adequate water service to all present and future customers in an orderly manner.

eff. 8/11/99

10.01.01 Supplemental Definitions

(a) Extension. Any water system improvements required by the District to serve present and future customers in an orderly manner.

These improvements may include, but are not limited to, treatment plant facilities, domestic water storage, distribution and transmission water mains, pump stations, pressure reducing stations, private fire services and other necessary appurtenances. Extensions may also include related raw water facilities needed to transport water to the treated water system.

eff. 8/11/99

(b) Developer. Any person desiring water service from the District which water service requires a system extension. A developer is considered a person, group or entity that is improving a parcel of land. NID sponsored water line projects are not considered developer projects.

eff. 8/11/99, rev. 11/14/07

(c) Principal Property Frontage. Parcel frontage or combination of frontages on an adequate water main that best promotes the orderly development of the water system. Frontage along a primary access road will be a consideration in determining principal property frontage. The narrow frontage of a flag pole lot will not qualify as principal property frontage when not consistent with the orderly development of the water system.

eff. 8/11/99

(d) Adequate Water Main. A District water main with adequate capacity and pressure, and which is connected to a system with adequate source capacity.

eff. 8/11/99

10.01.02 Extension Requirements

(a) When a Treated Water System Extension is Required. The parcel must have an adequate water main along at least fifty percent (50%) of the principal property frontage, but not less than 50 feet. The District may require additional length or additional water mains at locations that best promote the orderly development of the water system. District's determination will be made on review of a submitted map.

eff. 8/11/99

(b) When a Treated Water System Extension is not Allowed. When an extension is not consistent with orderly development of the water system, an extension may not be allowed.

eff. 8/11/99

10.01.03 Water Availability

Developer must first make a written request for a letter of Water Availability. The request should include Assessor's Parcel Number(s), type of development, intended use of water, and fire flow requirements.

10.01.04 Service Feasibility Study

It may be necessary for the District to prepare a study in order to determine if service can be provided. If required, the study will be prepared at the sole cost of the developer on a time and material basis and will include, but not be limited to, computer analysis of the system and proposed improvements.

10.01.05 Developer Option

The developer may elect to take on the responsibilities of constructing the extension under provisions contained in Section 10.03 or, under certain qualifications, elect to have the District construct the extension as discussed in Section 10.04.

10.02 EXTENSION SPECIFICATIONS

10.02.01 Minimum Pipe Diameter

All new water main installations will consist of a minimum pipe size of eight inch inside diameter where it is anticipated that the long sides of loops of which the extension is a part, will exceed 600 feet or where the extension will remain unlooped. In cases where loops will be formed smaller than 600 feet, a six inch inside diameter pipe will be the minimum pipe size considered. Cul-de-sac pipelines, not exceeding 600 feet in length, may be less than the minimum size if extensions are not anticipated and adequate fire flow can be obtained from the main line. Pipe sizes within new subdivisions, where strong grid systems are created, will be determined by hydraulic analysis, taking into consideration consumptive demands and required fire flows.

Further upsizing of the minimum pipe sizes may be required to meet requirements of the developer or to meet future needs of the District.

eff. 3/27/85

10.02.02 Development Standards

The Board has adopted "Development Standards, Treated Water System." The standards include Developer Requirements, and Standard Specifications and Details. These requirements and standards are to be used by developers, as well as their consulting engineers and contractors for proper planning, designing and construction of treated water system extensions. The standards will also govern work undertaken by District crews; however, the General Manager may approve, in writing, any necessary deviations to these standards to accommodate in-house construction activities.

Proposed changes and additions to the Standard Specifications will be submitted to, and coordinated by, the District's Engineering Department.

Sections of the Standard Specifications adopted by the Board will require updating from time to time. Such changes must be approved by the General Manager and, at the General Manager's discretion, may require approval of the Board.

New sections being added to the Standard Specifications must be adopted by the Board.

Standard Details will be prepared, when appropriate, to help emphasize the requirements found in the Standard Specifications. The Engineering Department will, from time to time, revise the details to reflect approved revisions to the Standard Specifications. If required, Standard Details will be prepared for new sections added to the Standard Specifications.

A copy of the "Development Standards, Treated Water System" will be made available, for a fee, to consulting engineering firms and material suppliers working with the District. This cost will include updates and additions to these standards. The District may decide, at a later date, to charge an additional amount for future standard modifications. Copies of the specifications and details for bidding purposes and use by a developer's contractor must be provided by the developer.

Full size Standard Details, in the form of reproducible mylars, will be made available at the appropriate fee.

No changes shall be made to the Standard Specifications and Details without prior written District approval.

eff. 3/9/94; rev. 6/11/03

10.03 DEVELOPER CONSTRUCTED

10.03.01 Letter of Agreement

A letter of agreement between the District and the developer will be signed prior to review of the developer's plans. The letter of agreement will outline the procedure to be followed in allowing the developer to construct the extension. The developer must have the plans and specifications prepared by a licensed civil engineer. The plans and specifications must meet the District's approval. The developer will also provide a licensed civil engineer to act as the project engineer during the construction phase.

10.03.02 Plan Check and Inspection Fee

The following plan check and inspection fee deposit, based on the District's estimate of extension construction cost, will be payable to the District:

ESTIMATED CONSTRUCTION COST	DEPOSIT (Percentage of Construction Cost)	TIMING OF DEPOSIT
Less than $100,000	7% up to $5,000	At signing of letter of Agreement
$100,000 or more	2 ½%	At signing of letter of Agreement
	Additional 2 ½%	At signing of Conveyance Agreement

The developer will be obligated to pay all plan check and inspection costs, as determined on an actual time and material basis.

10.03.03 Conveyance Agreement

Upon written approval of the plans and specifications for the proposed mainline extension, the developer must enter into an agreement with the District, which will ensure the District that construction of the extension will be in accordance with the District-approved plans and specifications and to ensure the conveyance of the extension to the District after its completion. Standard provisions covering a labor and material bond, maintenance bond, insurance, time limits and other requirements are shown in Form 10-A. Special provisions may also be added to the agreement as found necessary by the District.

At the discretion of the General Manager, up to another three months of time beyond that provided in the Conveyance Agreement to begin work, and up to another six months of time beyond that provided to complete work may be allowed.

Any additional time extensions, if granted, must be approved by the Board.

eff. 1/10/90; rev. 6/11/03

10.03.04 Performance Guarantee

The District may require the developer to furnish, prior to the start of construction, a performance bond or irrevocable letter of credit naming the District as obligee. Such performance guarantee must meet the District's approval as to form and surety utilized. This performance guarantee will be required if the District, at its sole discretion, requires assurance of the developer's performance. The guarantee amount will be as estimated by the District.

eff. 6/24/87

10.03.05 Construction

The extension must be constructed by a contractor holding a valid Class A (General Engineering Contractor) or C34 (Pipeline Contractor) California Contractor's license issued by the State Department of Consumer Affairs, Contractors State License Board. The District Engineer, or his representative, will inspect the work for compliance with the approved plans, specifications, and District standards. The developer will assume the cost of engineering and inspection services.

10.03.06 District Acceptance

Upon completion of construction and compliance with all the terms and conditions of the conveyance agreement, and payment of all District plan check and inspection costs, the General Manager, on behalf of the District will accept conveyance and title of the extension. The District will then own, operate, maintain, repair and replace the improvements, except as specified during the maintenance warranty period. Upon acceptance of conveyance of the extension, the developer may apply for water service.

eff. 1/10/90; rev. 6/11/03; rev. 7/28/04

10.04 DISTRICT CONSTRUCTED

10.04.01 General

The developer may request the District to install any extension consisting of a water main installation which is less than 300 feet in length. In such cases, the District will, if it so desires, take on the responsibility of designing and constructing the extension.

10.04.02 Type of Agreement

A formal written agreement between the developer and the Board will be necessary if the estimated construction cost exceeds $15,000. A letter agreement, not requiring Board approval, will be utilized if the estimate cost is equal to, or less than $15,000. In either case, the agreement will contain clauses outlining the District's responsibility to prepare engineering plans and specifications and construct the extension, payment for construction, and other conditions as deemed necessary by the District.

eff. 12/12/90

10.04.03 Construction Cost

Schedule 10-A of these Regulations will be used to determine the District's charge to design and construct a certain type and diameter pipeline.

The cost, as determined herein, will be stipulated in the agreement as the final cost to the developer for construction of the extension.

10.04.04 Payment Schedule

At the time the agreement is signed, 50 percent of the construction cost must be paid to District. Actual construction will be scheduled only after the remaining 50 percent is received.

10.05 DISTRICT FINANCIAL PARTICIPATION

The developer may request, prior to consummation of a conveyance agreement, that the District participate financially for any portion of extension upsizing required by the District for future needs as opposed to developer's needs. In the case of water main installations, a pipe size less than the minimum pipe size, as discussed in Section 10.02.01, will not be considered adequate for the developer's needs.

Final determination of District participation will be made by the Board after review of the financial priorities of the District and included in the conveyance agreement.

10.06 REIMBURSEMENT FEE

The District will collect a reimbursement fee, where applicable, before granting a water service, including a private fire service, to a parcel which lies along and may be served directly from any pipeline extension installed under the provisions of these Regulations. The reimbursement fee for any parcel shall be determined by multiplying the front foot charge by the lineal feet of property frontage which lies along the extension. The reimbursement fee for an extension shall be in effect for a period of twenty years from the date of execution of the reimbursement

agreement between the developer and the District. All monies collected will be returned to the developer.

No reimbursement fees will be collected unless the developer has signed a reimbursement agreement prior to District acceptance of the extension in the case of a developer-constructed extension. In the case of a District-constructed extension, reimbursement provisions will be included in the initial agreement.

All monies collected will be returned to the developer by registered mail to the last address on record at the District office. The developer shall be responsible for keeping the District record current. Monies so delivered that are returned to the District shall be retained for the benefit of the developer for a period of one year. No other attempts will be made to locate the developer. At the end of the one-year holding period, the District shall return the principal amount to the then current owner of the parcel from which the reimbursement had been collected. The developer shall have no further claim to the monies. The reimbursement accounting system shall continue to indicate that the parcel has paid the reimbursement.

The developer will select, at the time a reimbursement agreement is signed, one of the following options for determining the front footage charge and parcels subject to a reimbursement fee.

Option A. The front footage charge will be determined by dividing the cost of the extension by the front footage along the extension of all parcels which may be served directly from the extension. Parcels already receiving District treated water, at the time a reimbursement agreement is signed, will be excluded in determining the front footage charge, even though future service may be made from the extension. All parcels whose front footage was utilized in the calculation described above, will be subject to the reimbursement fee.

Option B. The front footage charge will be determined by dividing the cost of the extension by the front footage along the extension of all parcels which may be served directly from the extension. An existing parcel fronting the extension, and not currently receiving District treated water, will be subject to the reimbursement fee. An existing parcel fronting the

extension, which currently receives District treated water, will only be required to pay a reimbursement fee if that current service is expanded or upsized, or if that parcel is split. In case of a parcel split, the existing service will be assigned, at the sole discretion of the District, to one of the newly created parcels. The remaining new parcel(s) which lie along and may be served directly from the extension will be subject to the reimbursement based on that parcel(s)' front footage along the extension.

Option C. The Developer may elect to provide for reimbursement from parcels that in the future, may obtain water service by formal variance and which service assembly is tapped directly onto the water main that is the subject of the reimbursement agreement. The Developer must request Option C, in combination with Option A or B, in writing and, in the same request, state the number of desired future variances to be accommodated in the reimbursement agreement. The number shall be considered empirical in nature and not in any way assigned to, or attached to any one parcel or future parcel. District acceptance of the Developer's request shall in no way indicate or influence the probability of variances that might be approved in the future.

Each of the variances requested for accommodation in the reimbursement agreement shall be assigned a length of front footage equal to 125 feet but not more than fifty percent of the total length of the water line extension. This length shall be multiplied by the number of future variances requested by the Developer to be accommodated in the reimbursement agreement. This amount shall be added to the front footage as determined by either Option A or B. The front footage charge will be determined by dividing the cost of the extension by the sum of front footages including frontages assigned to variances as determined above.

The front footage charge as determined above shall be adjusted periodically to reflect changes in construction costs. Each agreement approved after the effective date of this revision shall provide for a yearly adjustment in the reimbursement charge based on the Engineering News Record - 20 Cities Average - Construction Cost Index from approximately July 1 to June 30 of the next year. This adjustment shall become effective on September 1st of each year. The first adjustment for any agreement shall be made after the agreement has been in full force and effect through one

complete cycle of July 1 to June 30 [Example: An agreement approved in November of 2008 would receive its first front footage charge adjustment on September 1, 2010. The adjustment would reflect the change in the Construction Cost Index from July 1, 2009 to June 30, 2010].

Under any option, the front footage charge shall not be applied more than once to any parcel, and no one parcel will be required to pay a reimbursement fee in excess of fifty percent of the cost of the extension. The cost of the extension shall be considered to be the Developer's out-of-pocket expenses directly and solely related to the installation of the extension, as determined by the District. The Developer's on-site improvements will be excluded from the cost of the extension.

eff. 04/11/2001; rev 6/11/03; rev 11/9/05

10.07 PREPAYMENT OF CAPACITY CHARGES

All treated water extensions serving greater than four parcels will require the payment of a minimum size meter capacity charge, as shown in Schedule 4-A, for each parcel to be served prior to District acceptance of the extension in the case of developer-constructed extension. NID sponsored water line projects are not subject to the requirement of prepayment of capacity charges.

rev 11/14/07

10.08 REQUEST FOR VARIANCE

10.08.01 Request Procedure

The applicant shall submit a completed Form 10-B Variance Request and $175 Administrative-Processing fee. The processing fee is non-refundable regardless of approval or denial of any part of the variance request.

eff. 6/9/99

10.08.02 Review of Variance

The Staff Variance Screening Committee, consisting of representatives from Management, Engineering Department, and Operations Department, as determined by the General Manager, will review requests for variances from District Regulations pertaining to treated water systems.

The Staff Variance Screening Committee may unanimously deny a variance. Applicant may appeal per Section 10.08.04.

The Staff Variance Screening Committee may unanimously recommend variance approval and conditions of approval to the General Manager. The General Manager may then approve the variance and conditions of approval.

If the Staff Variance Screening Committee and the General Manager are not in unanimous agreement, they will submit the Variance Request to the Engineering Committee. The Engineering Committee may unanimously deny the variance, and the applicant may appeal per Section 10.08.04. If the Engineering Committee does not unanimously deny the variance, it will make recommendations to the Board of Directors. The Board of Directors' decision, by majority vote, will be final.

eff. 6/9/99

10.08.03 Expiration Date

All approved variances will have an expiration date of not more than two years. All conditions of approval must be met before the expiration date. Thereafter, the District will consider the variance expired. After expiration, any request for variance will be considered a new request subject to the processing fee and all District regulations at the time of the new request.

eff. 6/9/99

10.08.04 Appeal Of Variance

The applicant may appeal a denied variance. All appeals must be in writing and received by the District within 60 days from the date of written notice of the District's decision. After 60 days, a request for appeal would be considered a new application requiring the applicant to submit a new Form 10-B and processing fee.

The first appeal would be made to the Engineering Committee, who may unanimously deny the appeal or forward the appeal to the Board of Directors with recommendations. If the Engineering Committee unanimously denies the appeal, the applicant may make a final appeal to the Board of Directors for a majority vote.

eff. 6/9/99

10.09 PRIVATE PIPELINE REPLACEMENT

10.09.01 General

In earlier years, the District allowed treated water service through private pipelines that served two or more parcels not fronting a District water main. As indicated in these Regulations, current requirements allow water service to a parcel only if it is adequately fronted by a District water main. Many of these aging private pipelines have experienced leaks that waste valuable District water supplies. In order to minimize this problem, the following participation program is available.

10.09.02 District Participation

District participation will be considered on any private pipeline elimination project where District water main replacement is involved. The new water main must meet all requirements as contained in this section of these Regulations. The District will determine, at its sole discretion, if it is in the District's best interest to participate in any private pipeline elimination project. Upon determining to participate, and after signing an agreement with the private pipeline owner, the District will schedule the design and construction, taking into consideration the priority of other District activities.

eff. 2/12/92

10.09.03 Private Pipeline Owner Contribution

At the time an agreement is reached for District participation, the private pipeline owner(s) will pay, as the owner's full share of project costs, 25 percent of the amount determined by Schedule 10-A. This amount, however, will exclude any payments made for easement or right-of-way purchases and any related legal cost. These costs will be paid 100 percent by the private pipeline owner(s).

If applicable, reimbursement provisions may be included in the agreement pursuant to Section 10.06 of these Regulations. These provisions will allow the private pipeline owner(s) and the District to share the collected reimbursement fees based on the percentage of project cost paid by each party.

eff. 8/14/91; rev. 6/11/03

10.10 TREATED WATER SERVICE TO LARGE SIZE RESIDENTIAL LOTS

10.10.01 General

After taking into consideration economic factors and physical restrictions, the District has established water service boundaries for each of its treated water systems. These boundaries indicate the extent that these systems will be expanded to provide treated water.

Areas containing residential parcels exceeding two acres in size are normally not included within the service area boundaries. These size parcels are not considered economical to serve due to the minimal water sales revenue received compared to the cost of maintaining and replacing the lengthy pipelines required to provide water service. Collection of an excess footage charge, as discussed below, allows water service to be made available to large size parcels without creating an economic hardship on the District.

10.10.02 Applicability

Treated water service to large size parcels, made available through collection of an excess footage charge, would only be applicable for areas with no upstream restrictions. The District reserves the right to limit water service outside the established boundaries if this expansion leads to upstream facility expansions which are not cost effective or are not reasonably reimbursed through collection of the District's standard capacity charge. The excess footage charge may also be utilized for areas lying inside the established boundaries.

eff. 4/24/91

10.10.03 Excess Footage

An excess footage calculation will be made where pipeline extensions are installed by a Developer pursuant to Section 10 of these Regulations, to serve areas containing large size residential parcels. Excess footage will be determined by multiplying the number of potential services from the extension by 150 feet and subtracting from the total length of the extension. The number of potential services will take into account the possibility of lot splitting, as indicated by current zoning. The 150 feet allowance is based on the average maximum front footage per lot for a two-acre parcel size subdivision.

The District, at its discretion, may assign equivalent services based on estimated water use to nonresidential-zoned parcels and may also reduce excess footage if any portion of the extension would be a benefit in improving service within existing treated water systems.

10.10.04 Excess Footage Charge

The excess footage charge will be determined by multiplying the excess footage by the per-foot installation cost, as indicated in Schedule 10-A of these Regulations, then multiplying by the present-worth factor of 0.241. This present-worth factor is based on the estimated difference between the investment interest rate and the construction cost inflation rate over a 50-year period. The excess footage charge will reimburse the District for the eventual replacement cost of the excess footage.

The excess footage charge will be payable prior to District acceptance of the extension from the Developer, or prior to start of construction in the case of a District constructed extension. The Developer is also responsible for all costs associated with the installation of the pipeline extension and any other appropriate fees and charges as set forth in these Regulations.

10.10.05 Reimbursement

Pursuant to Section 10.06 of these Regulations, the Developer may be eligible for a reimbursement agreement. In such cases, the cost of the extension will include the excessive footage charge.

eff. 4/27/88

10.11 TREATED WATER SERVICE TO NEW PUMP ZONES

10.11.01 General

Having taken into consideration economic factors and physical restrictions, the District has established water service boundaries for each of its treated water systems. These boundaries indicate the extent that these systems may be expanded to provide treated water.

Areas containing parcels that would require the establishment of new pump zones to provide adequate water service were not included within the existing service area boundaries. These parcels were not considered economical to serve under the District's present water rate structure due to the excessive cost of operating and maintaining pump stations. The requirements contained herein, allows water service to be made available to parcels requiring new pump zones without creating an economic hardship on the District.

eff. 7/11/90; rev. 3/24/04

10.11.02 Applicability

Treated water service to parcels in new pump zones would only be applicable for areas with no upstream treated or raw water facility restrictions. The District reserves the right to limit service outside the established water service boundaries if this expansion leads to upstream facility expansions, which are not cost effective or are not reasonably reimbursed through collection of the District's standard capacity charge.

eff. 7/11/90; rev. 3/24/04

10.11.03 Design Considerations

In establishing a new pump zone, it will be the District's goal to minimize the size of pumps required to provide adequate service and to limit customer water outages. In most cases, a storage tank will be required to provide fire flow, peak hour demands as well as emergency storage. The physical size of the pump station, transmission main or storage tank may exceed the needs of the developer's property in order that additional parcels can be served. In order to adequately serve the new pump zone, the required storage tank site may be located outside of the developer's property. Installation cost of these facilities will be solely the responsibility of the developer. The developer is also responsible for all costs associated with the installation of the pipeline extension and any other appropriate fees and charges as set forth in these Regulations.

eff. 7/11/90

10.11.04 Reimbursement

If other customers who are not part of the developer's land are allowed to utilize excess storage or pumping capacity in the new pump zone, a reimbursement will be due the developer. The reimbursement will be available for a 20-year period from the date of District acceptance of the completed facilities.

Use of excess water storage from the new pump zone by other customers will be compensated for by the District paying the developer the current storage tank component of the capacity charges collected from these other customers.

The District will determine the cost of the pump station and then divide this amount by the number of customers that can be served by the pump station. If it is determined by the District that excess pumping capacity is available, each additional customer will be charged the previously calculated cost per customer. Any funds collected from this charge will be transmitted to the developer.

The costs used to determine reimbursement shall be adjusted periodically to reflect changes in construction cost. These adjustments shall be governed by Section 10.06 of these Regulations.

Reimbursements for off-site pipelines are provided for in Section 10.06 of these Regulations.

eff. 7/11/90; rev. 6/11/03; rev. 4/14/04; rev. 11/9/05

11Section 11

SECTION 11

RAW WATER SYSTEM EXTENSIONS

11.01 GENERAL

11.01.01 Supplemental Definitions

(a) Extension. Includes any raw water system extensions, enlargements or improvements necessary to transport, store and/or deliver raw water. These improvements may include, but are not limited to, canals, ditches, pipelines, measuring and regulatory structures, pump stations, regulatory reservoirs and other necessary appurtenances.

(b) Developer. Any person desiring raw water service from the District, which service cannot be provided without an extension.

11.01.02 Purpose

The purpose of these Regulations are to provide for the orderly development and extension of the District's raw water system, to allow a means for developers to obtain some reimbursement for cost incurred in expanding the District's raw water system and to provide a method of compensating the District for added operation and maintenance costs.

11.01.03 Extension Review

Prior to approval of an extension of District's raw water system which will serve, or is contemplated in the future to serve, four or more parcels, a District review will be completed. This review, financed by the developer, will determine if it is in the best interests of the District to own and maintain the extension, and whether it will also be necessary for the developer to expand a portion of the existing District's raw water system, in order to provide raw water to the parcels desiring service.

11.02 PRIVATELY OWNED

If after review it is determined that the extension is to remain in private ownership, the developer must make satisfactory arrangements with the District to assure that the extension is operated and maintained in an efficient manner.

The developer will also be required to submit to the District sufficiently developed plans on his proposed extension to determine if the extension will affect the operation or maintenance of the District's raw water system. If, in the opinion of the District, a conflict exists, the extension plans must be modified to District satisfaction. No water service will be allowed until a District field check confirms that the approved plans have been followed in constructing the extension.

It is the responsibility of the owner to operate and maintain the private extension at no cost to the District. Users who waste water, either willfully, carelessly, or due to defective or inadequate private extensions, may be refused services until the conditions are remedied. The District will not maintain private extensions, but may make emergency repairs at the expense of the owner. The District shall have access to the private extension in order to ensure compliance with these Regulations.

11.03 DISTRICT OWNED

If the review determines that it would be in the best interest of the District to own the extension, the developer will be notified of this decision and will be required to follow the remaining portion of these Regulations.

Except as otherwise noted in these Regulations, all costs related to expanding and extending the District's raw water system to serve water to the developer's property are to be at the sole cost of the developer.

11.03.01 Capacity

All new extensions will have a minimum capacity of 5 cubic feet per second. The actual size of any new extension will be determined by the District based on design considerations and master planning determinations.

11.03.02 Other Design Considerations

The extension will be designed in accordance with District specifications. These specifications will include requirements for earth compaction, side slope stability, maximum allowed velocities, canal freeboards, berm widths and permissive radius curves and other details necessary to minimize operation and maintenance problems. The District will be the sole judge in determining the need for piped and lined sections of the extension, as well as other related structures.

11.03.03 Letter of Agreement

A letter of agreement between the District and the developer will be signed prior to review of the developer's plans. The letter of agreement will outline the procedure to be followed in allowing the developer to construct the extension. The developer must have the plans and specifications prepared by a licensed civil engineer. The plans and specifications must meet the District's approval. The developer will also provide a licensed civil engineer to act as the project engineer during the construction phase.

11.03.04 Plan Check and Inspection Fee

Plan check and inspection fees and deposits are stipulated in Section 10.03.02.

11.03.05 Conveyance Agreement

Upon written approval of the plans and specifications for the proposed extension, the developer must enter into an agreement with the District, which will ensure the District that construction of the extension will be in accordance with the District approved plans and specifications and to insure the conveyance of the extension to the District after its completion. Standard provisions covering a labor and material bond, maintenance bond, insurance and other requirements are

shown in Form 10-A. Special provisions may also be added to the agreement, as found necessary by the District.

11.03.06 Performance Guarantee

The District may require the developer to furnish, prior to the start of construction, a performance guarantee as discussed in Section 10.03.04.

11.03.07 Construction

The extension must be constructed by a Class A California Contractor retained by the developer. The District Engineer, or his representative, will inspect the work for compliance with the approved plans, specifications and District standards.

The developer will assume the cost of engineering and inspection services.

11.03.08 District Acceptance

Upon completion of construction and compliance with all the terms and conditions of the conveyance agreement, and payment of all District plan check and inspection costs, the District will accept conveyance and title of the extension. The District will then own, operate, maintain, repair and replace the improvements, except as specified during the maintenance warranty period. Upon District acceptance of the extension, the developer may apply for water service.

11.03.09 Operation and Maintenance Considerations

If, at the time the extension review takes place, it is determined by the District that the District could not justify absorbing the additional operation and maintenance costs incurred because of the extension, arrangements to the District's satisfaction must be made so that customers from the extension would pay not only the standard water rates, but also an incremental charge based on actual operation and maintenance cost of the extension. These arrangements may include formation of an improvement district formed in compliance with Section 23600 of the California Water Code, or special district that the District may legally contract with, to enable the District to

be reimbursed for extension operation and maintenance costs. Final arrangements will be spelled out in the conveyance agreement.

eff. 6/11/03

11.03.10 District Financial Participation

The developer may request, prior to consummation of a conveyance agreement, that the District participate financially for any portion of extension upsizing required by the District for future needs as opposed to developer's needs. In the case of an extension, a capacity less than 5 cubic feet per second, as discussed in Section 11.03.01, will not be considered adequate for the developer's needs.

Final determination of District participation will be made by the Board after review of the financial priorities of the District and included in the conveyance agreement.

11.03.11 Front Footage Reimbursement

The District will collect a front footage charge, where applicable, before granting a water service to premises which lie along, and may be served directly from, any extension installed under the provisions of these Regulations. The front footage charge of an extension shall be in effect for a period of twenty years from the date of execution of the agreement between the applicant and the District.

The front footage charge shall not be applied more than once to any premises. Except for unusual conditions, premises already served at the date of installation of the extension will be excluded in determining the front footage charge, even though service may be made from the extension. The front footage charge will be determined by dividing the cost of the extension by the front footage of all premises which lie along and may be served directly from the extension. The cost of the extension shall be considered to be the Developer's out-of-pocket expenses directly and solely related to the installation of the extension, as determined by the District. The Developer's on-site improvements will be excluded from the cost of the extension.

rev. 8/22/06

SECTION 12

INTERFERENCE WITH DISTRICT FACILITIES

12.01 UNLAWFUL ACTS

For the protection of public water supplies, many offenses are by State Law made misdemeanors for which the offender may be criminally prosecuted. Attention is called to the following section of the Penal Code, making it illegal to interfere with or take water from any District conduit, without permission of the District, or to dump rubbish, filth, or any substance into a District conduit.

Section 498 — Stealing water, taking water without authority, or making unauthorized connections.

Section 625 — Taking water after works have been closed or meter sealed.

Section 592 and 627 — Interference with pipelines or conduits.

Section 607 — Injuring tanks, flumes, reservoirs, etc.

Section 624 — Breaking, cutting or obstructing pipes, etc.

12.02 ABATEMENT OF NUISANCE

No material affecting the quality of water shall be placed, dumped or be permitted to drain into a District conduit or reservoir. Obstructing the flow of water, scattering of noxious weeds, plants or grasses where it can roll, slide, flow, be washed or blown into a District conduit or reservoir is prohibited. All septic tanks, leach lines and structures must meet county conduit setback and

permit requirements, as well as the District encroachment permit provisions set forth in Section 14 of these Regulations. Violations of these requirements will subject offender to criminal prosecution.

12.03 DAMAGE TO DISTRICT PROPERTY

Any damage occurring to a District facility, or any property of the District, caused by a water user or any other person, must be paid for by that party.

12.04 UNAUTHORIZED TAKING OF WATER

Unauthorized connections, or the taking of water in an amount greater than applied for, and paid for, by any means, is subject to prosecution. For the first offense, water illegally taken will be billed at District rates and a penalty as shown in Schedule 12-A shall be assessed. For the second offense, the water illegally taken will be billed at double District's rates; and a penalty as shown in Schedule 12-A shall be assessed. In addition, the water service application will be conditioned for a three year period; and during this period, if these Regulations are not complied with, the service outlet will be removed and water service terminated. The foregoing shall be in addition to the right of criminal prosecution and the right to refuse service.

SECTION 13

ACCESS, RIGHT-OF-WAY AND PROPERTY MANAGEMENT

13.01 SUPPLEMENTAL DEFINITIONS

13.01.01 Private Road

Any road which does not fall under the jurisdiction of a public entity.

13.01.02 Road Maintenance

Any work which entails the improvement of the drainage system and/or improvement in the traveling surface of the road.

13.01.03 Prescriptive Easement

The rights adhering to the District due to open, continuous and notorious use of land for a period of longer than five years, prior to 1972.

eff. 6/11/03

13.01.04 Spill Channels

Usually natural drains utilized by the District to spill waters from raw water facilities on a routine and/or emergency basis.

13.02 ACCESS TO FACILITIES AND LAND

13.02.01 District Access

By applying for or receiving water service from the District, each water user irrevocably licenses the District and its authorized employees and agents to ingress and egress over and across water user's lands by means of roads and lanes thereon, if available, otherwise by such route or routes as shall cause the least practicable damage and inconvenience to the water user. Such right of ingress and egress shall not extend to any portion of said lands which is isolated from District

facilities by any public road or highway now crossing or hereafter crossing said lands. If any portion of said lands is or shall be subdivided and dedicated roads or highways or such portion extends to District facilities, the right of ingress and egress on said portion shall be confined to such dedicated roads and highways. This right shall be for the purpose of inspection, examination, measurements, surveys or other necessary purposes of the District, with the right of installation, maintenance, repair, replacing, control and regulation of all meter, measuring devices, gates, turnouts, canals, pipelines or other structures necessary or proper for the transportation, distribution, storage or measurement of water. Means of access shall be by foot, vehicles and equipment operated or under the control of the District.

13.02.02 Private Facilities

District employees and representatives of the federal, state and local authorities shall have the right of ingress and egress of the customer's premises at reasonable hours for any purpose reasonably related to the furnishing of water service and the exercise of any and all rights secured to it by law, or these Regulations, including inspection of the water user's piping and equipment as to compliance. The water user shall provide and maintain reasonable access to all such equipment.

13.02.03 Land Surveys

Pursuant to Government Code Section 22229, District employees shall have the right to enter upon any land to make surveys and determine the location of any facility thereon and for surveys and investigation of soil conditions prior to the commencement of property acquisition.

13.03 PRESCRIPTIVE EASEMENTS

The District has, through operation of its system and long continued use, acquired certain property rights in lands within the District. These rights normally pertain to the use of canals, ditches, water lines and roads, which usage has been developed over a substantial period of time.

13.04 SPILL CHANNELS

The District has the right to utilize natural watercourses, ravines, and randoms, for the transmission of District controlled water, or for use for spillage or excess of storm water runoff.

The use of such natural watercourses can take place at any time and without notice to the affected property owners. No construction should take place within the bed or banks of a natural watercourse or random without determining the extent and frequency of District use of said watercourse, if any.

13.05 PRIVATE ROADS

13.05.01 Routine Use

The District shall not provide road maintenance on private roads except as required for District vehicles and equipment which may use the road on a routine basis for ingress and egress purposes. Road maintenance by District shall be limited to that required to keep it in a usable condition for District use only.

13.05.02 Specific Damage

When specific, identifiable damage is done to a private road by District's vehicles or equipment, the District shall restore the road to an equal condition as existed on the day prior to being damaged.

13.05.03 District Contribution

Any request for District participation to the cost of maintaining private roads must be made in writing and directed to the General Manager. The written request must contain information as to the road mileage involved, type of surface to be maintained, and the amount being requested from the District. Upon approval of the General Manager to contribute towards the road maintenance, the following formula will be used to compute the District's participation. The mileage shall be based on the preceding year's usage. The formula shall be reviewed every 5 years.

Miles per trip x trips per day x number of days per year =
Mileage per year x 10 cents = District Contribution

Minimum = $50.00 Maximum = $300.00

eff. 6/25/97; rev. 6/11/03

13.05.04 Right-of-Way Agreements

Nothing in these Regulations shall supercede or contradict any responsibilities of the District regarding maintenance of private roads which have been set forth in valid right-of-way agreements.

13.06 DISTRICT ROADS

Any roadway within a District easement, even though the roadway may be used by others, shall be maintained only to a condition as required for the District's use. In the event that these roads may be upgraded by other parties for their use, the District will not be responsible for damages to this road surface by District vehicles or equipment. Restoration of the road surface shall be at the sole discretion of the District for the use of District equipment and vehicles.

13.07 QUIT CLAIMS

Parcels of land can be encumbered with easements granted the District which contain no facilities. Application may be made to the District on Form 13-A to quit claim an easement back to the landowner.

A non-refundable fee of $150.00, or $250.00 if Board approval is required, is due at the time of application. The District will review the application, and if approved, will process a quitclaim deed. Prior to recording the deed at the appropriate county clerk's office, the applicant must pay the recording fee.

eff. 12/12/90; rev. 6/11/03

13.08 EASEMENTS ON DISTRICT LANDS

Procedures for applying for easements on District lands is the same as outlined in Section 13.07. In addition to the non-refundable fee of $250.00, a payment for the value of the easement, as determined by the District will be required.

eff. 12/12/90

13.09 ABANDONMENT OF RAW WATER FACILITIES

13.09.01 General

The following regulations are to be followed by the District when considering raw water facility abandonments.

Abandonments are normally considered for facilities where operation costs greatly exceed revenue due to use by a limited number of customers, relocation of new facilities, and for facilities in urbanizing areas. Facilities in the second category are associated with problems involving water quality degradation, seepage, maintenance and public safety if open canal sections exist.

eff. 6/11/03

13.09.02 Resolution of Intention to Abandon

A proposed resolution will be prepared and made available for public review, along with related documents or studies pertaining to the abandonment. A public hearing will be held pursuant to District procedures to consider adoption of the resolution. A fourteen day minimum notification period for the hearing will be required. All current District customers receiving water service from the affected facility will also be notified by direct mailing of the hearing date. The Board, at the hearing, shall consider all the evidence presented, along with any necessary environmental documentation. If the Board determines at the hearing that the facility should be abandoned, it will adopt the resolution.

eff. 6/11/03

13.09.03 Resolution of Facility Abandonment

After all necessary modifications, replumbings and other related work necessary to allow abandonment of the facility is completed, the Board will consider adopting this resolution, which will declare the abandonment of the facility and all related unneeded easements. The resolution will be recorded with the appropriate County Clerk.

eff. 6/11/03

13.09.04 Current Customers

The District, at no initial cost to the customer, will provide all current inside District customers on the facility to be abandoned, an alternate water supply in a manner as determined by the District. Future operation and maintenance costs associated with private facilities necessary for the new water supply plus water charges, if any, will be the financial responsibility of the customer. In cases where a treated water supply is provided in place of the raw water supply, the customer may elect the option of being charged on the same raw water rate schedule in effect prior to the facility abandonment with no increase in water deliveries allowed. This option will terminate two years after the resolution of facility abandonment is adopted, and the customer will then be charged the appropriate treated water rate.

eff. 6/28/89; rev. 6/11/03

14Section 14

SECTION 14

PHYSICAL ENCROACHMENTS TO DISTRICT FACILITIES

14.01 SUPPLEMENTAL DEFINITIONS

14.01.01 Physical Encroachments

Includes, but is not limited to, structures such as buildings, bridges, culverts, fences, pipelines, underground or overhead wires, roads, landscaping, which either cross, or lie within District rights of ways, or which become so close or near to District rights of ways, as to unreasonably interfere or potentially interfere with the District's operation of its facilities or with necessary improvements or reconstruction of its facilities.

eff. 2/26/86

14.01.02 Authorization

Authorization for encroachment construction issued by the General Manager allowing the construction of a physical encroachment subject to the terms and provisions of the authorization.

eff. 6/11/03

14.01.03 Encroachment Permit

A permit issued by the General Manager authorizing the existence of a permanent physical encroachment, subject to the terms and provisions of the permit.

eff. 6/11/03

14.01.04 Permittee

Any person issued an encroachment permit by District.

14.01.05 Unauthorized Physical Encroachment

A physical encroachment for which an encroachment permit or authorization has not been issued.

14.02 AUTHORIZATION

14.02.01 Preconstruction Requirements

Prior to the construction or installation of any physical encroachment, the person causing the construction, or installation of a physical encroachment, shall first make application to obtain authorization from the District (Form 14-A).

14.02.02 Construction Work

The construction and installation of any physical encroachment shall be performed in accordance with District approved plans and specifications and subject to the approval of the General Manager. The District reserves the right to inspect the installation or construction at any time. Applicant shall assume and pay all costs and expense of constructing and installing the physical encroachment and shall clean the area or ground in which the physical encroachment exists, in a manner satisfactory to the District. Should the applicant fail to complete construction and installation of the physical encroachment to the District's satisfaction and approval, then the District may, at its option, either complete the construction and installation of the physical encroachment, or cause the removal of the physical encroachment. Should this be necessary, the applicant shall bear all cost and expense for labor, materials, and supplies associated with such work.

eff. 6/11/03

14.02.03 Water Outage Necessary for Construction

Prior to commencing construction and installation of any physical encroachment which shall lie within, or cross over District facilities to such an extent as to cause a muddy water condition, fluctuation, or interference in any manner with the flow of water in District facilities, applicant shall request District, in writing, for an interruption in the flow of water through District facilities, commonly referred to as a "water outage." District may arrange with the applicant to provide a water outage at such time as is convenient to the District. Applicant shall provide District with at

least 10 days advance notice of his plan to construct, or install a portion of the physical encroachment within District facilities causing the interruption, or interference with water flow, so that the District may plan for an outage. If, in the District's opinion, the outage will cause a significant cost to the District, the applicant will be required to pay such costs.

14.03 ENCROACHMENT PERMITS

14.03.01 Issuance

The General Manager may issue an encroachment permit following the construction and installation of a physical encroachment, all in conformance with the terms and provisions of the authorization. The encroachment permit shall provide for the existence of the physical encroachment subject to the conditions, terms and provisions set forth in the permit and the Regulations of the District. See Form 14-B.

eff. 6/11/03

14.03.02 Maintenance of Physical Encroachment

It shall be the applicant, or permittee's obligation to maintain, repair, operate and replace the physical encroachment at all times at said applicant's, or permittee's sole cost and expense. All maintenance, operation, repair and replacement work performed upon the physical encroachment shall be conducted in a manner and to a condition satisfactory to the General Manager. If, in District's sole discretion, improvements, expansion or reconstruction of District facilities is required, the permittee, at permittee's sole expense shall be required to improve, reconstruct or remove the encroachment facilities as required to permit the performance of the District work. Should the permittee neglect, fail to promptly make repairs, or perform maintenance at permittee's sole cost, District may make such repairs, or replacement, or perform such maintenance as is necessary, or remove the physical encroachment and the cost shall be paid by the permittee.

eff. 2/26/86; rev. 6/11/03

14.03.03 Revocation

District may revoke or cancel the encroachment permit upon giving notice to permittee of District's intent to cancel, or revoke the permit and upon giving the permittee an opportunity to be

heard regarding the cause of revocation or cancellation. Should permittee fail to file a written request for hearing with District regarding the proposed revocation or cancellation of permit, within 10 days of District's providing notice of District's intent to cancel or revoke the permit; then such permit shall be deemed revoked or cancelled. Should permittee file a written request for a hearing with District, then District shall set a time and place for the hearing and provide notice to permittee. District shall, within 10 days subsequent to the hearing held regarding cancellation or revocation, provide written notice to permittee of District's decision to revoke or cancel the permit or to maintain the permit together with the conditions of the permit in full force and effect.

14.04 UNAUTHORIZED PHYSICAL ENCROACHMENT

14.04.01 Notification and Penalty

District shall exercise due diligence to determine the owner of the unauthorized physical encroachment and upon such determination, District shall notify the owner of the unauthorized physical encroachment, in writing, of the owner's need to make an application for the issuance of either an authorization and/or an encroachment permit, as deemed appropriate by the District. Such notification shall be delivered by District to the owner of the unauthorized physical encroachment by registered mail, return receipt, and should 14 days expire from the time the District deposits notification to the owner in the mails without the owner making proper application to the District, then the District may remove or cause the removal of the unauthorized physical encroachment at the owner's sole cost and expense. Upon removal, District shall send a bill for services rendered in removing the encroachment to the owner of the encroachment to be paid within 30 days of District's mailing the bill for services rendered. Should the District determine that the owner of the unauthorized physical encroachment refuses to either remove the encroachment, or make proper application, then the District may assess a penalty of $100.00 against the owner of the unauthorized encroachment in addition to any other remedies provided herein.

In the event that an encroachment permit, or similar agreement, is obtained and recorded with the title to the affected parcel of land, the District may participate in the cost of the removal and/or replacement of a culvert.

In addition, in cases where the owner of an unauthorized culvert refuses to remove the unauthorized obstacle, or does not respond to the District's Notice, and, in the opinion of the General Manager, removal of the culvert is not practical, the District shall remove and replace the culvert in accordance with District Standards at the owner's sole cost and expense; in that case, the District shall send a bill for material, equipment and services to the owner of the encroachment.

eff. 2/26/86, rev. 5/23/07

14.04.02 Immediate Threat to District Facilities

Should the District determine that the unauthorized physical encroachment is an immediate threat to the safe operation of District facilities, the District shall exercise due diligence to determine the owner of the unauthorized physical encroachment and upon making such determination, District shall exercise due diligence to notify the owner to immediately cause the removal of the unauthorized physical encroachment. Should the District determine that the owner of the unauthorized physical encroachment refuses to remove such encroachment, then the District may assess a penalty charge to be levied against the owner of the encroachment and the District may either remove, or cause the removal of the unauthorized physical encroachment, at the sole cost and expense of its owner. Should District be unable to notify owner of the need to immediately remove, or cause the removal of the unauthorized physical encroachment, District may remove, or cause the removal of the unauthorized physical encroachment, at the sole cost and expense of owner.

eff. 2/26/86; rev. 6/11/03

14.05 DOCKS

14.05.01 Scope

This subsection applies only to the construction and maintenance of docks on District property by persons having pre-existing rights under deeds or contracts to which the District is as party, or persons applying under dock authorization programs approved by resolution of the Board of Directors. If the deed, contract or program which authorizes a dock on District property requires public access, the permittee must allow such access (as specified in the permit); however, the issuance of a dock encroachment permit, Form 14-D, does not confer any right to conduct commercial activities on District property. All dock encroachment permits shall be subject to the District's rights and powers to operate its dams and reservoirs for District purposes, including the right to draw down the water level below dock elevations. Permittees must comply with all applicable federal, state and local laws, regulations and ordinances. The adoption of these regulations does not constitute an acknowledgement by the District that any particular persons or lands have right to construct and maintain docks on District property.

eff. 3/10/93; rev. 8/13/03

14.05.02 Supplement to General Encroachment Regulations

The provisions contained herein are intended to supplement the general physical encroachment regulations of the District to provide specialized requirements with respect to docks to be allowed on District property. Therefore, the provisions contained herein shall prevail over any inconsistent provisions in the general physical encroachment regulations.

eff. 3/10/93; rev. 8/13/03

14.05.03 Application Requirements

(a) An application for a dock permit shall at a minimum include the following:
Completed dock Encroachment Permit Application Form 14-C; the submittals to accompany this Application shall be as follows:

(b) A site plan indicating the proposed location of the dock/gangway and dock approach, and an elevation sketch that depicts the visual appearance of the dock;

(c) Plans and specifications for the dock, gangway and associated facilities, including a description of the method of securing them in-place, and proof of engineering satisfactory to the District including standard commercial products designed for and commonly used in this application;

(d) A list of material types to be used in the dock, gangway and associated facilities.

(e) If the application is made under a program approved by the Board of Directors to issue permits for existing docks, it shall include photographs of the existing dock/gangway, and construction details including a list of materials used;

(f) Evidence of proper insurance coverage; and

(g) Application fee.

eff. 8/13/03; rev. 4/14/04

14.05.04 Requirements for Dock Location, Design and Installation

(a) Dock Location and Capacity. Docks will be permitted only for those parcels in existence at the time of board resolution and regulation adoption, and adjoining the District's lakeside property and shall be located adjacent to the parcel served. Only one (1) dock will be permitted for each such parcel. Upon approval of the District, combined docks may be constructed to serve multiple parcels. The docks shall be designed, constructed and operated to accommodate no more than two (2) watercraft for each parcel served. The Board of Directors may specify supplemental dock criteria when adopting a resolution authorizing docks on a particular reservoir.

(b) Dock/Gangway Dimensions. In each area where docks are permitted, the District, after consultation with the appropriate safety authorities, shall establish the limit lines, not to exceed forty (40) feet from the high water line/spillway elevation, on the maximum intrusion of docks into the reservoir. Docks shall be designed in such a fashion as not to exceed the limit lines established by the District. The maximum area occupied by individual docks shall not exceed three hundred twenty (320) square feet including the slip area between fingers, and any ramps for

personal watercraft. The maximum dimension (length or width) shall be twenty-four feet. Gangways shall be construction with a minimum width of thirty-six (36) inches and a maximum length of twenty (20) feet. The Board may allow variances from the limit lines and gangway lengths upon a finding that the proposed variance is not contrary to the best interests of the District.

(c) Materials.

Structural: The main support structure for Docks/Gangways shall be constructed with an aluminum frame or other material as approved by the District.

Decking: Decking material for Docks/Gangways shall consist of one or more of the following:

Aluminum with ribbed, knurled, sand blasted surface

Trex wood-polymer composite decking (wood fibers and plastic)

Timber-tech composite decking (recycled wood and synthetic materials)

PVC vinyl extruded decking (polyvinyl material)

Or equal as may be approved by District

Coatings: Paints, preservatives and other materials shall be compatible with the aquatic environment.

Flotation: Only floating docks will be permitted. Polystyrene foam filled polyethylene, aluminum tubs or equivalent shall be used for floatation.

Mooring: All materials used in mooring docks, gangways and associated facilities shall be approved by the District.

(d) Licensed Contractor. The docks, gangways and associated facilities shall be installed by properly licensed contractors in accordance with District approved plans and specifications.

(e) Structures and Appurtenances. Dock Whips, Safety Ladders and Personal Watercraft Docks shall not be constructed without District approval. No permanent structures, gazebos or swim slides will be allowed.

(f) Identification. Each dock shall be equipped with a metal plate readily visible from the lake, for placement of an identification tag issued by the District.

(g) Variances. If the application is made under a program approved by the Board of Directors to issue permits for existing docks, the Board may allow variances from the foregoing requirements for dock location, design and installation.

eff. 8/13/03; rev. 4/14/04

14.05.05 Safe Siting

The District reserves the right to deny an application for a dock encroachment permit if the District determines, in its sole discretion, that the proposed dock will pose an unreasonable risk of injury, death or property damage to members of the public lawfully using the reservoir; or will be inconsistent with the proper operation of the reservoir including but not limited to its operation for recreational purposes.

The District may require permit holders to provide and maintain appropriate signs, marker buoys, log booms and other safety features (herein "associated facilities") to reduce the risk of injury, death or property damage in connection with the permit holders' docks.

eff. 8/13/03; rev. 4/14/04

14.05.06 Other Approvals

If the applicant requests a permit for construction of a dock or gangway not in compliance with material or specifications as stated in Section 14.05 the applicant shall be responsible for preparing documentation and supplying information sufficient to comply with the California Environmental Quality Act. The applicant shall be responsible for paying any/all fees of any reviewing agencies. To the extent, if any, that other agencies have jurisdiction to approve or disapprove the construction of the proposed dock, the applicant shall be responsible for compliance with their requirements.

eff. 8/13/03

14.05.07 Insurance

Each dock encroachment permit holder shall at all times maintain liability insurance coverage covering any dock, gangway and associated facilities so permitted. Such insurance shall contain the following coverage:

(a) Minimum $500,000 for individual docks serving individual parcels.

(b) Minimum $500,000 each parcel under separate ownership for joint-use docks serving separately owned parcels.

(c) Minimum $1,000,000 for docks serving multiple parcels under the same ownership.

The District reserves the right to require coverage commensurate with increases in cost-of-living indices from time to time. The District and any lessee or concessionaire on the reservoir shall be named as additional insureds on any such policy. The permit holder shall deliver to the District a certificate of insurance verifying the required coverage.

eff. 8/13/03; rev. 4/14/04

14.05.08 Reservoir Use Fees

If the dock is constructed on a reservoir which is managed by the District, or a lessee or concessionaire, watercraft owners or operators using the reservoir shall pay the same amount as the Season Pass per slip (i.e., per watercraft) as charged by the District, a lessee or concessionaire for other watercraft using the reservoir. The watercraft owners shall not be subject to mooring fees unless using the mooring facilities of the District, a lessee or concessionaire. The Season Pass Fee shall be due and payable at the beginning of each calendar year.

eff. 8/13/03

14.05.09 Fees

The District will establish from time to time reasonable application fees, permit fees and renewal fees for docks subject to these regulations, which shall be the responsibility of the applicant/dock owner to pay.

eff. 8/13/03

14.05.10 Revocation of Permit

Dock encroachment permits may be revoked only for good cause, and after notice and opportunity to be heard, as provided in Section 14.03.03. Good cause shall mean a failure or refusal to correct violation of the requirements of this subsection and any applicable requirements of Section 14 within a reasonable time after notice of violation. Good cause shall also mean the existence of conditions creating unreasonable risk of injury, death, or property damage to members of the public lawfully using the reservoir, which conditions cannot otherwise reasonably be mitigated.

Upon revocation of a dock encroachment permit, the dock, gangway and associated facilities shall be treated as an unauthorized encroachment subject to the removal provisions of Section 14.04.

eff. 12/9/92; rev. 8/13/03; rev. 4/14/04

APPENDIX A

2010

INDEX TO SCHEDULES

PAGE NO	SCHEDULE NO	DESCRIPTION
1 & 2	-	Index to schedules.
3 & 4	4-A	Treated water system, standby charges and connection fees.
5	4-B	Miscellaneous meter service charges.
6	4-E	Water rates covering treated water meeting State Health standards, utilized for noncommercial purposes.
7	4-F	Water rates covering treated water meeting State Health standards, utilized for commercial purposes.
8	4-G	Water rates covering Auburn Greens residential condominium units.
9	4-H	Tank or temporary construction water service.
10	4-I	Off-rate charges for Treated Water Systems.
11	5-B	Raw water service outlet, installation charges.
12	5-C	Raw water service outlet, periodic charges.
13	5-D	Water rates for raw water utilized inside District on an annual basis.
14	5-F	Water rates for raw water utilized in Smartville on an annual basis through a metered connection.
15	5-G	Water rates for seasonal raw water utilized inside District.
16	5-H	Water rates for surplus seasonal raw water utilized outside District.
17	5-I	Water rates for raw water utilized on a demand basis.
17	5-J	Water rates for raw water utilized during fall season.
17	5-K	Water rates for intermittent flow raw water.
18	5-L	Energy pumping cost for raw water served from Magnolia #3 Pump System.
18	5-M	Energy pumping cost for raw water served from Edgewood Pump System.
19	5-R	Municipal Water Rates, inside & outside district.

INDEX TO SCHEDULES (continued)

PAGE NO	SCHEDULE NO	DESCRIPTION
20	6-A	Miscellaneous charges, rendering and payments of bills.
20	7-A	Special service call.
21	8-A	Charges related to public fire hydrants on treated water systems.
22	8-B	Private fire services on treated water systems, installation charges.
23	8-C	Private fire service, with detector check, on treated water systems, bimonthly charges.
23	8-D	Private fire service, with double detector check on treated water systems, bimonthly charges.
24 & 25	9-A	Backflow prevention requirements.
26	9-B	Backflow prevention devices, installation charges.
27	9-C	Backflow prevention devices, bimonthly charges for double check valve assembly.
27	9-D	Backflow prevention devices, bimonthly charges for reduced pressure principle device.
28	10-A	District constructed mainline extensions, installation charges.
29	12-A	Penalties for unauthorized taking of water.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-A
EFFECTIVE JANUARY 1, 2010

TREATED WATER SYSTEM
STANDBY CHARGES AND CONNECTION FEES

STANDBY CHARGES - $6.00 per month for each parcel.

CONNECTION FEES 1**/** Single family residence, commercial, industrial, and municipal.

DROP-IN TO AN EXISTING METER BOX AND WATER SERVICE LATERAL

			---------- Capacity Charge ----------	
Meter Size	Max Rated Capacity	Installation Charge	Parcels in District Prior to 3/1/07	Parcels Annexed to District after 3/1/07
5/8”	20 gpm	$501.00	$6,828.47	$10,398.42
3/4”	30 gpm	530.00	9,833.12	14,974.20
1”	50 gpm	565.00	17,480.74	26,619.49
1 ½”	100 gpm	771.00	39,332.47	59,895.73
2”	160 gpm	924.00	69,922.96	106,479.03
Over 2”			DETERMINED BY DISTRICT	

INSTALLATION REQUIRING TAP TO WATER MAIN

			---------- Capacity Charge ----------	
Meter Size	Max Rated Capacity	Installation Charge	Parcels in District Prior to 3/1/07	Parcels Annexed to District after 3/1/07
5/8”	20 gpm	$1,341.00	$6,828.47	$10,398.42
3/4”	30 gpm	1,372.00	9,833.12	14,974.20
1”	50 gpm	1,413.00	17,480.74	26,619.49
1 ½”	100 gpm	2,444.00	39,332.47	59,895.73
2”	160 gpm	3,475.00	69,922.96	106,479.03
Over 2”			DETERMINED BY DISTRICT	

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-A
EFFECTIVE JANUARY 1, 2010

TREATED WATER SYSTEM CONNECTION FEES – CONTINUED

MULTI-UNIT 2/ RESIDENTIAL DEVELOPMENT for which a master meter is required.

Meter Size	Connection Fees
5/8”	$ 501.00 + unit charge/unit
3/4”	530.00 + unit charge/unit
1”	565.00 + unit charge/unit
1 ½”	771.00 + unit charge/unit
2”	924.00 + unit charge/unit
over 2	Actual cost of installation plus unit charge/unit

Type Development	Unit	Unit charge
Mobile Home Park	Pad	$ 2,880.00
Apartments	Dwelling	4,034.00
Senior Apartments 3/	Dwelling	1,716.00
Motels, Hotels	Dwelling	1,886.00
Campgrounds	Pad	3,186.00
Hospitals	Licensed Bed	3,090.00
Convalescent Hospitals & Resthomes:		
Skilled nursing	Licensed Bed	1,826.00
Board and care	Licensed Bed	983.00

1/ Varies with type of development
2/ Multi unit is defined as three or more.
3/ Proof must be provided that apartments are being developed under county ordinances relating to senior apartments or senior independent living centers.

ABANDONMENT OF AN EXISTING SERVICE

Customer requesting new meter installation at a location other than existing box and curb stop will be charged an abandonment fee of $320.00. Existing box and curb stop will be removed and the area backfilled. Customer will be responsible for re-vegetation or landscaping.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-B
EFFECTIVE JANUARY 1, 2009

MISCELLANEOUS METER SERVICE CHARGES

TESTING

METER SIZE	DEPOSIT
5/8" TO 1"	$15.00
1 ½" TO 2"	30.00
OVER 2"	DETERMINED BY DISTRICT

UPSIZING/DOWNSIZING

An extra $40.00 will be charged to cover labor costs as discussed in Sections 4.07.01 and 4.07.02.

RELOCATING

Meter relocations meeting the conditions set forth in Section 4.07.03 (a) (not requiring a new tap to the water main nor other extra ordinary effort) will be accomplished at the rate indicated under "Drop-In to an Existing Meter Box" schedule.
Meter relocations meeting the conditions set forth in Section 4.07.03 (b) (requiring a new tap on the water main) will be accomplished at the rate indicated under "Installation Requiring Tap to Water Main" schedule.
Customer requesting meter relocation will be charged an abandonment fee of $320.00. The existing box and curb stop will be removed and the area backfilled. Customer will be responsible for re-vegetation or landscaping.

SCHEDULE OF RATES AND CHARGES ***SCHEDULE 4-EI***
BY NEVADA IRRIGATION DISTRICT EFFECTIVE JANUARY 1, 2010

NONCOMMERCIAL, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	33.16	46.90	73.60	135.08	212.00	389.30	614.82	1,229.88	2,140.14

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.22 per hcf
Over	10 hcf per billing period	1.57 per hcf

SCHEDULE OF RATES AND CHARGES SCHEDULE 4-EO
BY NEVADA IRRIGATION DISTRICT EFFECTIVE JANUARY 1, 2010

NONCOMMERCIAL, OUTSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	41.45	58.63	92.00	168.85	265.00	486.63	768.53	1,537.35	2,675.18

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.53 per hcf
Over	10 hcf per billing period	1.96 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-FI
EFFECTIVE JANUARY 1, 2010

COMMERCIAL, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate	37.28	52.74	82.72	151.74	238.12	437.24	690.28	1,380.84	2,404.08

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.36 per hcf
Over	10 hcf per billing period	1.76 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-FO
EFFECTIVE JANUARY 1, 2010

COMMERCIAL, OUTSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection.

Service Size:	5/8”	3/4”	1”	1 ½”	2”	3”	4”	6”	8”
Minimum Bi-Monthly Rate:	46.60	65.93	103.40	189.68	297.65	546.55	862.85	1,726.05	3,005.10

USAGE RATES: ($ per hundred cubic feet (hcf) per billing period)

First	10 hcf per billing period	1.70 per hcf
Over	10 hcf per billing period	2.20 per hcf

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-G
EFFECTIVE JANUARY 1, 2010

RESIDENTIAL CONDOMINIUM, INSIDE DISTRICT

Charges for treated water meeting state health standards, delivered through a metered connection to existing Auburn Greens residential condominium units.

MINIMUM BI-MONTHLY RATE: $33.16

USAGE RATES: ** ($ per hundred cubic feet (hcf) per billing period)

First	* 4 hcf per billing period	.305 per hcf
Over	4 hcf per billing period	.392 per hcf

*1 hcf per unit ** 1/4 of non-commercial usage rate

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-H
EFFECTIVE JANUARY 1, 2005

TANK OR TEMPORARY CONSTRUCTION WATER SERVICE FROM AN OPEN CANAL AND/OR FIRE HYDRANT

GENERAL

1) The application charge of $100.00 is nonrefundable.
2) The minimum monthly charge shall be $85.00.
3) Applicants who do not turn in tank tally sheets and/or meter readings by the 10th of each month, for the previous month's usage, will be billed at two (2) times the minimum monthly charge or the estimated usage. Billing under this schedule shall not create a credit for future delivery of water.
4) This class of water is not to be used for domestic purposes except in an emergency situation as determined by Nevada Irrigation District.

TREATED WATER

1) Application will automatically be terminated at end of calendar year.
2) A deposit of $850.00 will be collected for the meter and wrench assembly and is refundable after the water used is paid in full, the hydrant has been inspected to determine that no damage has occurred, the meter and fire hydrant wrench have been returned undamaged and all damages to District facilities have been paid in full. Any default on the conditions of the application will result in forfeiture of the deposit.
3) Treated water will be billed at 2.5 times the rate shown in Schedule 4-EI.
4) Meter readings shall be turned into the District office at the first of each month.
5) The minimum monthly charge or the monthly billing for water usage, whichever is greater, will be levied until the meter is returned.
6) Applicant will be responsible for backflow prevention as shown in Schedule 9-A.

RAW WATER

1) Application will terminate at the end of each year unless requested by customer by Dec 10.
2) Raw water will be billed at twice the rate shown in Schedule 5-F.
3) Tank tally sheets shall be turned into the District office at the first of each month.
4) The minimum monthly charge or the monthly billing for water usage, whichever is greater, will be levied until District is advised in writing to close out the account.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 4-I
EFFECTIVE JANUARY 1, 2010

BI-MONTHLY OFF RATE CHARGES, TREATED WATER SYSTEM

RATE SCH	MTR SIZE	*OFF RATE	RATE SCH	MTR SIZE	OFF RATE
4-EI 1	5/8”	$ 24.87	4-FI 1	5/8”	$ 27.96
4-EI 2	3/4”	35.17	4-FI 2	3/4”	39.55
4-EI 3	1”	55.20	4-FI 3	1”	62.04
4-EI 4	1 ½”	101.31	4-FI 4	1 ½”	113.80
4-EI 5	2”	159.00	4-FI 5	2”	178.59
4-EI 6	3”	291.97	4-FI 6	3”	327.93
4-EI 7	4”	461.11	4-FI 7	4”	517.71
4-EI 8	6”	922.41	4-FI 8	6”	1,035.63
4-EI 9	8”	1,605.10	4-FI 9	8”	1,803.06
4-EO 1	5/8”	31.09	4-FO1	5/8”	34.95
4-EO 2	3/4”	43.97	4-FO2	3/4”	49.45
4-EO 3	1”	69.00	4-FO3	1”	77.55
4-EO 4	1 ½”	126.63	4-FO4	1 ½”	142.26
4-EO 5	2”	198.75	4-FO5	2”	223.24
4-EO 6	3”	364.97	4-FO6	3”	409.91
4-EO 7	4”	576.40	4-FO7	4”	647.14
4-EO 8	6”	1,153.01	4-FO8	6”	1,294.54
4-EO 9	8”	2,006.38	4-FO9	8”	2,253.82
4-G	1”	24.87*	5-FO	all sizes	2.79

*plus usage

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-B
EFFECTIVE JANUARY 1, 2010

RAW WATER SERVICE OUTLET INSTALLATION

All raw water service connections will be made after proper application and payment is made to the District in accordance with the attached schedule for the requested service.

CANAL SERVICE BOX

Service Range	Basic Installation charge*	Excess Pipe Length Charge* (Per Foot)	
1/2 to 25 miners inches	$ 966.00	2 Inch	$ 4.80
Relocation or upsize cost	*595.00*	3 Inch	5.30
26 to 40 miners inches**	1,597.00	4 Inch	6.20
Relocation cost	*907.00*	6 Inch	8.30
Over 40 miners inches	Actual Cost	8 Inch	15.10

*Where the outlet on a canal service exceeds 20 feet in length, the applicant is charged at the indicated rate per foot for all excess footage in addition to the basic installation charge.
**The District reserves the right to utilize a different type of measuring device on these size services at a cost to be determined by the District.

ORIFICED SERVICE IN RAW WATER PIPELINE OR MANIFOLD

Service Range	Basic Installation Charge*
Amount of water available will depend on manifold pressure, using 2 inch meter flanges or Dole flow control an 2 inch gate valves and air release.	$895.00
Any service requiring pipe size over 2”	Actual Cost

*In those instances where the District determines that a screening device is needed in the orificed service to prevent excessive clogging, such screening device shall be the sole cost of the customer (District Regulation 5.04.02 b).

NOTE

All raw water service connections for outside District lands are subject to additional charges per District Regulation 6.08.

RAW WATER SERVICE OUTLET PERIODIC CHARGES

ACTIVE ACCOUNT (With Purchase of Water) - $48.00 per year charge for each outlet in excess of one.

ACCOUNT CHARGE (Without Purchase of Water) - $72.00 annual charge on all inactive raw water accounts, plus a $66.00 annual charge for each additional outlet.

ROTATION - $102.45 per season per outlet.

NOTE

Add 25% to all charges above for accounts serving lands outside the District (Amount rounded to the nearest dollar.)

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-D
EFFECTIVE JANUARY 1, 2010

ANNUAL RAW WATER SERVICE, INSIDE DISTRICT

Charges for raw (untreated) water sold for irrigation use on an annual basis and billed bimonthly.

MINERS INCHES:	1/4	1/2	1	1½	2	5
BIMONTHLY RATE:	121.94	147.07	164.06	181.76	202.36	495.80

NOTE

Water served pursuant to this schedule is untreated; which, if consumed or used for culinary purposes, could cause serious illness. If the water is so used, it is used at the customer's own risk.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-F
EFFECTIVE JANUARY 1, 2010

ANNUAL RAW WATER SERVICE, OUTSIDE DISTRICT
SMARTVILLE ONLY

Charges for raw (untreated) water sold for irrigation use through a metered connection.

SERVICE SIZE:	5/8	3/4	1	1½	2	3	4
MINIMUM BI-MONTHLY RATE:	2.79	2.79	2.79	2.79	2.79	2.79	2.79

USAGE RATES: $1.23 per hundred cubic feet (hcf) per billing period

NOTE

Water served pursuant to this schedule is untreated; which, if consumed or used for culinary purposes, could cause serious illness. If the water is so used, it is used at the customer's own risk.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-G
EFFECTIVE JANUARY 1, 2010

INSIDE DISTRICT SEASONAL IRRIGATION WATER

AVERAGE FLOW (M.I.)	SUMMER SERVICE	WINTER SERVICE
1/4	$ 325.18	$ 406.48
1/2	392.19	490.24
1	494.17	617.71
1½	600.35	750.42
2	723.96	904.96
2½	853.13	1,066.40
3	969.27	1,211.58
3½	1,073.38	1,341.73
4	1,166.36	1,457.96
4½	1,249.02	1,561.28
5	1,322.10	1,652.65
6	1,514.22	1,892.82
7	1,694.49	2,118.13
8	1,863.28	2,329.12
9	2,022.30	2,527.92
10	2,190.60	2,738.20
11	2,355.76	2,944.70
12	2,541.24	3,176.64
13	2,743.26	3,429.01
14	2,912.42	3,640.42
15	3,097.95	3,872.40
16	3,283.52	4,104.32
17	3,460.18	4,325.14
18	3,615.66	4,519.44
19	3,755.54	4,694.33
20	3,874.00	4,842.40
21 +	$314.85 fixed + $185.54 per MI	$393.56 fixed + $231.92 per MI

- Summer service to begin on or about April 15 through October 14
- Winter service to begin on or about October 15 through April 14
- Raw water service outlet periodic charges:
  - Active account (with purchase of water): $48.00 per year charge for each outlet in excess of one
  - Account charge (without purchase of water): $72.00 annual charge on all inactive raw water accounts, plus an additional $72.00 annual charge for each additional outlet
  - Rotation: $102.45 per season, per outlet

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-H
EFFECTIVE JANUARY 1, 2010

OUTSIDE DISTRICT SURPLUS IRRIGATION WATER

Average Flow (M.I.)	SUMMER SERVICE	WINTER SERVICE
1/4	$ 406.48	$ 508.10
1/2	490.24	612.80
1	617.71	722.13
1½	750.42	938.01
2	904.96	1,131.20
2½	1,066.40	1,333.00
3	1,211.58	1,514.49
3½	1,341.73	1,677.17
4	1,457.96	1,822.44
4½	1,561.28	1,951.56
5	1,652.65	2,065.80
6	1,892.82	2,365.98
7	2,118.13	2,647.61
8	2,329.12	2,911.36
9	2,527.92	3,159.99
10	2,738.20	3,422.70
11	2,944.70	3,680.82
12	3,176.64	3,970.80
13	3,429.01	4,286.23
14	3,640.42	4,550.42
15	3,872.40	4,840.50
16	4,104.32	5,130.40
17	4,325.14	5,406.34
18	4,519.44	5,649.30
19	4,694.33	5,867.77
20	4,842.40	6,053.00
21 +	$393.56 fixed $231.92 per MI	$491.95 fixed $289.90 per MI

- Summer service to begin on or about April 15 through October 14
- Winter service to begin on or about October 15 through April 14
- Winter service will be charged at 1.25 times the summer service rate.
- Raw water outlet service outlet periodic charges:
  - Active account (with purchase of water: $60.00 per year charge for each outlet in excess of one
  - Account charge (without purchase of water): $90.00 annual charge on all inactive raw water accounts, plus an additional $90.00 charge for each additional outlet

SCHEDULE OF RATES AND CHARGES — SCHEDULE 5-I
BY NEVADA IRRIGATION DISTRICT — EFFECTIVE JANUARY 1, 2010

DEMAND WATER

When available, Demand Irrigation Water may be purchased at rates equal to the following factors, times the normal Irrigation Water rate:

DEMAND (in days)	10	20	30	40	50	60	70	80	90	100
RATE FACTOR	.20	.35	.50	.65	.75	.80	.85	.90	.95	1.00

Minimum Charge: $172.96 (.35 x 1 M.I. summer seasonal irrigation water rate)

Duration must be established upon application. All charges for demand service will be collected in advance of the start of delivery.

SCHEDULE OF RATES AND CHARGES — SCHEDULE 5-J
BY NEVADA IRRIGATION DISTRICT — EFFECTIVE JANUARY 1, 2010

FALL/STOCK WATER

AVAILABILITY: October 15 to December 1 to regular irrigation water customers in quantities up to the amount of the seasonal purchase
RATE: $1.20 Per M.I. day (10 M.I. seasonal rate divided by 1830 M.I.D.)
MINIMUM CHARGE: $172.96 (.35 X 1 M.I. Summer Seasonal Irrigation Water Rate)

All charges for fall/stock water service will be collected in advance of delivery.

SCHEDULE OF RATES AND CHARGES — SCHEDULE 5-K
BY NEVADA IRRIGATION DISTRICT — EFFECTIVE JANUARY 1, 2010

RAW INTERMITTENT FLOW IRRIGATION WATER

SEASON: April 15 to October 14 — RATE per acre foot season: $16.37
MINIMUM SALE: $109.68 — Outside District shall be 1.25% higher

Definition: Water belonging to District which cannot be supplemented by an auxiliary supply and in District's opinion cannot be considered a firm supply.
Determining Water Use: Sales of return intermittent flow irrigation water utilized by property owners shall be established in acre feet by District through pump ratings, sprinkler flow, actual diversions, acreage irrigated or any combination of the above methods as may be deemed appropriate to determine the amount of water to be used.

SCHEDULE OF RATES AND CHARGES — SCHEDULE 5-L
BY NEVADA IRRIGATION DISTRICT — EFFECTIVE MARCH 1, 2009

ENERGY PUMPING COST – MAGNOLIA #3

Energy Pumping Cost for irrigation (raw) water served from Magnolia #3 Pump System
Cost per M.I. per season: $254.69
Bimonthly cost for customers on continuous service:

MINERS INCHES:	1/4	1/2	1	1½	2
BI-MONTHLY RATE:	21.23	42.45	63.67	84.90	106.12

Charge will be adjusted, after the end of irrigation season, based on actual water pumped by the District and current year pumping costs.

SCHEDULE OF RATES AND CHARGES — SCHEDULE 5-M
BY NEVADA IRRIGATION DISTRICT — EFFECTIVE MARCH 1, 2009

ENERGY PUMPING COST – EDGEWOOD

Energy Pumping Cost for irrigation (raw) water served from Edgewood Pumped System
Cost per M.I. per season: $52.97
Bi-monthly cost for customers on continuous service:

MINERS INCHES:	1/4	1/2	1	1½	2
BI-MONTHLY RATE:	4.42	8.83	13.24	17.66	22.07

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 5-R
EFFECTIVE JANUARY 1, 2010

MUNICIPAL WATER RATES

INSIDE DISTRICT

Treated Water:	$344.12 per acre foot
Raw Water:	
Placer	**$**163.65 per acre foot Plus $314.85 fixed fee

OUTSIDE DISTRICT

Treated Water:	
City of Grass Valley (Alta Hill)	$427.44 per acre foot
City of Grass Valley @ Broadview Heights 6” Meter with Double Check Valve	$809.81 min per month Plus $427.44 per acre foot
Raw Water	$204.56 per acre foot
City of Grass Valley	Plus $393.56 fixed fee
City of Nevada City	Plus $393.56 fixed fee

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 6-A
EFFECTIVE See below

MISCELLANEOUS CHARGES
RENDERING AND PAYMENT OF BILLS

Duplicate of Water Statement (per billing)	$ 2.00	(eff 9/26/84)
Turn off Notification Fee (Inside District)	10.00	(eff 9/26/84)
Turn off Notification Fee (Outside District)	12.50	(eff 9/26/84)
Outside District Security Deposit	50.00	(eff 9/26/84)
Commercial Acct Security Deposit	100.00	(eff 1/01/87)
Return Check Fee	20.00	(eff 1/01/98)
Public Utility Easement Abandonment	50.00	(eff 1/01/93)
Water Availability Letter	50.00	(eff 1/01/94)
Variance Request	175.00	(eff 1/01/94)
Encroachment Permit - County	190.00	(eff 7/01/07)
State	328.00	(eff 1/01/09)

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 7-A
EFFECTIVE JANUARY 1, 1998

SPECIAL SERVICE CALL

Special Service Call fee inside District:	$ 40.00
Special Service Call fee after normal working hours:	$ 100.00 (1/1/02)
Special Service Call fee outside District:	$ 50.00
Special Service Call fee after normal working hours Outside District:	$125.00 (1/1/02)

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 8-A
EFFECTIVE JANUARY 1, 2010

PUBLIC FIRE HYDRANTS ON TREATED WATER SYSTEMS

HYDRANT INSTALLATION (1)		
Concurrently with New Construction	$5,306.00	(2)
Installed on Existing Main	7,305.00	(2)
Plus lateral charge for each foot in excess of 10 feet	45.00	
HYDRANT REMOVAL AND DISCONTINUANCE OF SERVICE	1,169.00	
SALVAGE CREDIT ON FIRE HYDRANT RELOCATION	347.00	

(1) Any condition which in the opinion of the District will result in an estimated installation cost of more than twenty-five percent above those charges shown in this schedule will be installed on an actual cost basis. Example conditions include connections to a water main larger than 8 inch, connection to a main located deeper than 5 feet below surface, installation in concrete, pavement, or rock.

(2) The District will add to the basic hydrant installation fee any estimated costs related to encroachment permits including associated inspection charges as well as those costs related to any required right of ways.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 8-B
EFFECTIVE JANUARY 1, 2010

PRIVATE FIRE SERVICE – INSTALLATION CHARGES 1/

The District will estimate all installation costs not associated with the vault and add this amount to the vault costs indicated below. The final cost to the applicant will be the summation of these two installation costs.

VAULT INSTALLATION 2/

SIZE	DETECTOR CHECK	DOUBLE DETECTOR CHECK
2”	$ N/A	$ N/A
3”	N/A	10,374.00
4”	9,235.00	11,368.00
6”	9,536.00	12,455.00
8”	10,511.00	16,838.00
10”		20,007.00

1/ Vault installation includes all piping and appurtenances located within the vault, as well as the meter box.
Any condition which, in the opinion of the District, will result in an estimated vault installation cost of more than twenty five percent above those charges shown in this schedule will be installed on an estimated cost basis.
Installations requiring a road boring and jacking will be completed on a time and material basis. A deposit, based on the District’s anticipated maximum cost will be due from the applicant prior to installation. The final cost to the applicant will not exceed the deposit.

2/ A detector check is installed unless backflow protection is required, as discussed in Section 9 of the Regulations. A double detector check is installed where backflow protection is needed.
The District will add to the basic vault installation fee any estimated costs related to encroachment permits including associated inspection charges as well as those related to any required right of ways.

NOTE:

A $100.00 fee will be collected at the time an application for a private fire service is submitted to the District. This fee will compensate the District for time spent in estimating the installation cost. The fee will be waived if applicant, pursuant to section 8.05.02 of these Regulations, utilizes a private contractor to install the service and does not request an estimate.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 8-C
EFFECTIVE JANUARY 1, 2010

PRIVATE FIRE SERVICE - BI-MONTHLY CHARGES

SIZE	DETECTOR CHECK 1/	
2”	-	Usage is charged at
3”	-	double the prevailing
4”	$ 29.40	4EI rate schedule
6”	31.20	
8”	34.60	

1/ These charges will also apply to all private services which are substandard.
NOTE: Add 25% to all charges above for accounts serving lands outside the District.

SCHEDULE OF RATE AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 8-D
EFFECTIVE JANUARY 1, 2010

PRIVATE FIRE SERVICE - BI-MONTHLY CHARGES

SIZE	DOUBLE DETECTOR CHECK	
2”	$ 34.40	Usage is charged at
3”	37.00	double the prevailing
4”	38.00	4EI rate schedule
6”	44.20	
8”	67.20	
10”	87.60	

NOTE: Add 25% to all charges above for accounts serving lands outside the District.

SCHEDULE OF RATE AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 9-A
EFFECTIVE: JANUARY 1, 2006

BACKFLOW PREVENTION REQUIREMENTS

Minimum requirements for backflow prevention devices for various types of potable water users are listed below. These requirements have been determined based on District and industry-wide experience of the probability of backflow occurring, taking into consideration such factors as the degree of hazard and complexity of piping associated with various types of District water customers.

The District reserves the right to install a more stringent device than listed if, in its sole judgement, the particular circumstances of that water user requires a higher degree of backflow protection. All meters serving the same parcel will be subject to the highest degree of backflow protection appropriate for that parcel. The District will determine the need for and the type of device for all classes of services not listed below.

Requirements Abbreviations
AG - Air gap separation
RP - Reduced pressure principle device
DC - Double check valve assembly
DCD - Double check detector assembly

WATER USE		REQUIREMENTS
1.	Aircraft and missile plants	RP
2.	Automotive plants	RP
3.	Beauty Salons	DC
4.	Board and care facilities, skilled nursing facilities	DC
5.	Bottling plants	DC
6.	Breweries	DC
7.	Buildings – commercial/industrial multi-story over 50’ in elevation above street level to ground floor	DC
8.	Canneries, packing houses, and reductions plants	RP
9.	Car wash	RP
10.	Chemical processing or storage facilities	RP
11.	Chemical treated potable water system	DC
12.	Dairies and cold storage plants	DC
13.	Dye works	RP
14.	Film processing laboratories	RP
15.	Fire systems – Class 3, 4, and 6, as defined in California Department of Health Services Manual of Cross Connection Control	DCD
16.	Fire systems – Class 5	AG or RP
17.	Food processing plants	DC
18.	Fertilizer processing plants	RP
19.	Hospitals, sanitariums	RP
20.	Irrigation services served from treated water mains	DC
21.	Laboratories	RP

BACKFLOW PREVENTION REQUIREMENTS (continued)

WATER USE		REQUIREMENTS
22.	Laundries, commercial	DC
23.	Medical/dental buildings, clinics or veterinary clinics	RP
24.	Metal manufacturing, cleaning, processing and fabricating plants	RP
25.	Mobile home parks	DC
26.	Mortuaries, morgues, or autopsy facilities	RP
27.	Oil and gas production, storage or transmission properties	RP
28.	Paper products manufacturing plants	RP
29.	Plating operations	RP
30.	Premises with piped auxiliary water supplies	DC
31.	Pumped sewage, sewage pumping station and/or treatment plants. (Excluding individual premises)	RP
32.	Radio active materials or substances	RP
33.	Restricted classified or closed facilities	RP
34.	Restaurants with automatic dishwashers or steam tables	DC
35.	Sand, gravel, cement and ready mix plants	DC
36.	Secondary schools and colleges	DC
37.	Tank or Construction Water (*Customer maintained & certified; District inspected)	AG or RP*

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 9-B
EFFECTIVE JANUARY 1, 2010

BACKFLOW PREVENTION DEVICE - INSTALLATION CHARGES

ASSEMBLY SIZE	DCV 1/	RP 2/
3/4”	$ 538.00	$ 916.00
1”	543.00	1,023.00
1 ½”	865.00	1,674.00
2”	896.00	2,142.00
3”	3,271.00	7,108.00
4”	9,184.00	9,037.00
6”	11,988.00	12,391.00
8”	17,314.00	15,651.00
10” And up	Actual cost	Actual cost

1/ Double Check Valve Assembly
2/ Reduced Pressure Principle Device

Note: Charges covering double detector checks which are utilized on high risk private fire services can be found in Schedule 8-B.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 9-C
EFFECTIVE JANUARY 1, 2010

BACKFLOW PREVENTION DEVICE – BI-MONTHLY CHARGE

ASSEMBLY SIZE	INSIDE DISTRICT DCV 1/	OUTSIDE DISTRICT DCV 1/
3/4”	$ 11.20	$ 14.00
1”	11.40	14.25
1 ½”	12.20	15.25
2”	12.70	15.90
3”	35.80	44.75
4”	41.80	52.25
6”	65.80	82.25
8” and up	85.00	106.25

1/ Double check valve assembly

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 9-D
EFFECTIVE JANUARY 1, 2010

BACKFLOW PREVENTION DEVICE - BI-MONTHLY CHARGE

ASSEMBLY SIZE	INSIDE DISTRICT RP 1/	OUTSIDE DISTRICT RP 1/
3/4”	$ 12.70	15.90
1”	14.40	18.00
1 ½”	19.20	24.00
2”	19.40	24.25
3”	40.80	51.00
4”	45.60	57.00
6”	62.20	77.75
8” and up	95.80	119.75

1/ Reduced pressure principle device

DISTRICT CONSTRUCTED MAINLINE EXTENSIONS

The District will estimate all costs not included in the basic charge 1/ listed below and add this to the basic charge. The final cost to the applicant will be the summation of these two installation costs, however, unexpected costs associated with required right of ways or encroachment permits will be added to the total.4/

BASIC CHARGE 2/

SIZE	COST/FOOT	ADD ON FOR SHORT LENGTHS 3/
6”	$ 81.45	$23.15
8”	104.15	23.15
10”	130.20	23.15
12”	156.25	23.15

1/ Any condition which, in the opinion of the District, will result in an estimated costs of more than twenty-five percent of those charges shown in this Schedule, will be installed on an estimated cost basis. Pipe sizes in excess of twelve inches will be accomplished on an estimated cost basis.

2/ The basic charge includes all necessary pipe, air and vacuum valves, blowoffs, thrust block and engineering work. Not included in the basic charge are mainline valves, service settings, existing pipe tie-in, fire hydrant assemblies, right of way and all other items not specifically mentioned as covered under the basic charge.

3/ If total length of installation is less than 100 feet, add indicated amounts on to per-foot-costs; however, the cost as so determined will not exceed the cost of a 100-foot extension.

4/ The District will determine, prior to start of construction, if adequate funds have been provided in the estimated cost to cover right of way purchases, associated legal and court fees, as well as to cover requirements mandated in any encroachment permits the District must obtain from other public entities for the mainline extension. The developer will be required to pay any of these additional costs prior to start of construction.

SCHEDULE OF RATES AND CHARGES
BY NEVADA IRRIGATION DISTRICT

SCHEDULE 12-A
EFFECTIVE SEPTEMBER 26, 1984

PENALTIES FOR UNAUTHORIZED TAKING OF WATER

OFFENSE	PENALTY
FIRST	$250.00
SECOND	$500.00

NEVADA IRRIGATION DISTRICT

REQUEST FOR NEW TREATED WATER SERVICE

This is an information route sheet. It is not your application and no money will be accepted until the application is signed and returned to the office. This form is void 90 days from date of issue unless service application is processed during that period. Please complete the following information.

Date: _____

Owner's Name_____ Phone _____

Mailing Address _____

Contractor/Representative _____ Phone _____

Mailing Address _____

APPLICATION MUST BE SIGNED BY OWNER. Mail _____ Call when ready _____

Parcel Number _____ County: ☐ Nevada ☐ Placer

Subdivision _____ Lot: _____ Unit:_____

Property Address _____ Improvement District: _____

Service Size Requested: ☐ 5/8 Inch ☐ 3/4 Inch ☐ Other-specify_____

☐ Relocation ☐ Installed with Fire Service-Size _____

(PLEASE ATTACH FORM 8-B)

Type of Service Requested:

a) Residential Number of units_____

b) Commercial/Industrial Number of units_____

c) Name of business _____

d) Type of service _____

e) Other-specify _____

Will there be material dangerous to health or toxic substances used on property? If yes, type of substance(s)_____ ☐ Yes ☐ No

Does an auxiliary water supply exist? ☐ Yes ☐ No

If yes, indicate type: ☐ Well ☐ Spring ☐ Ditch ☐ Other_____

Will you keep your auxiliary water supply? ☐ Yes ☐ No Which one? _____

How are property corners fronting the pipeline identified?_____

These corners must be clearly marked and visible from the street to insure correct placement of meter. Route sheet cannot be processed unless corners are identified.

If Commercial:

Will there be a multi-story building on property? ☐ Yes ☐ No

We certify that the foregoing statements are true and correct and that no changes will be made in the use of the described property until the Nevada Irrigation District has been notified. I understand that if changes are made which require a modification of the service connection, the District has the right to discontinue service until the modification of the service connection has been made.

Signature of Authorized Representative_____
Signature of Property Owner_____ Date _____

Note: Owner's signature required on route sheet. All information must be completed prior to processing.

Unless otherwise requested, all services will be installed at the on-rate.

FOR DISTRICT USE ONLY

METER SIZE	_____
FACILITY NO	_____
ROUTE NO	_____
BOOK NO	_____
INFO BY	_____

CUSTOMER SERVICE DEPARTMENT

Is property fronted by a District Main? ☐ Yes ☐ No
If yes, system name _____
Size_____ Type _____

If no, has a variance been granted? ☐ Yes ☐ No
Date granted_____

County encroachment permit needed? ☐ Yes ☐ No

Water pressure at District Service point (approximate psi) _____
(Determine actual psi in field if approximate psi is less than 25 psi)

Location of service point: Field checked ☐ Predetermined ☐
Field checked by _____ Date _____

OPERATIONS DEPARTMENT

Backflow prevention device needed? ☐ Yes ☐ No
Type of device_____ Size_____ Model _____
Reason _____
By_____ Date _____

Is property covered under the Railroad Commission Policy? ☐ Yes ☐ No

RIGHT-OF-WAY DEPARTMENT

Will right of way be needed from water main to meter location? ☐ Yes ☐ No
If yes, remarks _____

Applicant notified of right-of-way problem? ☐ Yes ☐ No By:_____ Date:_____

CUSTOMER SERVICE DEPARTMENT

Connection fees $ _____
Backflow Fee $ _____
Standby fee/factor $ _____
Other $ _____
Fire Service Fees $ _____
(standby factor)_____ to_____

Standby account number _____
Reimbursement agreement ☐ Yes ☐ No
Improvement District _____
Inside District ☐ Yes ☐ No Tax Area Code ___
TOTAL COSTS DUE $ _____
_____

Application mailed by _____ Date _____

MAINTENANCE DEPARTMENT

Size _____ Meter Serial #_____ Backflow Device #_____

METER CORP. STOP ON ☐ OFF ☐

Installed by_____ Date_____ Meter reading _____
When service is installed, return to: 1) Operations 2) Customer Service

Form 4-B(1)

NEVADA IRRIGATION DISTRICT

REQUEST FOR TRANSFER OF DOMESTIC WATER SERVICE
INFORMATION ROUTE SHEET

DATE: March 19, 2010
NAME (Owner): PHONE: _____
MAILING ADDRESS: _____
ACCOUNT NUMBER: METER SIZE: 5/8
PARCEL NO.: _____ _____ _____
SUBDIVISION LOT UNIT
PROPERTY GENERAL LOCATION – Street Address
EXISTING BACKFLOW PREVENTION DEVICE . . .. YES ☐ NO ☐
☐ SERVICE ON "OFF RATE" - Signed application & route sheet still required.
PLEASE VERIFY, AND CORRECT IF NECESSARY, THE ABOVE INFORMATION

PLEASE FILL IN THE FOLLOWING INFORMATION:

TYPE OF SERVICE:
(a) Residential — Number of Units_____
(b) Commercial/Industrial — Number of Units _____
(c) Other — Specify _____

Will there be any chemicals, toxins or material dangerous to health used on the property?
YES _____ NO _____ If yes, type of chemicals _____

Will there be, or does an auxiliary water supply exist? YES _____ NO _____
Well Spring Ditch Surface Other _____

Will there be any substance handled under pressure on the property? YES _____ NO _____
If yes, explain (i.e.: pumped sewage, steam cleaner, hydromatic pump, etc) _____
If Commercial/Industrial: Type of business _____
Name of business _____
Is there a multi-story building on property? YES _____ NO _____

The approximate P.S.I. at the service location is:

I acknowledge the above and certify that the foregoing statements are true and correct and that no changes will be made in the use of the described property until Nevada Irrigation District has been notified. I understand that if changes are made in the use of the property which require modification of the service connection, the District has the right to discontinue service until the modification of the service connection has been made.

SIGNATURE OF OWNER/APPLICANT_____ DATE _____

PLEASE SUBMIT WITH APPLICATION

Form 4-B(2)

NEVADA IRRIGATION DISTRICT

REQUEST FOR TRANSFER OF DOMESTIC WATER SERVICE
INFORMATION ROUTE SHEET

DATE: March 19, 2010
NAME (Owner): PHONE: _____
MAILING ADDRESS: _____
ACCOUNT NUMBER: METER SIZE: 5/8
PARCEL NO.: _____ _____ _____
SUBDIVISION LOT UNIT
PROPERTY GENERAL LOCATION – Street Address
EXISTING BACKFLOW PREVENTION DEVICE . . .. YES ☐ NO ☐
☐ SERVICE ON "OFF RATE" - Signed application & route sheet still required.
PLEASE VERIFY, AND CORRECT IF NECESSARY, THE ABOVE INFORMATION

PLEASE FILL IN THE FOLLOWING INFORMATION:

TYPE OF SERVICE:
(a) Residential — Number of Units_____
(b) Commercial/Industrial — Number of Units _____
(c) Other — Specify _____

Will there be any chemicals, toxins or material dangerous to health used on the property?
YES _____ NO _____ If yes, type of chemicals _____

Will there be, or does an auxiliary water supply exist? YES _____ NO _____
Well Spring Ditch Surface Other _____
Will there be any substance handled under pressure on the property? YES _____ NO _____
If yes, explain (i.e.: pumped sewage, steam cleaner, hydromatic pump, etc) _____
If Commercial/Industrial: Type of business _____
Name of business _____
Is there a multi-story building on property? YES _____ NO _____

It is understood that service provided under this application is in a high pressure water area. For your protection be sure an adequately sized pressure relief valve is installed on your service. For further information, check your local plumbing code. Approximate P.S.I.:

I acknowledge the above and certify that the foregoing statements are true and correct and that no changes will be made in the use of the described property until Nevada Irrigation District has been notified. I understand that if changes are made in the use of the property which require modification of the service connection, the District has the right to discontinue service until the modification of the service connection has been made.

SIGNATURE OF OWNER/APPLICANT_____ DATE _____

PLEASE SUBMIT WITH APPLICATION

Form 4-B(3)

NEVADA IRRIGATION DISTRICT

REQUEST FOR TRANSFER OF DOMESTIC WATER SERVICE
INFORMATION ROUTE SHEET

DATE: March 19, 2010
NAME (Owner): PHONE: _____
MAILING ADDRESS: _____
ACCOUNT NUMBER: METER SIZE: 5/8
PARCEL NO.: _____ _____ _____
SUBDIVISION LOT UNIT
PROPERTY GENERAL LOCATION – Street Address
EXISTING BACKFLOW PREVENTION DEVICE . . . . . YES ☐ NO ☐
☐ SERVICE ON "OFF RATE" - Signed application & route sheet still required.

PLEASE VERIFY, AND CORRECT IF NECESSARY, THE ABOVE INFORMATION

PLEASE FILL IN THE FOLLOWING INFORMATION:

TYPE OF SERVICE:
(a) Residential — Number of Units_____
(b) Commercial/Industrial — Number of Units _____
(c) Other — Specify _____

Will there be any chemicals, toxins or material dangerous to health used on the property?
YES _____ NO _____ If yes, type of chemicals _____

Will there be, or does an auxiliary water supply exist? YES _____ NO _____
Well Spring Ditch Surface Other _____

Will there be any substance handled under pressure on the property? YES _____ NO _____
If yes, explain (i.e.: pumped sewage, steam cleaner, hydromatic pump, etc) _____

If Commercial/Industrial: Type of business _____
Name of business _____
Is there a multi-story building on property? YES _____ NO _____

It is understood that service provided under this application is in a low pressure water area and applicant is responsible to provide any increase in pressure, if required. Approximate P.S.I.:

I acknowledge the above and certify that the foregoing statements are true and correct and that no changes will be made in the use of the described property until Nevada Irrigation District has been notified. I understand that if changes are made in the use of the property which require modification of the service connection, the District has the right to discontinue service until the modification of the service connection has been made.

SIGNATURE OF OWNER/APPLICANT_____ DATE _____

PLEASE SUBMIT WITH APPLICATION

NEVADA IRRIGATION DISTRICT

1036 W MAIN STREET

GRASS VALLEY, CA 95945
(530) 273-6185 FROM AUBURN 878-1857

ORIGINAL RETURN TO NID WITH REMITTANCE

CYCLE	ACCOUNT NUMBER	DATE

☐ NEW SERVICE ☐ TURN ON PSI _____
☐ TRANSFER ☐ METER RELOCATION SERVICE SIZE_____
☐ CHANGE OF SERVICE AREA DCV/RP _____
☐ OFF RATE ☐ NAME CHANGE ONLY
PROPERTY OWNER _____
ADDRESS _____
_____
_____
_____

DELIVERY FROM _____

LOT_____UNIT_____SUBD. _____

PARCEL_____

SERVICE ADDRESS_____

ROUTE NO_____ BOOK AND PAGE _____

EFFECTIVE DATE_____

FORMER CONSUMER _____

SERVICE CONNECTION FEE $_____
DCV/RP FEE $_____
OTHER_____

☐ NONCOMMERCIAL ☐ COMMERCIAL

CYCLE	ACCOUNT NUMBER

☐ NEW SERVICE ☐ METER RELOCATION APPROXIMATE_____#PSI
☐ TRANSFER ☐ CHANGE OF SERVICE SIZE SERVICE SIZE _____
☐ TURN ON DCV/RP _____
☐ NAME CHANGE ONLY

THE APPLICANT REQUESTS DISTRICT TO SUPPLY TREATED WATER AS INDICATED DATE

TO BE USED ON PROPERTY OWNED BY _____ EFFECTIVE DATE_____
OWNER'S MAILING ADDRESS _____ FORMER CONSUMER:
_____ _____
_____ ROUTE NUMBER _____
_____
LOT_____UNIT_____SUBDIVISION _____
DELIVERY FROM _____
SERVICE ADDRESS_____ PARCEL NUMBER _____

Service of water to be in accordance with the conditions printed on the reverse of this application and with other rules and regulations of the District. Applicant agrees to pay for such services at the tolls and charges as established by the District from time to time and agrees to the conditions of this application. New service applications are void 90 days after issuance.

☐ NONCOMMERCIAL ☐ COMMERCIAL _____ BOOK AND PAGE_____

Business Name _____ METER NUMBER _____

WATER RATE_____ ☐ OFF RATE OWNER'S SIGNATURE X _____

SERVICE CONNECTION FEE _____ APPLICANT SIGNATURE X_____
(COMMERCIAL ONLY)
DCV/RP FEE _____ NAME _____
SECURITY DEPOSIT FEE _____ MAILING ADDRESS _____
PAYMENT RECEIVED ON BILL _____ _____
OTHER _____ _____
TOTAL RECEIVED _____ NID BY:_____ _____

CONDITIONS OF ACCEPTANCE OF WATER SERVICE

1. Application for water services is made on the reverse side hereof under and subject to the Regulations, and rates, tools, charges, and fees adopted or to be adopted by the Board of Directors of Nevada Irrigation District. Applicant and/or owner hereby grants the right to Nevada Irrigation District to install, maintain, control and regulate all meters, measuring devices, delivery gates and valves in any conduit necessary for the distribution, measurement and control of water delivered under this application. The District, its officers or employees, shall not be liable for damages to persons or property occasioned through the exercise of such right, or for negligent, wasteful or other use of handling of water by the users thereof.

2. All valves and necessary fittings, including the meter and backflow prevention device, needed to serve the applicant water shall remain the property of Nevada Irrigation District.

3. The District expressly reserves the right to recapture, reuse, and resell all such water when it shall have passed from the premises of the applicant.

4. Water service is subject to shortages, fluctuation in flow, interruptions in service and pressure deficiencies, and anyone using such water assumes all such hazards and relieves the Nevada Irrigation District, its officers and employees, from liability or damages resulting therefrom. Applicant must provide all necessary Rights of Way and conduits to transport water from District's facility to applicant's land. Water delivered under this application shall not be used on property other than that covered by this application.

5. All charges for water service are a lien against the land, and if unpaid at the time specified for delivery of the assessment book to the collector, the amount of unpaid charges may be added to and become a part of the annual assessment levied upon the land upon which the water, for which the charges are unpaid, was used. Water Code Sec 25806.

Form 4-D

ACCOUNT NUMBER_____

APPLICATION FOR TANK OR CONSTRUCTION WATER

AUTHORIZED BY:_____

☐ CANAL WATER

☐ TREATED WATER

NEVADA IRRIGATION DISTRICT
1036 W. Main Street, Grass Valley, CA 95945

TELEPHONE (916) 273-6185
AUBURN AREA 878-1857

ROUTE_____SERVICE WORKER_____DATE_____, 19_____

DELIVERY TO BE MADE FROM_____

FOR YEAR 19_____ ONLY – OR PERIOD

TO BE USED BY_____
COMPANY NAME/INDIVIDUAL

IN VICINITY OF_____, ☐ NEVADA COUNTY ☐ PLACER COUNTY

Service to be in accordance with rules and regulations of the District. Applicant agrees to pay for service at rates and charges as established by the District from time to time.

METER DEPOSIT FEE $ _____ METER NUMBER_____METER READING_____

APPLICATION CHARGE $ _____ TANK SIZE/GALLONS_____

Meter readings or tank tally sheets shall be turned into the N.I.D. Main Office at the first of each month. Failure to submit tally sheets by the 10th of the month will result in a billing for twice the minimum monthly rate. The minimum monthly charge of $ _____or the monthly billing for water usage, whichever is greater, will be levied. The District will continue to bill until advised to close out the account. All accounts are closed at the end of the calendar year.

$ _____RECEIVED_____BY_____

BILLING ADDRESS

SIGNATURE OF APPLICANT:_____

TELEPHONE NUMBER (__)_____

METER RETURN/TANK WATER CLOSE

☐ METER AND ☐ WRENCH RETURNED_____ METER READING END_____

METER IN SERVICEABLE CONDITION ☐ YES ☐ NO IF NO, EXPLAIN DAMAGES_____

_____BY_____

FIRE HYDRANT AND DISTRICT FACILITIES IN SERVICEABLE CONDITION ☐YES ☐NO IF NO, EXPLAIN DAMAGES:

_____

_____CHECKED BY_____

CLOSE ACCOUNT NUMBER_____EFFECTIVE DATE_____BY_____

COST OF DAMAGES $ _____FINAL BILLING AMOUNT $_____

REFUNDED AMOUNT $ _____DATE _____BY_____

COMPANY NAME/INDIVIDUAL_____

COMMENTS:_____

TANK OR CONSTRUCTION WATER

_____ ROUTE _____ ACCOUNT NUMBER

☐ CANAL WATER ☐ TREATED WATER

AUTHORIZED BY:_____

_____
COMPANY NAME/INDIVIDUAL

TELEPHONE NUMBER (____)___

TO BE USED IN VICINITY OF:

_____

TANK SIZE(S)_____

METER NO._____

VEHICLE LICENSE NUMBER(S)

_____

RECEIVED $_____

DATE_____

BY_____

CONDITION OF ACCEPTANCE OF WATER SERVICE

1. Application for water is made on the reverse side, under and subject to the By-laws, Regulations, and rates of fees and charges adopted or to be adopted by the Board of Directors of Nevada Irrigation District. Applicant hereby grants the right to the Nevada Irrigation District to install, maintain, control, and regulate all meters, measuring devices, delivery gates and valves in any conduit necessary for the distribution, measurement and control of water delivered under this application. The District, its officers or employees, shall not be liable for damages to persons of property occasioned through the exercise of such right, or for the negligent, wasteful or other use or handling of water by the users.

2. Nevada Irrigation District does not hold itself liable to the applicant for failure to perform any of the obligations imposed upon it or assumed by it under this application if such failure shall be caused by inevitable accident, Act of God, fire, strikes, riot, war, shortage in seasonal water supply or any other cause beyond the reasonable control of the District.

3. Applicant shall:

   a. Provide all necessary facilities to conduct water form existing conduit of District to the applicant's point of use.
   b. Be solely responsible for any damage caused by water delivered under this agreement.
   c. Handle water supplied by this agreement so there shall be no waste.

4. This contract shall not create or convey any right, title or interest, legal or equitable, in or to the property, ditches, water and water right of District nor interfere with or obstruct the full, free and unobstructed use and disposition of water by District; and District shall have full control of the distribution of water through its canal system, and the right to establish and enforce such regulation as it may deem expedient; and the furnishing of water hereunder shall not give rise by user or otherwise to any right to require water to be furnished to said lands, or any part thereof, or other lands, or become the basis of a permanent right.

5. District reserves the right to cancel any tank water application if the drafting of water interferes with its operation.

6. Billing under this schedule shall not create a credit for future delivery of water.

7. <u>Application will automatically be terminated at end of calendar year</u>.

March 19, 2010

«Title» «FirstName» «LastName»
«Address1»
«csz»

Re: «acctnum»

Dear «Title» «LastName»:

In response to your request regarding the increase in consumption, we have calculated a non-beneficial use credit in the amount of $«credit_amt» for a «Num_of_months» month period, that may be applied to account number «acctnum» at «prop_addr».

The District's non-beneficial use credit can only be granted once each ten years. We will not be able to grant any further credits if another high billing should occur before the ten year period has passed.

If you decide to accept this adjustment, please sign and return the enclosed worksheet and we will apply a $«credit_amt» credit to your account. This will leave a $«Bal_after_adj» «Complete_sentence».

If you have any questions, please contact the undersigned.

Very truly yours,

Marshall C. Apple
Customer Accounting Administrator

MCA:«your_inits»
Enclosure

Form 4-E(1)

NON-BENEFICIAL USE ADJUSTMENT-INSIDE DISTRICT

March 19, 2010

«Title» «FirstName» «LastName»
«Address1»
«csz»

Parcel Number: «apn»
Account Number: «acctnum»

Current Billing for period: $«Curr_bill_amt»

	HCF*	@	$.
Current Usage	«curr_usage»	0.785	«curr_amt»
Normal Usage (Prior year)	«prior_usage»	0.785	«prior_amt»
Excess Usage @ production rate	«diff_in_usage»	0.280	«diff_amt»
Non-Beneficial Use Adjustment			$(«credit_amt»)
Adjusted billing			$ «adj_billing»

*HCF = hundred cubic feet

See section 4.10 of the District's Regulations Relating to Water service for policy.

Adjusted calculation is as follows:

a) The normal usage for a comparable billing period subtracted from the total actual usage equals excess usage.

b) The normal usage billed at the prevailing water rate plus the excess usage billed at the prevailing District's production rate for treated water is subtracted from the current charges. The resulting amount shall be the amount of adjustment granted.

I AGREE TO ACCEPT THIS ADJUSTMENT AND UNDERSTAND NO FURTHER CREDIT WILL BE ALLOWED WITHIN TEN YEARS FROM THIS AGREEMENT.

Customer's Signature _____ Date _____

Credit approved by: _____
Manager of Finance

Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945

(530) 273-6185
or 1-800-222-4102

PLEASE RETURN TO CUSTOMER SERVICE

March 19, 2010

«FirstName» «LastName»
«Address1»
«csz»

Re: «acctnum»

Dear «Title» «LastName»:

In response to your request in the increase in consumption, we have calculated a non-beneficial use credit in the amount of $«credit_amt» for a «Num_of_months» month period, that may be applied to account number «acctnum» at «prop_addr».

The District's non-beneficial use credit can only be granted once each ten years. We will not be able to grant any further credits if another high billing should occur before the ten year period has passed.

If you decide to accept this adjustment, please sign and return the enclosed worksheet and we will apply a $«credit_amt» credit to your account. This will leave a balance of $«Bal_after_adj» «Complete_sentence».

If you have any questions, please contact the undersigned.

Very truly yours,

Marshall C. Apple
Customer Accounting Administrator

MCA:«your_inits»
Enclosure

Form 4-E(2)

NON-BENEFICIAL USE ADJUSTMENT-COMMERCIAL INSIDE DISTRICT

March 19, 2010

«FirstName» «LastName»
«Address1»
«csz»

Parcel Number: «apn»
Account Number: «acctnum»

Current Billing for period: $«Curr_bill_amt»

	HCF*	@	$.
Current Usage	«curr_usage»	0.98	«curr_amt»
Normal Usage (Prior year)	«prior_usage»	0.98	«prior_amt»
Excess Usage @ production rate	«diff_in_usage»	0.350	«diff_amt»
Non-Beneficial Use Adjustment			$(«credit_amt»)
Adjusted billing			$ «adj_billing»

*HCF = hundred cubic feet

See section 4.10 of the District's Regulations Relating to Water service for policy.

Adjusted calculation is as follows:

a. The normal usage for a comparable billing period subtracted from the total actual usage equals excess usage.

b. The normal usage billed at the prevailing water rate plus the excess usage billed at the prevailing District's production rate for treated water is subtracted from the current charges. The resulting amount shall be the amount of adjustment granted.

I AGREE TO ACCEPT THIS ADJUSTMENT AND UNDERSTAND NO FURTHER CREDIT WILL BE ALLOWED WITHIN TEN YEARS FROM THIS AGREEMENT.

Customer's Signature_____ Date_____

Credit approved by: _____
Manager of Finance

Nevada Irrigation District
1036 W. Main Street (530) 273-6185
Grass Valley, CA 95945 or 1-800-222-4102

PLEASE RETURN TO CUSTOMER SERVICE

March 19, 2010

«Title» «FirstName» «LastName»
«Address1»
«csz»

Re: «acctnum»

Dear «Title» «LastName»:

In response to your request regarding the increase in consumption, we have calculated a non-beneficial use credit in the amount of $«credit_amt» for a «Num_of_months» month period, that may be applied to account number «acctnum» at «prop_addr».

The District's non-beneficial use credit can only be granted once each ten years. We will not be able to grant any further credits if another high billing should occur before the ten year period has passed.

If you decide to accept this adjustment, please sign and return the enclosed worksheet and we will apply a $«credit_amt» credit to your account. This will leave a $«Bal_after_adj» «Complete_sentence».

If you have any questions, please contact the undersigned.

Very truly yours,

Marshall C. Apple
Customer Accounting Administrator

MCA:«your_inits»
Enclosure

Form 4-E(3)

NON-BENEFICIAL USE ADJUSTMENT-OUTSIDE DISTRICT

March 19, 2010

«Title» «FirstName» «LastName»
«Address1»
«csz»

Parcel Number: «apn»
Account Number: «acctnum»

Current Billing for period: $«Curr_bill_amt»

	HCF*	@	$.
Current Usage	«curr_usage»	0.98	«curr_amt»
Normal Usage (Prior year)	«prior_usage»	0.98	«prior_amt»
Excess Usage @ production rate	«diff_in_usage»	0.350	«diff_amt»
Non-Beneficial Use Adjustment			$(«credit_amt»)
Adjusted billing			$ «adj_billing»

*HCF = hundred cubic feet

See section 4.10 of the District's Regulations Relating to Water service for policy.

Adjusted calculation is as follows:

c) The normal usage for a comparable billing period subtracted from the total actual usage equals excess usage.

d) The normal usage billed at the prevailing water rate plus the excess usage billed at the prevailing District's production rate for treated water is subtracted from the current charges. The resulting amount shall be the amount of adjustment granted.

I AGREE TO ACCEPT THIS ADJUSTMENT AND UNDERSTAND NO FURTHER CREDIT WILL BE ALLOWED WITHIN TEN YEARS FROM THIS AGREEMENT.

Customer's Signature _____ Date _____

Credit approved by: _____
Manager of Finance

Nevada Irrigation District
1036 W. Main Street (530) 273-6185
Grass Valley, CA 95945 or 1-800-222-4102

PLEASE RETURN TO CUSTOMER SERVICE

Form 5-A

NEVADA IRRIGATION DISTRICT

RAW WATER SERVICE – INFORMATION ROUTE SHEET
(NOTE: THIS IS NOT AN APPLICATION FOR SERVICE)

Date_____ Phone _____

Applicant_____ _____

Mailing Address _____

_____

Service Address _____

_____

FOR DISTRICT USE ONLY

Route No. _____

Wtr Dist. Op. _____

Facility Name _____

Facility No. _____

Field Appt. _____

Parcel No._____ Acres _____ Information Taken By_____

Type of Crop and No. of Acres to be Irrigated_____

1. Box installations can take up to thirty days or longer. Due to high flows in certain canals during the irrigation season, some outlet boxes may not be installed until the end of the season.

The customer is responsible for the acquisition and maintenance of any required easements or permits; the installation, maintenance, and operation of the private service pipeline and appurtenances thereof, located on the customer's side of the service valve and/or box.

We certify that the foregoing information is true and correct, and have read all of the above, and understand the water is to be used only on the above described property.

Signature of Property Owner_____
Date_____
Owner's signature required on this route sheet prior to processing application.

Parcel Location: Placer _____ Nevada _____ Inside Dist. _____ Outside Dist. _____

Tax Rate Area Code _____Map Attached _____ Railroad Commission Policy Yes _____ No___

Service Requested: Seasonal _____ Amt. _____ M.I. Winter Service _____Amt. _____M.I.

Additional Outlet _____ Acct. # _____

Access to District Facility Yes ___ No ___ Easement Needed? Yes _____ No ___

Pvt Pipeline Form Required? Yes _____ No ___ Date Issued _____ Date Ret _____

Availability based upon _____

Has Property a Treated Water Account? Yes _____ No _____ Account #___

_____

Will there be material dangerous to health or toxic substance used on property?
If yes, type of substance _____ Yes _____ No _____

Property Owner advised of suspension date, if application is not completed?

Form 5-A

1-800-222-4102 **FOR DISTRICT USE ONLY** **(916) 273-6185**

---

1. Service Box Size _____ Outlet Size _____ Length of Pipe _____ Valve & Cover _____

Orifice Size _____ Screening Device Required Yes ___ No ___

Unusual Conditions that must be reviewed in field Yes ___ No ___

Comments _____

Are there any existing Encroachments on District facilities? Yes ___ No ___

Does Applicant plan to construct any new facilities on District's facility? Yes ___ No ___

If yes, check: Fence ___ Culvert ___ Bridge ___ Water or Sewer ___ Other ___

Location sketch (if needed) Yes ___ No ___

Reviewed in field by _____ Date _____

---

2. Amount of Water Sale_____ M.I. Comments _____

Date _____ Approved: _____
Raw Water Supervisor

---

3. Backflow Prevention Backflow prevention device needed? Yes ___ No ___
Type of device _____ Size _____ Model _____
Reason_____ By_____ Date _____

---

4. Charges
- Outlet Box _____
- Extra Pipe _____
- Orifice _____
- Screening Device _____
- Backflow Prevent _____
- Other _____

5. Application Sent Yes ___ No ___
Date _____ By _____
Signed Application Received
Back Date _____
Date Service to be initiated _____
District Outside/Inside

Verification _____

---

6. Fees Paid _____

To Maintenance _____

By_____

7. Box Number _____

Date Box Installed _____

Installed By _____

---

8. Contact WDO at time of installation _____

Form 5-B

Account Number

_____

NEVADA IRRIGATION DISTRICT

Agricultural Water

Date _____

Parcel _____
Route number _____

Canal _____
Increase ☐ Decrease ☐

Miners Inches _____

Outlets _____ Rotation _____

Winter Service _____

Service address _____

Service conn. fee _____

_____ _____
Amount Paid Date

Name _____
Address _____
_____
_____

APPLICATION FOR INSIDE DISTRICT AGRICULTURE IRRIGATION WATER SERVICE FROM:

NEVADA IRRIGATION DISTRICT

ORIGINAL – RETURN TO NID WITH YOUR REMITTANCE

1036 W. MAIN ST., GRASS VALLEY, CA 95945

TELEPHONE (530) 273-6185
PLACER OFFICE (530) 823-2466
GRASS VALLEY 1-800-222-4102

NEW SERVICE ☐ TRANSFER ☐ ACCOUNT NUMBER _____ APPROVED BY _____
INCREASE ☐ DECREASE ☐
OWNER _____ DATE _____ ROUTE _____

THE APPLICANT REQUESTS DISTRICT TO SUPPLY WATER FOR AGRICULTURAL IRRIGATION PURPOSES AS INDICATED BELOW:

DELIVERY TO BE MADE FROM _____
SERV. ADDRESS _____ PRIMARY PARCEL _____ ACRES _____
ADDITIONAL PARCELS _____
BOX NUMBER(S) _____

for the purpose as indicated on the crop acreage report. Service to be in accordance with conditions printed on back of this application and other rules and regulations of the District. Owner and/or applicant agrees to pay such service at rates and charges established by the District from time to time.

SUMMER M.I. _____ CHARGE _____ _____ OUTLET(S) _____
WINTER SERVICE M.I. _____ CHARGE _____ _____ ROTATION _____
DEMAND WATER _____ M.I. _____ DAYS FROM _____ TO _____ CHARGE _____
FALL WATER _____ M.I. _____ DAYS FROM _____ TO _____ CHARGE _____
STATE/COUNTY MANDATED FEE _____ ENERGY PUMPING COST _____
TOTAL CHARGES _____ **MININUM PAYMENT DUE** _____ **SERVICE CONNECTION FEE** _____
PAYMENT: WATER _____ OUTLET _____ RECEIVED _____ 19 _____ BY _____
BOX NUMBER(S) _____

OWNER _____
ADDRESS _____
_____
_____
_____

OWNER/APPLICANT SIGNATURE CERTIFIES THAT APPLICANT HAS READ AND AGREES TO THE TERMS OF THIS APPLICATION AND WILL COMPLY WITH THE CONDITIONS PRINTED ON THE BACK OF THIS APPLICATION.

SIGNATURE OF OWNER _____

SIGNATURE OF APPICANT _____

CROP ACREAGE REPORT

APPLICATION WILL NOT BE ACCEPTED WITHOUT THIS INFORMATION

ROUTE NUMBER _____
ACCOUNT NUMBER _____
NAME _____
TEL.NO. (OPTIONAL) _____
WATER PURCHASED _____
TOTAL ACRES OWNED _____

CEREALS	TOTAL ACRES IRRIGATED	**FRUITS**	TOTAL ACRES IRRIGATED		TOTAL ACRES IRRIGATED
1. CORN	_____	21. APPLES	_____	41. NURSERY	_____
2. RICE	_____	22. BERRIES ALL			
3. WHEAT	_____	23. CHERRIES	_____		
4. OTHER _____ (SPECIFY)		24. CITRUS ALL	_____		
		25. GRAPES TABLE	_____		
		26. GRAPES OTHER	_____	51. NUTS _____ (SPECIFY)	
		27. KIWI	_____		
FORAGE		28. PEACHES	_____		
11. ALFALFA HAY	_____	29. PEARS	_____		
12. HAY OTHER	_____	30. PLUMS	_____		
13. IRRIGATED PASTURE	_____	31. OTHER _____ (SPECIFY)		61. OTHER _____ (SPECIFY)	
14. SILAGE	_____				
15. OTHER _____ (SPECIFY)					

71. FAMILY GARDENS, ORCHARDS, YARDS REPORT ACRES ONLY _____

PARCEL NUMBERS _____
_____
COMMENTS _____

CONDITIONS OF ACCEPTANCE OF WATER SERVICE

1. Application for water is made on the reverse side hereof under and subject to the Bylaws, Rules and Regulations, and rates of tolls and charges adopted or to be adopted by the Board of Directors of Nevada Irrigation District. Applicant hereby grants the right of access for employer and equipment of measuring devices, delivery gates and valves in any conduit necessary for the distribution, measurement and control of water delivered under this application. The District, its officers or employees, shall not be liable for damages to persons or property occasioned through the exercise of such right, or for the negligent, wasteful or other use or handling of water by the users thereof.

2. The District expressly reserves the right to recapture, re-use and re-sell all return flow when it shall have passed from the premises of the applicant.

3. In accepting this application, Nevada Irrigation District does not hold itself liable to the applicant for failure to perform any of the obligations imposed upon it or assumed by it, if such failure shall be caused by inevitable accident, Act of God, fire, strikes, riots, war, shortages in water supply or any other cause beyond the reasonable control of the District.

4. All water furnished by the District flows through many miles of open ditches and is therefore subject to pollution, shortages, fluctuation in flow and interruption in service. District employees are forbidden to make any agreements binding the District to serve an uninterrupted constant supply of water. All water furnished by the District will be on the basis of irrigation deliveries for agricultural crops. Every user putting the water to other uses does so at his own risk and agrees to hold the District, and its officers and employees free and harmless from the liabilities and damages that may occur as a result of such use. District will not be liable for defective quality of water, shortage of water, either temporary or permanent, or for failure to deliver such water. District assumes no liability for damages to persons or property occasioned through defective conduits, meters or measuring devices. District does not sell water to cultivate or sustain fish life.

5. Applicant shall:

   a. Provide all necessary facilities including all easements to transport such water from existing conduit of District to the Applicant's land.
   b. Be solely responsible for any damage caused by water delivered under this agreement.
   c. Handle water supplied hereunder that there shall be no unnecessary waste.
   d. Not use the water, delivered under this application, on property other than that listed by the application.

6. This contract shall not create or convey any right, title or interest, legal or equitable, in or to the property, ditches, water and water rights of the District nor interfere with or obstruct the full, free and unobstructed use and disposition thereof by District. District shall have full control of the distribution of water through its canal system, and the right to establish and enforce such rules and regulations as it may deem expedient; and the furnishing of water hereunder shall not give rise by user or otherwise to any right to require water to be furnished to said lands, or any part thereof, or other lands, or become the basis of a permanent right.

7. Applicant and/or owner of the land herein described to be served agree that if charges are not paid in full when due, service may be denied and the amount due may become a lien upon any real property owned or subsequently acquired by the user in accordance with Section 25806 of the Water Code of the State of California.

8. Cancellation of seasonal irrigation water may be made up to June 1 of each year by written notice of the property owner either in whole or in part provided the water contracted for can be resold. The proportions of such seasonal application cancelled must be paid in accordance with prevailing District Rules and Regulation.

9. Unauthorized taking of water in a amount greater than applied for, and paid for by any means, without consent of the District, is subject to prosecution and or penalties as prescribed by the Board of Directors.

10. Summer water deliveries shall begin on or about April 15 and winter water deliveries shall begin on or about October 15.

Form 5-C

Inside District ☐ New Service ☐ Turn On ☐

Transfer ☐

Date_____

Service Worker_____
Route_____Dir. Code_____
Continuous flow of _____miner's inches.
Delivery from_____

Owner_____

Account #_____
Parcel_____
Effective Date_____
Applicant_____
Address_____
_____

Amount of payment received $_____
Service Connection Fee_____
Former Consumer_____
Box Number_____

NID Form ACC16A

Co. No.	Account No.

New Service ☐ Transfer ☐ Turn On ☐

Application for Continuous Agricultural Irrigation Water Service from

NEVADA IRRIGATION DISTRICT
1036 W. Main Street, Grass Valley, California 95945
(530) 273-6185

Service Worker_____Route_____ Date_____19_____
The applicant requires District to supply water for Agricultural Irrigation purposes as indicated below.

Continuous flow of summer_____winter_____miners inches

Delivery to be made from_____Director Code_____

To be used on property owned by_____

Service address _____Parcel_____

Continuous billing to become effective_____19_____per rate schedule in force.

Continuous application for year around service for the_____Irrigation season and winter service period and thereafter until terminated by written notice. This service is strictly for the convenience of the customer and is not offered for any form of intermittent service. Any deviation from this particular application will result in the consumer being placed on a seasonal Irrigation application and the payment of all back charges to the date of turn off.

Former Consumer_____Box Number_____

Acres owned_____Acres to be irrigated_____

Type of irrigation: Orchard_____Garden_____Pasture_____Other_____
Service to be in accordance with conditions printed on back of this application and other rules and regulations of the District. Applicant agrees to pay for such service at rates of tolls and charges as established by the District from time to time. Service under this application is for Agricultural Irrigation purposes only and the water and service facilities are not deemed suitable for any use except propagation of agricultural crops. Water sold under this application not fit for human consumption.

Payment Received on Bill $_____ Signature of Owner_____

Service Connection Fee $_____ Mailing Address_____

Other $_____ _____

Total Received $_____ _____

By_____ **NEVADA IRRIGATION DISTRICT**

CONDITIONS OF ACCEPTANCE OF WATER SERVICE

1. Application for water is made on the reverse side hereof under and subject to the Bylaws, Rules and Regulations, and rates of tolls and charges adopted or to be the Board of Directors of Nevada Irrigation District. Applicant hereby grants the right to the devices, delivery gates and valves in any conduit necessary for the distribution, measurement and control of water delivered under this application. The District, its officers or employees, shall not be liable for damages to persons or property occasioned through the exercise of such right, or for the negligent, wasteful or other use of handling of water by the users thereof.

2. The District expressly reserves the right to recapture, re-use, and re-sell all return flow when it shall have passed from the premises of the applicant.

3. In accepting this application, Nevada Irrigation District does not hold itself liable to the applicant for failure to perform any of the obligations imposed upon it or assumed by it under this application if such failure shall be caused by inevitable accident, Act of God, fire, strikes, riots, war, shortage in seasonal water supply or any other cause beyond the reasonable control of the District.

4. All water furnished by the District flows through many miles of open ditches and is therefore subject to pollution, shortages, fluctuation in flow and interruption in service. Nevada Irrigation District employees are not authorized to make any agreements binding the District to serve an uninterrupted constant supply of water. All water furnished by the District will be on the basis of irrigation deliveries for agricultural crops and every user putting the water to other uses does so at his own risk, and by doing so assumes all liability for and agrees to hold the District, and it officers and employees free and harmless from the liabilities and damages that may occur as a result of defective water quality, shortages, fluctuations in flow and interruptions in service, District will not be liable for defective quality of water, shortage of water, either temporary or permanent, or for failure to deliver such water. District assumes no liability for damages to persons or property occasioned through defective conduits, meters or measuring devices.

5. Applicant shall:

   a. Provide all necessary ditches and facilities to conduct such water from existing conduit of District to the applicant's land.
   b. Be solely responsible for any damage caused by water delivered under this agreement.
   c. So handle water supplied hereunder that there shall be no unnecessary waste thereof.
   d. Water delivered under this application shall not be used on property other than that covered by the application.

6. This contract shall not create or convey any right, title or interest, legal or equitable, in or to the property, ditches, water and water rights of the District nor interfere with or obstruct the full, free and unobstructed use and disposition thereof by District; and District shall have full control of the distribution of water through its canal system, and the right to establish and enforce such rules and regulations as it may deem expedient; and the furnishing of water hereunder shall not give rise by user or otherwise to any right to require water to be furnished to said lands, or any part thereof, or other lands, or become the basis of a permanent right.

7. Applicant and/or owner of the land herein described to be served agree that if charges are not paid in full when due, service may be denied and the amount due may become a lien upon any real property owned or subsequently acquired by the user in accordance with Section 25806 of the Water Code of the State of California.

Form 5-D

APPLICATION FOR INTERMITTENT FLOW AGRICULTURE IRRIGATION WATER SERVICE FROM NEVADA IRRIGATION DISTRICT

ORIGINAL – RETURN TO NID WITH YOUR REMITTANCE | 1036 W. MAIN ST., GRASS VALLEY, CA 95945 | TELEPHONE (530) 273-6185 AUBURN AREA 878-1857

NEW SERVICE ☐ TRANSFER ☐ ACCOUNT NUMBER _____ DATE _____

PROPERTY OWNED BY _____ SERVICE AREA _____
PROPERTY OWNER REQUESTS DISTRICT TO PROVIDE AGRICULTURE RAW INTERMITTENT FLOW WATER TO BE USED ON

NEVADA CO. _____ PLACER CO. _____ PARCEL NO/S _____

TOTAL ACRES OWNED _____ DIVERSION TO BE MADE FROM _____ (WATER COURSE)

DURING THE SEASON OF APRIL 15 THROUGH OCTOBER 15, 19____ SERVICE ADDRESS _____

ACRE FEET OF INTERMITTENT FLOW WATER _____ CHARGES _____

ACRES TO BE IRRIGATED _____ OTHER USES _____

SERVICE TO BE IN ACCORDANCE WITH CONDITIONS PRINTED ON BACK OF THIS APPLICATION INCLUDED AAS PART OF THIS APPRLICATION AND RULES AND REGULATIONS OF THE DISTRICT ON FILE AT DISTRICT OFFICE, AS ADOPTED NOW OR IN THE FUTURE. APPLICANT AGREES TO PAY SUCH SERVICE AT RATES OF TOLLS AND CHARGES AS ESTABLISHED BY THE DISTRICT FROM TIME TO TIME.

CONDITIONS OR REMARKS _____

NOTE: APLICATION FOR WATER MUST BE ACCOMPANIED BY PAYMENT. SEE RULES ON FILE AT DISTRICT OFFICE FOR TERMS OF PAYMENT. SERVICE UNDER THIS APPLICATION IS FOR AGRICULTURAL IRRIGATION PURPOSES ONLY AND THE WATER IS NOT DEEMED SUITABLE FOR ANY USE EXCEPT PROPAGATION OF AGRICULTURAL CROPS, OWNER/APPLICANT HAS READ AND UNDERSTANDS AND AGREES TO ALL CONDITIONS OF APPLICATION. SEE REVERSE SIDE.

PAYMENT OF _____ RECEIVED _____ BY _____

OWNER _____

ADDRESS _____

OWNER/APPLICANT SIGNATURE CERTIFIES THAT APPLICANT HAS READ AND AGREES TO THE TERMS OF THIS APPLICATION.

SIGNATURE OF OWNER _____

SIGNATURE OF APPICANT _____

CROP ACREAGE REPORT

APPLICATION WILL NOT BE ACCEPTED WITHOUT THIS INFORMATION

ROUTE NUMBER _____
ACCOUNT NUMBER _____
NAME _____
TEL. NO. (OPTIONAL) _____
WATER PURCHASED _____
TOTAL ACRES OWNED _____

CEREALS	TOTAL ACRES IRRIGATED	**FRUITS**	TOTAL ACRES IRRIGATED		TOTAL ACRES IRRIGATED
1. CORN	_____	21. APPLES	_____	41. NURSERY	_____
2. RICE	_____	22. BERRIES ALL	_____		
3. WHEAT	_____	23. CHERRIES	_____		
4. OTHER	_____ (SPECIFY)	24. CITRUS ALL	_____		
		25. GRAPES TABLE	_____		
		26. GRAPES OTHER	_____	51. NUTS	_____ (SPECIFY)
		27. KIWI	_____		
FORAGE		28. PEACHES	_____		
11. ALFALFA HAY	_____	29. PEARS	_____		
12. HAY OTHER	_____	30. PLUMS	_____		
13. IRRIGATED PASTURE	_____	31. OTHER	_____ (SPECIFY)	61. OTHER	_____ (SPECIFY)
14. SILAGE	_____				
15. OTHER	_____ (SPECIFY)				

71. FAMILY GARDENS, ORCHARDS, YARDS REPORT ACRES ONLY _____

PARCEL NUMBERS _____

COMMENTS _____

CONDITIONS OF ACCEPTANCE OF INTERMITTENT FLOW IRRIGATION WATER SERVICE

1. Application for intermittent flow irrigation water is made on the reverse side hereof under and subject to the Rules and Regulations and rates of tolls and charges adopted or to be adopted by the Board of Directors of Nevada Irrigation District. Applicant hereby grants the right to the Nevada Irrigation District to install, maintain, control and regulate any measuring devices, meters, delivery gates and valves in any waterway necessary for the distribution, measurement and control of water delivered under this application. Applicant agrees to indemnify District, its officers or employees from any claims of damages to persons or property, including Applicant, occasioned through the exercise of such rights or for the negligent, wasteful or other use or handling of water by the Applicant or District.

2. The District expressly reserves the right to recapture, re-use and re-sell any return flow which shall have passed from the premises of the applicant.

3. District makes no express or implied warranty or representation regarding the service under this application or the potential of damage to the property or persons of Applicant or third persons arising from the service. Applicant agrees that it has fully investigated these subjects prior to execution of this application.

4. Intermittent flow irrigation water furnished by the District cannot be supplemented by an auxiliary supply and therefore cannot be considered or classified as a dependable supply. Water sold under this application is subject to pollution, outages, shortages, fluctuation in flow and interruption in service. District employees are forbidden to make any agreements binding the District to serve an uninterrupted constant supply of water. All water furnished by the District will be on the basis of irrigation deliveries for agricultural crops and every user putting the water to other uses does so at his own risk and by doing so assumes all liability for and agrees to hold the District and its officers and employees free and harmless from the liabilities and damages that may occur as a result of defective water quality, outages, shortages, fluctuations in flow and interruptions in service. Applicant agrees that District, its officers or employees will not be liable for defective quality of water, shortage of water, either temporary or permanent, or for failure to provide such non-firm water and Applicant shall indemnify District from any claims or expenses incident to defending such claims. District shall have no liability for damages to Applicant or other persons or property occasioned through defective conduits, meters or measuring devices.

5. Applicant shall:
   a. Provide all necessary ditches and facilities to conduct such water from the source to the Applicant's land.
   b. Be solely responsible for any damage caused directly or indirectly by water delivered under this agreement.

c. So reasonably handle water supplied hereunder that there shall be no unnecessary waste or damage to third persons.

6. This contract shall not create or convey any right, title or interest, legal or equitable, in or to the property, ditches, water and water rights of district nor interfere with or obstruct the full, free and unobstructed use and disposition thereof by District; and District shall have full control of the distribution of water through its canal system and the right to establish and enforce such rules and regulations (on file at District office) as it may deem expedient; and the furnishing of water hereunder shall not give rise to user or other party of any right to require water to be furnished to said lands, or any part thereof, or other lands, or become the basis of a permanent right.

7. District does not undertake to (1) maintain the watercourse or water carrying facilities utilized in this service nor (2) to participate in any action or proceeding to defend or quantify Applicant's right to utilize any part of the flow in the watercourse under this application.

NAME: _____ ACCOUNT NO: _____
FACILITY: _____

2000 OUTSIDE DISTRICT SURPLUS RAW WATER AGREEMENT

THIS AGREEMENT is made and entered into on _____ by and between NEVADA IRRIGATION DISTRICT, hereinafter referred to as "DISTRICT" and_____, hereinafter referred to as "APPLICANT".

RECITALS

WHEREAS, District owns certain water and water rights which are held in public trust and dedicated for use upon lands within the boundaries of District; and

WHEREAS, District has at times, water (hereinafter referred to as "surplus water") not actually needed for use upon lands within the boundaries of District, but subject to being put to such use at any time; and

WHEREAS, Applicant is the owner of certain land or lands located outside of the boundaries of District, which lands are located in _____ County, more particularly described as County Parcel _____ and desires to purchase surplus water on temporary basis for agricultural purposes.

NOW, THEREFORE, the parties hereto do mutually agree as follows:

1. Recitals: The recitals set forth herein are an integral part of this Agreement.

2. Sale of Surplus Water: District agrees to sell to Applicant for the period April 15, ____ to _____, surplus water for agricultural purposes, provided, however, that such water shall be supplied only at such times, and in such quantities and at such rate of flow as District, in its sole discretion, from time to time, determines Applicant should be so supplied in light of other needs, and water will not be supplied hereunder when needed for use within the District.

3. District's Charges to Applicant for Service and Supply of Surplus Water. Applicant hereby requests water from District at the following rates:

Seasonal Miners Inches Charges

_____ Additional Outlet (s) _____ Energy Surcharge _____

Winter Service Miners Inches _____ Charges _____

State/County Mandated Fees:_____ TOTAL CHARGES _____

TERMS OF PAYMENT: BELOW INCLUDES CREDIT BALANCE OF

1. TOTAL CHARGES DUE WITH APPLICATION:

2. BALANCE OF CHARGES DUE ON OR BEFORE JUNE 15:

A. Charge for Late Payment: Applicant shall pay a late payment charge equal to ten percent (10%) of the amount of charges remaining unpaid on July 15, ____, October 15, ____, and February 15, ____. The ten percent (10%) late payment

charge shall be added to and become a part of the total balance due and owing District by Applicant.

B. Applicant's Grant of a Lien to District for Delinquent Water Charges: Applicant hereby grants District a lien upon all lands owned or subsequently acquired by Applicant for purposes of securing water charges which remain unpaid by applicant following the date of July 15, ____. By the execution of this Agreement, Applicant understands and agrees that the District may have a lien on all lands owned or subsequently acquired by Applicant should Applicant fail to pay water charges incurred pursuant to the terms of this Agreement on or prior to the date of July 15, ____. Applicant also agrees that the lien procedure as set forth in this Agreement is in addition to the right of District to discontinue water service without notice to applicant. Should Applicant incur charges for water service pursuant to the terms and provisions of this Agreement, which charges become delinquent, and should District elect to place a lien upon land owned or subsequently acquired by Applicant in accordance with Water Code Section 25806, Applicant understands and agrees that Applicant may obtain a release of said lien by promptly remitting all charges due and owed District at District's main offices located at 1036 W. Main Street, Grass Valley, California. Upon District receiving full payment from Applicant for all charges for water service pursuant to the terms of the Agreement, District shall prepare and record a Satisfaction and Release of Lien.

4. Rules and Regulation of District: Applicant understands and agrees that all water provided and served Applicant pursuant to the terms and provisions of this Agreement is provided subject to the District's Rules and Regulations adopted by District from time to time. Nevada Irrigation District does not hold itself liable to the applicant for failure to perform any of the obligations imposed upon it or assumed by it under this application if such failure shall be caused by inevitable accident Act of God, fire, strikes, riots, was, shortage in seasonal water supply or any other cause beyond the reasonable control of the District.

5. Water to be Used for Agricultural Irrigation Purposes Only: Applicant understands and agrees that District service of agricultural irrigation water to Applicant pursuant to the terms and provision of this Agreement is solely for agricultural irrigation purposes and that the water and service facilities are not deemed suitable for any use except propagation of agricultural crops. Applicant understands that should water be used for any other purposes other than the propagation of agricultural crops such as for domestic purposes, etc., serious illness could result.

6. Creation of Water Right Excluded: Applicant and District agree that the terms and provisions of this Agreement shall not create or convey any right, title or interest, legal or equitable, in or to the property, ditches, conduits, water or water rights of District, nor interfere with or obstruct the full, free and unobstructed use and disposition thereof by District; and District shall have full control of the distribution of water throughout its system, including the right to establish and enforce such rules and regulations as District may deem expedient from time to time, and the furnishing of water hereunder to Applicant shall not give rise by use or otherwise to any right of applicant to require water to be furnished to said property of Applicant or become the basis of a permanent water right.

7. Applicant to Furnish Facilities and Rights of Way to District's System: Applicant understands and agrees that Applicant shall provide at his sole cost and

expense all necessary pumps, pipes and water distribution facilities related thereto, which facilities are necessary to conduct and convey water from the existing District system to Applicant's property. Applicant shall also be responsible for obtaining all rights-of-way or other interests in real property which are necessary to convey and conduct water from District's existing system to Applicant's property.

8. Applicant Shall Hold District Harmless: Applicant understands and agrees that Applicant is fully responsible for all damages caused by reason of water delivered to Applicant pursuant to the terms and provisions of this Agreement. In this regard, Applicant shall hold District, its officers, directors and employees free and harmless from any and all claim, liability or damage in the event Applicant suffers some damage or injury by virtue of not receiving water pursuant to the terms and provisions of this Agreement or receiving such water in an inadequate supply.

9. Use of Water: Applicant understands and agrees that water delivered to Applicant by District pursuant to the terms of this Agreement shall not be used on property other than that set forth in the terms of this Agreement.

10. Binding Upon Successors in Interest: The terms and provisions of this Agreement shall be binding upon the heirs, executors, administrators, successors in interest and assigns of the parties hereto.

11. Time is of the Essence: Time is of the essence of each of the terms and provisions of this Agreement.

12. Attorney Fees: Should any litigation be instituted or commenced relating to a breach of any term or provision of the Agreement or to specifically enforce a term or provision of this Agreement or to recover costs, charges, etc., then and in that event the prevailing party is such litigation shall be entitled to attorney fees and costs of litigation including, but not limited to, deposition costs, expert witness fees and consultant's fees.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date and year first above written.

NEVADA IRRIGATION DISTRICT

By _____
General Manager

By _____
Applicant

_____
Mailing Address of Applicant

By _____
Authorized Agent of Applicant

_____
Mailing Address of Authorized Agent of Applicant

Form 5-F

NEVADA IRRIGATION DISTRICT

ACCOUNT/OUTLET BOX DELETION REQUEST

In order to delete your account, or have one or all of your outlet boxes removed, as you have requested, you must sign and date in the space provided and return this form to Nevada Irrigation District.

By signing for a deletion, you agree to relinquish all rights to the outlet box.

If you should decide to resume water service, you must apply for a new account by completing a route sheet, signing an application and paying the current fees. The new service will be granted only if water is available.

PARCEL NO. : ACCT. NO.:

BOX NO: ROUTE NO: CANAL NAME:

FACILITY #:

SERVICE ADDRESS:

NAME:

MAILING ADDRESS:

☐ REMOVE OUTLET BOX (If there are multiple boxes on the account)

☐ REMOVE OUTLET BOX AND DELETE ACCOUNT

☐ DELETE ACCOUNT (Private Pipelines Only)

☐ REMOVE ORIFICE PLATE

DATE MAILED INFORMATION COMPLETED BY

I have read, understand and agree to the foregoing conditions as checked above.

SIGNATURE _____ DATE _____

Please return signed form by:

MAINTENANCE USE ONLY:

BOX # _____ REMOVED ON _____

BY _____

AUTHORIZATION FOR THE NEVADA IRRIGATION DISTRICT

TO PROVIDE WATER SERVICE FROM A PRIVATE CONDUIT

Date_____Phone _____
Name _____
Address _____
APN _____
Service Address _____
Amount Requested _____M.I.
Route No._____
WDO

FOR DISTRICT USE ONLY
Acct. No._____ Nev. Co._____
Placer County _____
Exist. Sales_____ Outlet Size_____
Acres_____ Initiated by_____

Customer Notified of Possible Charges for Upsizing Service _____
Approved Raw Water Supervisor _____

The undersigned, being applicants requesting water service through the hereinafter described private conduit, and the owners of said private conduit do hereby request and authorize the Nevada Irrigation District, on behalf of applicant and at applicant's sole cost and expense, to deliver into said owner's private conduit the water purchased by applicant, more particularly described as follows:

Served from Facility Name _____ Facility Number_____

Private Conduit Name _____ NID Outlet No. _____

It is understood by the undersigned that water service in connection with the private conduit is subject to the following terms, covenants, and conditions, all of which are hereby agreed to by the undersigned.

1. It is understood and agreed that the water service is subject to the regulations, conditions of acceptance of water service as set forth in applicant's application for water service, and rates, tolls and charges now in effect and as hereinafter established from time to time by the Nevada Irrigation District Board of Directors.

2. It is further understood and agreed that the District does not guarantee continuous or adequate service; that its obligation to deliver water ceases at its diversion from the Nevada Irrigation District conduit, and that the service is subject to the conditions and limitations of the private conduit through which service is being made.

3. It is further understood and agreed that the District reserves the right to discontinue service if private conduit is not maintained by its owner or owners at all times in a manner which will meet with the District's approval.

4. It is further understood and agreed that the District shall not be responsible for the quality of water or any damages in connection with the water delivered to the undersigned through said private conduit. In this connection, the undersigned do hereby agree to hold the Nevada Irrigation District, its agents, servants and employees free and harmless from any damages or liability resulting therefrom or in connection with said private conduit.

This application and permit shall bind and benefit the undersigned, their heirs, successors and assigns and is revocable by owner(s) with due notice, and written notification to District and Applicant.

Applicant Name (print) _____ Signature _____ Date _____

Owner Name (print) _____ Signature _____ Date _____

Owner Name (print) _____ Signature _____ Date _____

FORM 7-A

NEVADA IRRIGATION DISTRICT

ISSUED BY _____

1036 W MAIN STREET,
GRASS VALLEY, CA 95945

(530) 273-6185
1-800-222-4102 AUBURN

TURN ON – OFF REQUEST

FACILITY _____

CLASS OF SERVICE

☐ RAW WATER BOX # _____

☐ TREATED METER # _____

BOOK # PARCEL # _____

NAME _____

OWNER'S SIGNATURE X _____

DATE TURN ON _____ DATE TURN OFF _____

ROUTE # _____ DATE _____

CYCLE ACCOUNT

_____

LOCATION NEVADA _____

INSIDE DISTRICT _____ PLACER _____

OUTSIDE DISTRICT 1234 _____ YUBA _____

PROPERTY ADDRESS _____

☐ REGULAR WORKING HOURS TURN ON

☐ AFTER HOURS TURN ON

TURN ON FEE $ _____

COMMENT

ACTION TAKEN

☐ TURN ON DATE _____

☐ TURN OFF TIME _____ AM/PM

REMARKS OR OTHER ACTION _____

_____

_____

DATE THIS SLIP RETURNED TO OFFICE:

_____
SIGNITURE

_____
SERVICE WORKER/METER READER

NEVADA IRRIGATION DISTRICT

APPLICATION FOR PUBLIC FIRE HYDRANT

APPLICANT DATE: _____

NAME:

ADDRESS:

THE APPLICANT HEREBY APPLIES TO THE NEVADA IRRIGATION DISTRICT FOR A PUBLIC FIRE HYDRANT AT THE LOCATION DESCRIBED BELOW: (ATTACH LOCATION SKETCH, IF NECESSARY).

THE INSTALLATION OF THE PUBLIC FIRE HYDRANT SHALL BE GOVERNED BY THE DISTRICT'S REGULATIONS.

APPLICANT UNDERSTANDS AND AGREES THAT DISTRICT DOES NOT ASSUME LIABILITY OR RESPONSIBILITY FOR THE PROVISION OR SUPPLY OF WATER OR FACILITIES FOR FIRE PROTECTION AND APPLICANT AGREES TO HOLD DISTRICT FREE AND HARMLESS FROM INJURY OR DAMAGE CAUSED FROM LACK OF WATER OR PRESSURES IN DISTRICT'S LINE.

SIGNED: _____

(APPLICANT)

OFFICIAL USE ONLY

FIRE DISTRICT APPROVAL (Fire District or similar agency, if there is one)

NAME _____ By _____
(signature)

ADDRESS _____ Title _____

_____ Date _____

NEVADA IRRIGATION DISTRICT APPROVAL

By: _____
(Signature)

Title: _____

Date: _____

Deposit Received: _____
(amount)

NEVADA IRRIGATION DISTRICT

1. APPLICATION FOR PRIVATE FIRE SERVICE

The Applicant hereby applies to the Nevada Irrigation District for a _____ inch private fire service to be installed at the following location: (attach location sketch, if necessary)

_____

_____

Will a domestic water service by required at this site? Yes___No___. If yes, please complete Form 4-A, Request for New Treated Water Service.

The Applicant agrees to hold District free and harmless from injury or damage caused from lack of water or pressure in the District line and also acknowledges that backflow protection will be required at service connection should any chemical additive or auxiliary water be required for fire fighting purposes and that the private fire service installation shall be governed by the District's regulations.

Date _____ Assessor's Parcel No. _____

Owner's Name_____ Phone _____
Owner must sign (Application)

Mailing Address _____

Contractor/Representative_____Phone _____

Mailing Address _____

♦ Applicant is responsible to route application through Fire Dept. ♦

2. FIRE DISTRICT USE ONLY

Class of Fire System
Check One:

☐ Class I – Direct connections from domestic water mains only; no pumps or reservoir; no physical connections to other water supplies; no anti-freeze or other additives of any kind; and all sprinkler drains discharge to atmosphere.

☐ Class II – Same as Class I, except that booster pumps may be installed in the service lines from the street mains. A connection for a fire pumper truck may be provided if the requirements outlined in the Joint Informational Bulletin are met. (See Appendix A).

☐ Class III – Direct connection to public water supply main, with on-site storage or pressure tanks. All storage facilities must only be filled by or connected to the public water supply, and the water in these facilities must be maintained in a potable condition.

☐ Class IV – Directly supplied from public mains similar to Classes I and II, with an unapproved auxiliary water supply on or available to the premises, or a connection for fire pumper trucks that does not meet the requirements in the Joint Informational Bulletin.

☐ Class V – Directly supplied from public mains and interconnected with unapproved auxiliary supplies, such as: pumps taking suction from reservoirs exposed to contamination, or from rivers, ponds, wells, or industrial water systems; or systems where anti-freeze or other additives are used.

☐ Class VI – Fire suppression systems supplied from both an industrial water system and the public water system, with or without gravity storage or pump suction tanks.

☐ Other (explain) _____

_____

Will any anti-freeze or other chemical additive be required in the private fire system?

Yes_____ No_____

If yes, please explain _____

_____

FIRE DISTRICT _____ By _____
(signature)

Address _____ Title _____

_____ Date_____

3. N.I.D USE ONLY

OPERATIONS DEPARTMENT

Backflow Prevention Device Needed? Yes_____ No_____

Type of Device _____ Size_____ Model_____

Reason _____

By_____Date _____

ENGINEERING DEPARTMENT

Deposit Received_____ By_____Date _____

FORM 8-B

NEVADA IRRIGATION DISTRICT

PRIVATE FIRE SERVICE TO MORE THAN ONE PARCEL

The Applicant hereby applies for more than one parcel, as listed below, to be served from a private fire service. It is hereby certified that the Applicant is a landowner as listed below, or a credit-worthy legal entity and will be responsible for paying water use and other periodic charges associated with the private fire service. The Applicant will also be responsible for providing a contact for outage notices, etc.

_____
Applicant

_____
Contact Person

_____
Phone Number

By signing below, the landowners utilizing the private fire service acknowledge the District's right to lien their property for delinquent charges and that the fire service may be discontinued for nonpayment of charges and accept all risk of such discontinuance.

PARCEL NO.	LANDOWNER'S SIGNATURE
_____	_____
_____	_____
_____	_____
_____	_____

NEVADA IRRIGATION DISTRICT APPROVAL

By_____

Title _____

Date _____

NEVADA IRRIGATION DISTRICT

APPLICATION FOR PUBLIC RAW WATER FIRE SERVICE

Date_____Fire Service No._____Size of Service _____

(Estimated) Installation Charge_____Deposit Required _____

The following organized PUBLIC FIRE PROTECTION DISTRICT,

_____

called Fire Department, hereby applies to the NEVADA IRRIGATION DISTRICT for a PUBLIC RAW WATER FIRE SERVICE at the following service address or location:

_____

1. The Fire Department shall pay to the District, prior to the installation of said service, the total estimated cost of all materials, labor, and other costs incidental of the District's portion of the installation.

2. The time of installation or maintenance of the Public Raw Water Fire Service by the District shall be determined by the District on the basis of its overall scheduling requirements and needs, taking into account such factors as the availability of work crews, materials, equipment, other commitments and contracts of the District, and emergency jobs or installations. The District shall determine questions of overall District priorities.

3. The said service shall be connected to the District's general raw water distribution system at an approved location. No service will be allowed off of siphons. The service shall be subject to extreme variations in flow and temporary and extended shutdown periods required in the normal operation of the system. The District will be under no obligation to continue service in case of abandonment of the raw water facility on which the service is located.

4. It is understood that water delivered to the service may contain a certain amount of debris that could affect the quantity of water available to the fire service because of plugging or clogging. The District shall be held in no way responsible for loss or damages sustained due to such variations, temporary, or extended shutdowns. It is agreed that an in-line storage sump (of a size to be determined by the Fire Department) is needed downstream of the District's service point to provide fire protection during periods when water service is interrupted in the raw water distribution system.

5. The District does not guarantee or represent, and the Fire Department does not request that a specific or certain minimum volume of water will be available through said service at any time or times. The Fire Department agrees to hold District free and harmless from injury or damage caused from lack of water at the District facility.

6. The said service shall be used only for the purpose of extinguishing accidental fire (which shall include any of incendiary origin), and no connections of any kind whatever, other than to hydrants and hose reels, shall be made or permitted to be made to the pipe(s) supplied by said service. Discovery of any unauthorized service will result in termination of said fire service until the illegal connection has been removed and the point of illegal connection has been restored to a condition satisfactory to the District.

7. No charge will be made for water used for extinguishing accidental fires, but any water lost through leakage or used in violation of the above provisions shall be paid for by the Fire Department at double the applicable charge for water delivered.

8. The District's ownership and maintenance responsibility ends at the discharge side of the shut-off valve located immediately downstream of the service point. The Fire Department will own and maintain the fire service below said shut-off valve in a condition that will prevent any leakage of water from said fire service. Any noted leakage from the fire service will be grounds for terminating service until the situation is corrected. Periodic flushing of said service to remove accumulated debris will be permitted at no cost to the Fire Department.

9. Fire Department and the District agree that the District is not an insurer, and that it is impractical and extremely difficult to fix actual damages, if any, which may proximately result from a failure of the public raw water fire service or any phase thereof including the raw water distribution system and, in the case of failure of said service or any phase thereof, including the water distribution system and a resulting loss, the District's liability hereunder shall be limited to and fixed at the above cost of installation as liquidated damages, and not as a penalty, and this liability shall be exclusive.

10. This application is not operative until signed by an authorized representative of the District.

11. In case of the violation of any of the conditions contained in this application, the District may disconnect said service and in such event the District shall not be held in any way liable for loss or damage sustained due to such action.

12. The Applicant further agrees to be governed by the District's rules and regulations and charges in force, and such as may be adopted during the time the service is rendered at said location.

OFFICIAL USE ONLY

FIRE DISTRICT APPROVAL
(Fire District or similar agency if there is one)

NAME _____ By _____
(signature)

ADDRESS _____ Title _____

_____ Date _____

NEVADA IRRIGATION DISTRICT APPROVAL

By _____
(signature)

Title_____

Date _____

Deposit Received _____
(amount)

FORM 10-A

CONVEYANCE AGREEMENT – MASTER

LEGEND

ZZ – Developer's name (In Caps) =

<< -- Street address of Developer =

>> -- City, state, and zip code of Developer =

YY – Parcel number =

ww – Project known as, etc. =

xx – Filed in District office as =

vv – Engineering Firm =

uu – Description listing length & diameter of pipe, etc. =

– How many sheets =

qq – County in =

AGREEMENT

(Conveyance)

THIS AGREEMENT, made and entered into this _____ day of _____, 20___, by and between the NEVADA IRRIGATION DISTRICT, hereinafter referred to as "District" and ZZ, hereinafter referred to as "Developer".

Recitals

WHEREAS, Developer has prepared or caused to be prepared, at Developer's sole cost, expense, and responsibility, plans and specifications entitled ww, (filed in District's office as xx"), as prepared by vv for construction of water system improvements consisting generally of uu and all appurtenances thereto, to provide treated water to qq County AP YY, a copy of which is attached hereto marked Exhibit "A" and made a part of this Agreement; and

WHEREAS, the plans and specifications contained in Exhibit "A" meet with the Department of Public Health and District Engineer's acceptance; and

WHEREAS, the facilities and lands to be served treated water by said water system improvements lie within the boundaries of the District and are more particularly described in Exhibit "A"; and

WHEREAS, Developer desires District to accept said water system improvements into District's overall water system upon completion; and

WHEREAS, District, subject to the following terms and conditions, as well as those contained in the District's Regulations Relating to Water Service, is willing to accept said water system improvements upon completion, provided the water system improvements are constructed in accordance with the plans and specifications and in a manner meeting District's approval;

NOW, THEREFORE, the parties mutually agree as follows:

ARTICLE 1 - RECITALS: The recitals contained herein are an integral part of this Agreement.

ARTICLE 2 - PLANS: Attached hereto marked Exhibit "A" and made a part of this Agreement is one set of plans reduced to 11" x 17", prepared by the Developer's licensed civil engineer, and consisting of ## sheets, and specifications for construction of water system improvements. The District's acceptance of these plans and specifications does not constitute a warranty or guaranty by District of proper design nor does it relieve Developer of responsibility for the proper design and construction of the improvements thereon.

EITHER

ARTICLE 3 – CAPACITY CHARGES AND CONNECTION FEES: Pursuant to Section 10.07 of the District's "Regulations Relating to Water Service", a capacity charge for a minimum size meter shall be paid by the Developer for each parcel to be served by the water system improvements, prior to District's acceptance of the improvements. The capacity charge for a

minimum-size meter shall be as shown in Schedule 4-A, entitled, “Treated Water System, Standby Charges, and Connection Fees”, which is attached hereto and marked Exhibit “B” and made a part of this Agreement. Therefore, Developer, prior to conveying the water system improvements to District, agrees to and shall pay District the then current capacity charges for a 5/8-inch meter (currently $_____) for each of the _____ parcels shown in Exhibit “A”. Based on the current Schedule 4-A, the total capacity charges to be paid prior to conveyance equals $_____. Developer understands and agrees to be bound by any District alterations, additions, amendments, revisions, or modifications to Schedule 4-A, or any other District policies, rules, or regulations.

Those parcels described in Exhibit “A”, upon application for water service, shall be credited the then current capacity charges for a 5/8-inch meter and shall otherwise be subject to all connection fees as shown in the then current Schedule 4-A, or its equivalent, and all other then applicable fees and charges.

OR

ARTICLE 3 – CAPACITY CHARGES AND CONNECTION FEES: Developer shall prepay Capacity charges. The Capacity Charge for the type of development covered by the Conveyance Agreement shall be as shown in the most current edition of Schedule 4-A, entitled, “Treated Water System, Standby Charges, and Connection Fees”, which is attached hereto and marked Exhibit “B”, and made a part of this Agreement. Therefore, Developer agrees and shall pay District, prior to conveying the water system improvements to District, the then current capacity charges for each of the [Number & Description of Units]. Based on the current Schedule 4-A, capacity charges are $_____ per unit. Therefore, based on the current Schedule 4-A, the total charges to be paid prior to the conveyance equals $_____.

Developer agrees to, and shall pay District, the then current meter installation charges as shown in Schedule 4-A at the time of making application for water service. Developer also agrees to, and shall pay District, all other applicable fees and charges for water service.

Developer understands and agrees to be bound by any District alterations, additions, amendments, revisions, or modifications to Schedule 4-A, or any other District policies, rules, or regulations.

OR

ARTICLE 3 - CONNECTION FEES: Attached hereto and marked Exhibit “B” and made a part of this Agreement, is Schedule 4-A of the Board of Directors of Nevada Irrigation District entitled, “Treated Water System, Standby Charges, and Connection Fees”. Developer understands and agrees to be bound by any District alterations, additions, amendments, revisions or modifications to Schedule 4-A or any other District policies, rules, or regulations. All parties hereby agree hereto that District is entitled to those connection fees (the sum of the meter installation and capacity charges) as specified in Schedule 4-A. District shall collect said connection fees at the time application for water service is made. It shall be incumbent upon the water service applicant to pay the then current connection fees and all other then applicable fees and charges.

If Required

ARTICLE 4 – EXCESSIVE FOOTAGE CHARGE: Pursuant to Section 10.10.04 of the District's "Regulations Relating to Water Service", an excess footage charge will be assessed Developer for the installation of a pipeline extension to serve areas containing large-size residential parcels. Therefore, Developer, prior to conveying the water system improvements to District, agrees to and shall pay District the total sum of $_____ as the excess footage charge.

If Excessive Article is used, RE-NUMBER all Articles from end to here

ARTICLE 4 - ENGINEERING, PLAN-CHECK, AND INSPECTION SERVICES PERFORMED BY DISTRICT: District and Developer understand and agree that Developer shall assume the cost and expense of District's performance of "engineering, plan-check, and inspection services", hereinafter referred to as "inspection", in connection with Developer's construction of water system improvements described in Exhibit "A" attached hereto. Developer shall deposit the sum of $_____, receipt of which is hereby acknowledged by District, which sum shall be applied to Developer's payment for inspection services performed by District. Should the fee for inspection services exceed the above deposit, Developer agrees to pay any balance due within 30 days after the date of the billing. A late payment charge of 1.5 percent per month will be added on any unpaid balance thereafter. Furthermore, the Developer agrees to pay any balance due prior to offering the improvements to District. District shall not accept conveyance until any balance due is paid. Should the fee for inspection services be less than the above deposit, District shall refund the remaining amount to Developer. The primary purpose of this paragraph within Article 4 is intended to compensate and reimburse District for any and all inspection services performed in connection with Developer's construction of treated water system facilities described in Exhibit "A" attached hereto. District's acceptance of payment for inspection services performed is not a warranty or guarantee by District of proper design or proper specifications of materials or construction.

ARTICLE 5 - LABOR AND MATERIAL PAYMENT BONDING REQUIREMENTS: The Developer shall defend and indemnify the District against all claims for nonpayment of labor, material, and other obligations incurred by the Developer, its agents, contractors, employees, and assigns. The estimated cost of construction of the water system improvements is $_____.

Should the estimated cost of constructing the improvements be less than $50,000 at the time of offering the water system improvements to the District, the Developer shall provide a written "OFFER OF DEDICATION" in the form as described in Exhibit "C" attached hereto and made a part hereof. The "OFFER OF DEDICATION" shall state inter alia that the improvements are free and clear of all liens, encumbrances, and other expense.

Should the estimated cost of constructing the water system improvements be less than $500,000, but more than $50,000, in addition to supplying a written "OFFER OF DEDICATION" in the form as described in Exhibit "C", the Developer shall either submit a "RELEASE" agreement in the form of Exhibit "D", attached hereto and made a part hereof, from each and every contractor, subcontractor, corporation, firm, person, or business entity furnishing materials for or performing labor or other services in performing the terms and provisions of this Agreement, or a Labor and Material Payment Bond to the District in the form prescribed by Exhibit "E" attached hereto and made a part hereof the principal sum of not less than the estimated construction cost as provided herein. In addition, Developer shall maintain an accurate and current list of all contractors, subcontractors, business entities, corporations, firms, and/or persons performing the terms and provisions of this Agreement, and shall make this list available to the District engineer upon request.

Should the estimated cost of constructing the water system improvements be in excess of $500,000, the Developer shall, prior to commencing construction, submit a Labor and Material Payment Bond in the form as shown in Exhibit "E" attached hereto and made a part hereof. The bond shall be obtained at the sole cost of Developer and shall be in a principal amount of not less than the estimated cost of construction as set forth herein. In addition, the Developer shall, at the time of offering the water system improvements to the District, provide an "OFFER OF DEDICATION" statement in the form as set forth in Exhibit "C", attached hereto and made a part hereof, which statement verifies that the water system improvements are free and clear of all liens, encumbrances, and other expense.

ARTICLE 6 - INSURANCE REQUIREMENTS: Prior to Developer's commencement of construction of the water system improvements as otherwise set forth in the terms and provisions of this Agreement, general liability insurance naming the District as additional named insured shall be taken out and maintained for the duration of this Conveyance Agreement by Developer or Developer's contractor for claims for damages to property, personal injury, bodily injury, and accidental death. The types of insurance covered under the general liability policy shall include, but not be limited to, comprehensive form, premises-operations, underground hazard, products/ completed operations hazard, broad form property damage, independent contractor, and personal injury. Prior to any blasting operations for removal of rock, stumps, or other materials from the work area, the general liability policy must also contain explosion and collapse hazard coverage. It shall also include coverage for Products-Completed Operations liability losses for a period of 12 months from the date of District's acceptance of the completed works. (This time period corresponds with the 12-month maintenance bond requirement.) All insurance acquired under the terms of this article must be obtained through an insurance company authorized and licensed to do business in the State of California. The general liability policy shall contain limits of liability as follows:

1. Bodily Injury: $1,000,000 for each occurrence, $1,000,000 aggregate
2. Property Damage: $500,000 each occurrence, $500,000 aggregate.

General Liability Insurance policies having combined single limits damage combined of liability shall carry limits for bodily injury and property damage combined of $1,000,000 each occurrence and $1,000,000 aggregate.

The certificate of insurance shall also have a description of operations/locations/vehicles that refers specifically to the water system improvements.

ARTICLE 7 - PROOF OF INSURANCE: The Developer shall submit or cause to be submitted a copy of the insurance policy(ies) with endorsements and exclusions, and shall submit a certified copy of the endorsement naming the District as additional insured to the District as proof of general liability insurance as required by this Agreement. Developer shall receive District approval that the insurance requirements of this Agreement have been met. The Developer must receive this approval prior to the start of construction pursuant to the terms of this Agreement.

ARTICLE 8 - HOLD HARMLESS AND INDEMNIFICATION: Developer shall hold District and District's agents, officers, and employees harmless from any and all claims, lawsuits, acts, or omissions arising out of Developer's performance of the terms and conditions of this Agreement. Likewise, Developer shall defend and/or pay the cost of defending and indemnifying District together with District's Agents, employees, and officers from all civil proceedings, claims, and/or judgments including, but not limited to, payment of all attorney fees and litigation costs.

ARTICLE 9 – INSPECTION OF WORK: Developer shall give two working days' advance notice prior to Developer's contractor starting any work associated with the water system improvements and shall keep District informed of construction schedules throughout the course of the work in order for District to properly schedule inspection personnel. It is suggested that Developer's contractor provide District submittals on any materials proposed for the water system improvements for approval prior to purchase.

Eff. 11/26/03

ARTICLE 10 - BEGINNING OF WORK OR TERMINATION: This Agreement shall terminate and be of no further force or effect at District's discretion should District determine that Developer has failed to cause construction of the water system improvements as shown on Exhibit "A" to commence within nine (9) months from the date of this Agreement.

For purposes of this Article, Developer's commencement of construction shall not be deemed to have occurred upon one or any combination of the following actions or events:

1. Bid advertisement
2. Execution of contracts or bonds
3. Ordering of material and supplies or the delivery and stockpiling of materials and supplies on the job site.
4. Clearing and grubbing for or construction of roads including the completion of rough subgrade work.

District and Developer understand and agree that construction upon the water system improvements shall be deemed to have commenced when Developer causes its properly-licensed contractor to excavate and backfill pipeline in excess of 10 percent of the total water system to be constructed pursuant to the terms of this Agreement. The District engineer shall make the determination as to the percentage of water system caused to be constructed and installed by Developer.

ARTICLE 11 - CONSTRUCTION: Developer shall cause the water system improvements described in Exhibit "A" to be constructed by a properly-licensed contractor, without expense to District, and District shall not be responsible for any of the cost of said improvements. The Developer is not acting as a contractor, agent, official, or representative of District in constructing or providing such water system improvements, or in causing such improvements to be installed. This Agreement simply provides for the transfer and assumption of responsibility for such water system improvements to be installed upon completion and upon performance of all terms of this Agreement to be performed by Developer. The approval of the plans and specifications as presented by Developer shall not be deemed as a warranty or guarantee by District of proper design or proper specifications of materials or construction. District specifically relies upon the design and specifications as prepared or caused to be prepared by Developer as being in keeping with the requirements of District, as being in accordance with the conditions of the geography, and as having specific materials and equipment of the highest practicable quality and character. The Developer will provide a licensed civil engineer to act as the project engineer during construction.

ARTICLE 12 - NOTIFICATION OF DEVIATIONS OR FAILURES: District agrees to notify Developer in writing as to any deviations or failure in construction of the water system improvements pursuant to said plans and specifications, and the requirements of said District as soon as any deviation is brought to District's attention, and Developer shall immediately cause

such deviation or failure to be corrected at the sole cost of Developer. Developer agrees that District is not, by inspection of the construction or installation of the improvements, representing Developer or providing a substitute for inspection and control of the work by Developer. Developer agrees that any inspections and observations of the work by District are for the sole purposes of providing notice of the stage and character of the work. Developer agrees that the failure of the District to note variances from the plans and specifications for the project does not excuse or exempt Developer from complying with all terms of these plans and specifications.

ARTICLE 13 - REIMBURSEMENT FOR MONIES EXPENDED BY DEVELOPER: Should Developer desire reimbursement for the monies expended in the installation and construction of water system improvements as provided in the terms and provisions of this Agreement in addition to all other monies expended for the acquisition of rights of way and employment of engineers and contractors for construction, planning, and design of the water system improvements, then Developer shall request such reimbursement in writing and deliver such writing to District headquarters 30 days prior to conveyance of the water system improvements to District as provided in Article 15 herein. District, upon receiving Developer's written request for reimbursement for monies expended pursuant to the terms and provisions of this Agreement, will then determine whether or not Developer is entitled to reimbursement pursuant to District policies, rules, and regulations then in effect. Should District determine that Developer may be entitled to reimbursement, then District, in its sole discretion, may enter into a reimbursement agreement with Developer which shall provide for the method and manner by which Developer would achieve reimbursement of its monies expended for the construction and installation of the water system improvements. Should the District, in its discretion, determine to enter into a reimbursement agreement with Developer, such agreement shall be prepared and entered into prior to Developer's conveyance of water distribution facilities to District, all as set forth in Article 15 herein. The reimbursement agreement shall provide for the method and manner by which District may assist Developer in obtaining reimbursement of a portion of monies expended by Developer for the water system improvements constructed pursuant to the terms of this Agreement.

The Developer is advised that for facilities installed with public funds, the Labor Code requires that all craftsmen, mechanics and laborers be paid the local prevailing wages. The District has not ascertained whether or not reimbursement could be construed as public funding. The Developer assumes all risk as to whether reimbursement could be construed as public funding, and indemnifies the District from all liability claims arising or alleged to arise from construction wages not conforming to local prevailing wages.

IF DISTRICT PARTICIPATION (Fee Credit or District Contribution) IS INVOLVED, INCLUDE THE FOLLOWING:

ARTICLE 14 – PREVAILING WAGES The Developer's attention is directed to and the Developer shall comply with Sections 1720 to 1780, inclusive of the California Labor Code,.

All craftsman, mechanics, and laborers employed or working upon the site of the work (water system improvements) will be paid unconditionally and without subsequent deductions or rebate on any account the full amounts due at the time of payment at wage rates not less than those contained in the wage determination which is referenced herein and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Developer, the Developer's Contractor and subcontractors and such laborers and mechanics.

In accordance with Section 1770 of the Labor Code, the District has ascertained that the local prevailing wage rates shall be as determined by the California Department of Industrial

Relations. Said rates are accessible on the Internet under the heading "General Prevailing Wage Determination made by the Director of Industrial Relations pursuant to California Labor Code Part 7, Chapter 1, Article 2, Section 1770, 1773 and 1773.1". The Internet address is http://www.dir.ca.gov/. The wage determination shall be posted by the Developer's Contractor before start of work, throughout the work, and at the site of work in a prominent place where it can easily be seen by the workers.

The Developer, the Developer's Contractor, and his subcontractors shall comply with Section 1775 of the California Labor Code concerning the payment of prevailing rate of per diem wages. In accordance with this section, should the Developer's Contractor or his subcontractor fail to pay prevailing rates, the Labor Commissioner may assess monetary forfeitures. The Developer will be responsible for payment of any penalties. A labor and material payment bond is required as specified in this Conveyance Agreement.

Eff. 11/26/03

ARTICLE 14 - COMPLETION OF WORK OR TERMINATION: This Agreement shall terminate and be of no further force or effect at District's discretion should District determine that Developer has failed to cause construction of the water system improvements as shown on Exhibit "A" to be completed within one and one-half (1-1/2) years from the date of this Agreement.

For the purposes of this Article, Developer's completion of the construction shall occur upon the District's accepting conveyance of the water system improvements pursuant to Article 15 of this Agreement. Developer further understands and agrees that District may withhold acceptance of Developer's proposed dedication of the facilities should the District Engineer determine that any portion of the water system improvements have failed to pass appropriate pressure and leakage tests or that samples of water taken from the treated water lines and tested are determined not to be safe by the District Engineer. Developer understands and agrees the District may also withhold acceptance of the proposed dedication of water system should the District Engineer determine that Developer failed to complete all other construction either over, under or adjacent to the water system improvements including but not limited to final road grade, paving, curbs, gutters, sidewalks, all other utilities, and restoration of rights of way.

ARTICLE 15 - CONVEYANCE: Upon completion of the water system improvements in a manner meeting District's approval, Developer shall immediately convey said improvements and title thereto free and clear of all liens, encumbrances and expense to District by such conveyance and documents as deemed necessary by District, including but not limited to the following:

1. An executed "OFFER OF DEDICATION" (Exhibit "C") offering the water system improvements shown on Exhibit "A" to the District.
2. "RELEASE" statements (Exhibit "D") from every contractor, subcontractor, corporation, firm or business entity furnishing materials for or performing labor or other services, *OR* a Labor and Material Payment Bond (Exhibit "E"), all as specified in Article 5.
3. Developer shall provide District with proof satisfactory to District that Developer has acquired all local, state, and federal permits, maps or licenses and that Developer shall comply with all local, state and federal rules, ordinances and regulations relevant to the real property on, over or under which the water system improvements are situated.
4. Payment of capacity charges due District pursuant to then current District rules and regulations and as specified in Article 3 of this Agreement.
5. Payment of any balance due for engineering, plan-check, and inspection services performed by District.

6. One set of 24-inch by 36-inch reproducible “as-built” drawings on Mylar or material of suitable durability of the improvements constructed.
7. All easements and rights of way required by District.
8. The Developer-constructed water system shall be flushed (or re-flushed) and shall pass bacteriological testing no earlier than 14 calendar days prior to the date the General Manager accepts the Offer of Dedication. The Developer shall provide for proper drainage and de-chlorination equipment during flushing operations. **Eff. 11/26/03; rev. 7/29/04**
9. Developer shall furnish a Maintenance Bond in the form prescribed in Exhibit “F” attached hereto and made part hereof in an amount of not less than 20 percent of construction cost of the water system improvements protecting the District against any failure of the work due to faulty materials, poor workmanship, or defective equipment within a period of one year following acceptance of the “OFFER OF DEDICATION” of the water system improvements by the District’s Board of Directors.

   In place of a Maintenance Bond, the Developer may offer a certificate of deposit or an irrevocable letter of credit meeting the District’s approval as to form and financial institute utilized. Certificates of deposit used in lieu of a maintenance bond must be opened either in the Developer’s name and specifically assigned to the District or opened on behalf of the District only. The signatory for the District shall be the Treasurer or Assistant Treasurer of the District.

   District, upon approving the work in writing, shall accept the “OFFER OF DEDICATION” of the water system improvements and include said improvements into its overall water system and shall operate, maintain, and repair said improvements except as specified during the warranty period.

ARTICLE 16 - APPLICATION FOR WATER: No water shall be delivered to or conveyed by or through the water system improvements shown on Exhibit “A”, other than for testing purposes, until said water system is conveyed to District, formally accepted by District, and proper applications for water service have been filed with District and accepted.

ARTICLE 17 - OBLIGATION FOR PIPELINES AND/OR FACILITIES: District shall be under no obligation to provide additional pipelines and/or facilities in order to serve water to Developer’s project. Upon acceptance of the water system improvements by District, it shall become the sole property of District and shall be used and operated at District’s sole discretion.

EITHER

ARTICLE 18 - RULES AND REGULATIONS: Upon the water system improvements being accepted by District, Developer, its successors and assigns, shall be subject to and shall comply with all of the rules and regulations of District and shall pay the water rates, tolls and charges, and standby charges as they may be levied and/or established by District’s Board of Directors from time to time.

For purposes of determining standby charges, each parcel to be served from the water system improvements will be assessed from the District acceptance date regardless of the status of the recording of the final map by the appropriate county.

OR

ARTICLE 18 - RULES AND REGULATIONS: Upon the water system improvements being accepted by District, Developer, its successors and assigns, shall be subject to and shall comply with all of the rules and regulations of District and shall pay the water rates, tolls and charges, and standby charges as they may be levied and/or established by District's Board of Directors from time to time. In addition, Developer, its heirs, successors, conservators, guardians, and assigns shall be subject to compliance with the then current rules and regulations of District governing the conversion of multi-family units such as apartment units to condominium units which conversion currently requires payment of higher capacity fees to District and requires converting the District's master meters now utilized for apartment (multi-party) units into separate meters for each condominium unit.

For purposes of determining standby charges, each parcel to be served from the water system improvements will be assessed from the District acceptance date regardless of the status of the recording of the final map by the appropriate county.

ARTICLE 19 - ASSIGNMENT: No transfer or assignment may be made by Developer of this Agreement or any part or interest of law unless such transfer or assignment is approved in writing by the District, provided further that District shall not unreasonably withhold consent to transfer or assignment. In the event of such transfer or assignment, District may, at its sole option and in addition to any other remedy that it may have, elect to terminate this Agreement.

ARTICLE 20 - NOTICES: The mailing addresses of District and Developer for purposes of giving any notice required pursuant to this Agreement are as follows:

DISTRICT	DEVELOPER
NEVADA IRRIGATION DISTRICT	
	ZZ
1036 W. Main St.	<<
Grass Valley, CA 95945	>>

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first above written.

NEVADA IRRIGATION DISTRICT

By_____
President

By_____
Secretary

DEVELOPER

By_____

By_____

DEVELOPER'S IMPROVEMENT PLANS

SCHEDULE OF RATES AND CHARGES SCHEDULE 4-A
BY NEVADA IRRIGATION DISTRICT EFFECTIVE JANUARY 1, 2004

TREATED WATER SYSTEM
STANDBY CHARGES AND CONNECTION FEES

STANDBY CHARGES - $6.00 per month for each parcel.
CONNECTION FEES 1**/** Single family residence, commercial, industrial, and municipal.

Meter Size	Max Rated Capacity	Installation Charge	Capacity Charge	TOTAL Connection Fees 1/
5/8"	20 gpm	$845.00	$4,755.00	5,600.00
3/4"	30 gpm	875.00	7,895.00	8,770.00
1"	50 gpm	960.00	15,215.00	16,175.00
1 ½"	100 gpm	1,810.00	35,665.00	37,475.00
2"	160 gpm	2,705.00	82,405.00	85,110.00
Over 2"			DETERMINED BY DISTRICT	

MULTI-UNIT 2/ RESIDENTIAL DEVELOPMENT for which a master meter is required.

Meter Size	Connection Fees
5/8"	$ 845 + unit charge/unit
3/4"	875 + unit charge/unit
1"	960 + unit charge/unit
1 ½"	1,810 + unit charge/unit
2"	2,705 + unit charge/unit
over 2	Actual cost of installation plus unit charge/unit

Type Development	Unit	Unit charge
Mobile Home Park	Pad	$ 2,130
Apartments	Dwelling	2,980
Senior Apartments 3/	Dwelling	1,265
Motels, Hotels	Dwelling	1,390
Campgrounds	Pad	2,355
Hospitals	Licensed Bed	2,290
Convalescent Hospitals & Resthomes:		
Skilled nursing	Licensed Bed	1,350
Board and care	Licensed Bed	730

1/ Varies with type of development
2/ Multi unit is defined as three or more.
3/ Proof must be provided that apartments are being developed under county ordinances relating to senior apartments or senior independent living centers.

OFFER OF DEDICATION

I/We hereby extend an offer to convey, transfer, and dedicate all rights, title, and interest in and to that certain water system and appurtenances more particularly described in Exhibit "A" attached to the Agreement by and between NEVADA IRRIGATION DISTRICT and ZZ hereinafter referred to as DEVELOPER, dated _____, 20__, a copy of which is on file in District headquarters located in Grass Valley, California; to Nevada Irrigation District, assuring and warranting to said District that the water system for the project known as ww (filed in District's office as "xx"), is free and clear of all liens, encumbrances, and other expense.

I/We have constructed or caused the construction and installation of the water system and improvements described in Exhibit "A" attached to said Agreement, and do hereby assure and warrant to NEVADA IRRIGATION DISTRICT that the water system improvement facilities together with the contractors, subcontractors, employees, or agents of the Developer have been fully and completely paid and there exist no liens, encumbrances, stop notices, or claims on the water system improvement facilities or by any of the subcontractors, employees, or agents against the water system improvement facilities constructed pursuant to the terms of the above Agreement or against NEVADA IRRIGATION DISTRICT.

I/We declare under penalty of perjury that the foregoing is true and correct. Executed this _____ day of _____, 20___, in the City of _____, County of _____, State of California.

Developer

By_____

By_____

We accept this "OFFER OF DEDICATION" made by _____ _____ on this _____ day of _____, 20____.

Nevada Irrigation District

By_____
General Manager

Note: All blanks must be completed properly, otherwise the Nevada Irrigation District will not accept the Offer.

RELEASE

FOR ADEQUATE CONSIDERATION, receipt of which is hereby acknowledged, the undersigned, jointly, severally, and individually releases and forever discharges the Developer, ZZ, and NEVADA IRRIGATION DISTRICT, together with all other persons, firms, business entities, irrigation districts, and government entities whatsoever of and from any and all actions, causes of action, claims, demands, damages, stop notice actions, costs, expenses, liens, and compensation on account of or in any way growing out of the construction, installation, and work of those certain water system facilities described in the Conveyance Agreement dated _____, 20__, by and between NEVADA IRRIGATION DISTRICT and the Developer named above; the project being known as ww, (filed in District's office as "xx").

Individual Or Firm

_____
(Print Name)

_____
(Address)

_____
(City) (State) (Zip)

By _____
(Signature)

_____
(Title) (Date)

Note: All blanks must be completed properly, otherwise the Nevada Irrigation District will not accept the release.

LABOR AND MATERIAL PAYMENT BOND

By this Agreement_____

of_____, hereinafter referred

to as "Principal", and _____ of

_____

(a corporation certified as a corporation admitted to do business in the State of California as a surety insurer), hereinafter referred to as "Surety" are held and firmly bound to NEVADA IRRIGATION DISTRICT, hereinafter referred to as "District", and to any and all persons who perform labor upon, or furnish material to be used in, or furnish appliances, trucks, or power contributing to the work to be performed under an agreement (filed in District's office as "xx"), hereinafter specifically described in the amounts of _____ ($_____), for the payment of which Principal and Surety hereby bind themselves, their heirs, legal representatives, successors, and assigns, jointly and severally.

On the date of _____, 20____, Principal entered into an agreement with District for the principal purposes of constructing or providing for the construction of certain water system improvements, together with appurtenances thereto, to which agreement references are made for further particulars. A copy of the Agreement is attached hereto labeled Exhibit "A" and made a part hereof.

The condition of this obligation is that if the Principal shall promptly and faithfully make payment to all persons, firms, subcontractors, and corporations furnishing material for or performing labor thereof including all amounts due for materials, lubricants, labor, in the prosecution of the work provided for in the Agreement attached hereto as Exhibit "A" and any authorized extension or modification thereof including all amounts due for materials, lubricants, oil, gasoline, power, repairs on machinery, equipment, and tools consumed or used in connection with the construction of such work, and all insurance premiums on said work, and for all other labor, performed in such work whether by subcontractor or otherwise, then this obligation shall be void; otherwise this obligation shall remain in full force and effect.

FOR VALUE RECEIVED, the Surety hereby agrees that no change, extension of time, alteration, or addition to the terms of the Agreement attached hereto as Exhibit "A" or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect the Surety's obligation on this Bond, and said Surety does hereby waive notice of any such change, extension of time, alteration, or addition or modification to the terms of the Agreement or to the work to be performed or to the specifications.

The lien claimants to whom the provisions of this Bond inure shall have a right of action to recover hereon in any suit brought to foreclose liens as provided by the Mechanics Lien Laws and Public Work Lien Laws of the State of California, or in a separate suit brought hereon. No final settlement or compromise between the District and the Developer shall abridge the right of any beneficiary hereunder to pursue such remedies as may be provided such beneficiary by California Law.

IN WITNESS WHEREOF, this Labor and Material Payment Bond is executed on the ____ day of _____, 20____ in the City of _____, County of _____, State of California.

_____

[Seal]

_____
"PRINCIPAL"

_____

[Seal]

_____
"SURETY"

State of California }
} ss
County of _____}

Subscribed and sworn to before me this ____ day of _____, 20____, at _____, California.

_____
Notary Public

1) No_____

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we, (2) _____ hereinafter called "Principal", and (3) _____of _____, hereinafter called "Surety", are held and firmly bound unto the Nevada Irrigation District, 1036 W. Main Street, Grass Valley, California 95945, hereinafter called "Obligee", in the sum of (5) _____ Dollars, (6)($_____) for the payment of which, well and truly to be made, the said Principal and Surety bind themselves, jointly, severally, and firmly by these presents together with their heirs, executors, administrators, successors, and assigns.

The condition of this obligation is such that whereas, the said Principal has entered into a certain Agreement with the Obligee (filed in District's office as "xx") dated (7)_____, this Maintenance Bond being Exhibit "F" of that Agreement, for the construction and the installation of water system improvements and all appurtenances thereto, the conditions of said Agreement being made a part hereof, wherein Principal agrees to repair, maintain, and remedy the water system improvements and all appurtenances for a period of one year following the date of Obligee's acceptance of the conveyance of the water system improvements and appurtenances.

NOW, THEREFORE, if the Principal shall maintain and remedy said work free from defects in materials and workmanship for a period of one year following the date on which the Board of Directors of the Obligee formally accepts conveyance of work described herein, then this obligation shall be void; otherwise, it shall remain in full force and effect.

IN WITNESS WHEREOF, this Maintenance Bond is executed on the ____ day of _____, 20___, in the City of _____, County of _____, State of California.

(Seal) (8)

_____

(If Applicable)

(9)

By_____

"PRINCIPAL"

(Seal)

(10)

_____

(11)

By_____

"SURETY"

(12) Address _____

_____

_____

State of California }
} ss
County of _____}

Subscribed and sworn to before me this ____ day of _____, 20____, at _____, California.

_____
Notary Public

(1) Surety's Bond number for reference.
(2) Same as "Developer" in Conveyance Agreement.
(3) Full name of Surety Company.
(4) State in which it was duly organized.
(5) Amount as agreed to by District Engineer - spell out.
(6) Numerical dollar amount.
(7) Date of Agreement with the District.
(8) Type or print Principals (correct) Corporate, Partnership, or individual's name, as the case may be.
(9) Signature and seal, if applicable, must be witnessed and notarized.
(10) Type or print Surety's corporate name.
(11) Signature and seal must be witnessed and notarized. If signator for Surety is Attorney-in-fact, attach the proper Power of Attorney.
(12) Enter mailing address of Surety for purposes of giving any notice pursuant to this Maintenance Bond.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: That we (1) _____

_____a (2) _____

hereinafter called "Principal" and (3_____

of _____ State of_____ hereinafter called the "Surety", are held and firmly bound unto Nevada Irrigation District, hereinafter called "Owner", in the penal sum of _____ Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS such that WHEREAS, the Principal entered into a certain agreement with the Owner, dated the _____ day of _____, 20___, a copy of which is hereto attached and made a part hereof for the construction of the _____, including all appurtenances thereto, all as set forth in the attached agreement.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions and agreements of said agreement during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such agreement, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the developer shall abridge the right of any beneficiary hereunder whose claim may be unsatisfied.

Performance Bond

ZZ

IN WITNESS WHEREOF, this instrument is executed in two (2) counterparts, each one of which shall be deemed an original, this the ____ day of _____, 20___.

ATTEST:

_____	_____
(Principal) Secretary	Principal
(Seal)	By _____
_____	_____
(Witness as to Principal)	
_____	_____
(Address)	(Address)
ATTEST:	
_____	_____
(Surety) Secretary	Surety
(Seal)	
_____	By _____
(Witness as to Surety)	Attorney-in-Fact
_____	_____
(Address)	(Address)

NOTE: Date of Bond must not be prior to date of Agreement.

1) Correct name of Developer.
2) A Corporation, A Partnership, or an Individual, as case may be.
3) Correct name of Surety.
4) If Principal is a Partnership, all partners must execute bond.

FORM 10-B

NEVADA IRRIGATION DISTRICT
1036 W. Main Street
Grass Valley, CA 95945
(530) 273-6185

VARIANCE REQUEST

District regulations require, at least 50 percent of the parcel, but in no case less than 50 feet, must be fronted by a minimum 8-inch diameter water main. Owner hereby applies for a variance to District Regulations per Section 10.08. Consideration for approval of a variance is based upon the District's ability to provide treated water service to the subject property while maintaining orderly development of the water system.

(Please Type or Print Legibly)

Owner's Name_____

Authorized Representative_____

Contact Mailing Address _____

City_____**State**_____**Zip**_____

Contact Telephone Number_____**Fax Number** _____

Property Address _____

County _____ **Assessor's Parcel Number(s)**_____

Present Zoning _____**Can property be further divided?** _____

Does an auxiliary water supply exist? Yes _____ **No** _____

If yes check type: Well _____ **Spring** _____ **Irrigation Service** _____ **Other** _____

Desired Service Size: 5/8"____ **3/4"**____ **1"** ____ **Other** _____

Residential _____ **Commercial/Industrial** _____ **# Units** _____

A nonrefundable Administrative Processing Fee of $175 is due with this request.

Property Owner's Signature _____ **Date** _____

THIS SIDE TO BE COMPLETED BY DISTRICT

Parcel/Lot Number(s)
Tax Area Code(s) _____Inside District: Yes _____ No
Prior Variance Request(s) _____

Right of Way

- Existing right-of-way effecting the property or project? Yes _____ No _____
- If yes, Book _____ Document _____ (Of Record) Page _____ Deed _____
- Comments:

By _____ Date _____

Operations Department

- Comments:

By _____ Date _____

Engineering Department

- Pressure constraints:
- Comments:

By _____ Date _____

Customer Service

- Standby Factor _____ From _____ To _____

- Improvement District _____ Buy-In Fee _____

Reimbursement Agreement include variances? (Name agreement)_____

VARIANCE REQUEST

Please provide a map, sketch or assessor's parcel map indicating the location of the property and the access thereto.

Describe why you believe a variance should be granted. Give any additional information you feel is pertinent to the variance request (You may submit a separate letter instead):

FORM 13-A

NEVADA IRRIGATION DISTRICT

QUITCLAIM APPLICATION

Date:

Please furnish the following information:

1. Name of facility_____

2. Property Location (Use Assessor's Plat, or provide following info.):

   Assessor's Parcel No. _____ Section _____T_____N., R_____E.

3. Lot No._____ of Parcel Map or Subdivision Map Number _____.

4. Copy of deed vesting title to property.

5. Title is to be granted in the name of:

   _____

   _____

Please note: A $150 nonrefundable fee is required. (Recording fees not included). An additional $100 fee will be applied if Board approval is required; a determination of which will be made at the time of application.

Nevada Irrigation District does not imply or warrant that the Quitclaim Deed will be approved and/or granted because of the acceptance of the required fee and/or this application.

_____
Signature of Applicant

_____
Mailing Address

_____
City, State, Zip

_____
Phone

_____
Accepted By

_____
Date, Job Number

Form 13-B

NEVADA IRRIGATION DISTRICT

EASEMENT APPLICATION

Date:

Please furnish the following information:

1. Name of facility_____

2. Property Location (Use Assessor's Plat, or provide following info.):

   Assessor's Parcel No. _____ Section _____T_____N., R_____E.

3. Lot No._____ of Parcel Map or Subdivision Map Number _____.

4. Copy of deed vesting title to property.

5. Title is to be granted in the name of:

   _____

   _____

Please note: A $250 nonrefundable fee is required. (Recording fees not included). An addition to the nonrefundable fee, a payment for the value of the easement, as determined by the District will be required.

Nevada Irrigation District does not imply or warrant that the Easement Deed will be approved and/or granted because of the acceptance of the required fee and/or this application.

_____
Signature of Applicant

_____
Mailing Address

_____
City, State, Zip

_____
Phone

_____
Accepted By

_____
Date, Job Number

NEVADA IRRIGATION DISTRICT

ENCROACHMENT CONSTRUCTION AUTHORIZATION

APPLICATION FORM No._____

The undersigned hereby applies for permission to encroach upon a District Facility at the following location:
Assessors Parcel No. _____

In order to perform the following work: _____
_____
_____
(Please provide an accurate description, sketch, etc. of work area location)

The undersigned has read all the provisions governing this authorization, and if the authorization is approved, agrees to perform the work in accordance with these provisions.

_____
Printed Name

_____ _____
Mailing Address Signature of Applicant

_____ _____
Zip Code Date

_____
Telephone

_____
Routing (To Be Completed by N.I.D)

Operations Department
Name of District Facility _____
(Service Worker)

Sizing Information _____

Recommendations _____

_____ _____ _____
Initials Date

Engineering Department
Recommendations _____ _____ _____
Initials Date

Applicant is hereby given approval to perform the above-described work in conformance with the specifications attached. This authorization is good through _____(date). Failure to properly complete subject work within the time allowed can result in the forfeit of the deposit. After successful completion of the work, an encroachment permit will be issued.

_____ _____
Engineering Department Date

PLEASE CONTACT DISTRICT FOR FINAL INSPECTION FOLLOWING COMPLETION OF THE WORK.
THIS AUTHORIZATION IS SUBJECT TO THE FOLLOWING PROVISIONS:

PROVISIONS GOVERNING THIS
ENCROACHMENT CONSTRUCTION AUTHORIZATION

1. ***PROPERTY INTEREST*. This Authorization is valid only for the purposes specified herein and neither the Authorization nor use thereunder shall create an easement, right of way, or other interest in real property.**

2. ***EXTENT OF USE UNDER AUTHORIZATION*. The right to use structures or installations shall be limited to Applicant, his agents, and employees; Nevada Irrigation District (hereinafter referred to as "District") having the right of ingress and egress across any structure or installation at any time and all times.**

3. ***MAINTENANCE AND REPAIR*. Applicant shall maintain and repair the installation at all times at his sole cost and expense and in a condition satisfactory to District's Manager. Should the Applicant neglect to promptly make repairs, the District may make repairs, or have repairs made and Applicant shall pay all costs and expenses.**

4. ***DAMAGE TO DISTRICT CANALS OR OTHER STRUCTURES*. Applicant shall promptly repair, at his own cost, any damage caused to the District's canals or structures due to work under this Authorization to the satisfaction of District's Manager. Should Applicant neglect to promptly make repairs, District may make repairs or have repairs made and Applicant shall pay costs.**

5. ***REVOCATION*. District may revoke or cancel this Authorization upon giving notice to Applicant of intent to cancel or revoke Authorization and upon giving Applicant an opportunity to be heard regarding the cause of revocation or cancellation. Within ten (10) days subsequent to the requested hearing, District shall give written notice of its decision to either revoke or cancel the Authorization or to maintain the Authorization and its conditions in full force and effect. Upon receiving notice of revocation, the Applicant, at his cost, must remove the physical encroachment and restore the facility to its original condition. If the Applicant fails to satisfactorily remove the encroachment, the District will complete the work at the Applicant's sole cost.**

6. ***UNPAID CHARGES*. In the event Applicant fails to pay District's cost for labor, materials, and supplies, after being billed by the District, that are incurred under Provisions 3, 4, and 5 of this Authorization, the District may add the unpaid charges for services rendered to the annual assessment levied upon the land owned by the Applicant, within the District boundaries, all pursuant to Water Code Section 25806.**

7. ***LIABILITY*. Applicant shall assume entire responsibility for all activities and uses under this Authorization and shall save the District free and harmless from any and all expense, cost, or liability, in connection with, or resulting from the exercise of this Authorization including, but not limited to, property damage, personal injury, wrongful death, chemical treatment of water, cleaning operations of District ditches, any erosion of up-stream random silting of said reservoir are, and any, or all aquatic life, including fish life within said reservoir.**

8. ***COVENANTS*. The covenants, provisions, terms, and conditions contained in this Authorization shall bind and burden the successors and assigns of Authorization, as**

well as binding and benefiting the successors and assigns of Authorization, as well as binding and benefiting the successors and assigns of the District.

9. ***<u>ISSUANCE</u>. This Authorization is issued under the Rules and Regulations Governing Physical Encroachment to District facilities and is subject to the rules and regulations stated within.***

10. ***<u>CONSTRUCTION</u>. All work shall be constructed at Applicant's sole cost and expense in accordance with District plans and specifications attached hereto subject to the approval of District's Manager. The work area must also be cleaned to the satisfaction of District's Manager.***

11. ***<u>COMPLETION OF CONSTRUCTION</u>. If the Applicant does not complete construction to the District's satisfaction within the time limit allowed, the District may, at its option, either complete the construction and installation of the physical encroachment, or cause the removal of the physical encroachment. In either case, the Applicant shall bear all cost and expense for labor, materials, and supplies.***

12. ***<u>WATER OUTAGES CAUSED BY CONSTRUCTION</u>. Prior to commencing construction or installation of any physical encroachments which shall lie within, or cross over District facilities to such an extent as to cause a fluctuation or interference in District facilities, Applicant shall notify District of a possible need for an interruption in the flow of water through District works, commonly referred to as a "water outage". District may arrange for the Applicant to provide a water outage at such time as is convenient to the District. Applicant should provide District with at least seven (7) days advance notice of his plan to construct, or install a portion of the physical encroachment within District facilities causing the interruption or interference with water flow so that the District may properly plan for and arrange for an outage.***

FORM 14-B

RECORDING REQUESTED BY:

Nevada Irrigation District

AND WHEN RECORDED MAIL TO:

Nevada Irrigation District
1036 W. Main Street
Grass Valley CA 95945

APN: - - SPACE ABOVE THIS LINE FOR RECORDER'S USE

ENCROACHMENT PERMIT

PERMITTEE: No.
ADDRESS: TELEPHONE: ( ) -
DESCRIPTION OF ENCROACHMENT**:**
DISTRICT FACILITY AFFECTED:
LOCATION: SECTION: TOWNSHIP NORTH, RANGE EAST, M.D.M., DEED:
ASSESSOR'S PARCEL NO. **- -** **COUNTY**

PROVISIONS GOVERNING THIS ENCROACHMENT PERMIT

1. PROPERTY INTEREST: This permit is valid only for the purposes herein and neither the Permit, or the use thereunder shall create an easement, right of way, or other interest in real property.
2. EXTENT OF USE UNDER PERMIT: The right to use structures or installations shall be limited to Permittee, his agents and employees; Nevada Irrigation District (hereinafter referred to as "District") having the right of ingress and egress across any structure, or installation at any and all times.
3. MAINTENANCE AND REPAIR: Permittee shall maintain and repair installation at all times at his sole cost and expense and in a condition satisfactory to District's Manager. Should the Permittee neglect to promptly make repairs, the District may make repairs or have repairs made and Permittee Shall pay all costs and expenses.
4. DAMAGE TO DISTRICT CANALS, DITCHES OR OTHER STRUCTURES: Permittee shall promptly repair, at his own cost, any damage caused to the District's canals, ditches, or structures due to work under this permit, to the satisfaction of District's Manager. Should Permittee neglect to promptly make repairs, District may make repairs or have repairs made and Permittee shall pay all costs.
5. REVOCATION: District may revoke or cancel this permit upon giving notice to Permittee of intent to cancel or revoke permit and upon giving Permittee an opportunity to be heard regarding the cause of revocation or cancellation. Within ten (10) days subsequent to the requested hearing, District shall give written notice of its decision to either revoke or cancel the permit, or to maintain the permit and its conditions in full force and effect. Upon receiving notice of revocation, the Permittee, at his cost, must remove the physical encroachment and restore the District facility to its original condition. If the Permittee fails to satisfactorily remove the encroachment, the District will complete the work at the Permittee's sole cost.
6. UNPAID CHARGES: In the event the Permittee fails to pay District's cost for labor, materials and supplies, after being billed by the District, that are incurred under Provisions 3, 4 and 5, of this permit, the District may add the unpaid charges for services rendered to the annual assessment levied upon the land owned by the Permittee within the District boundaries, all pursuant to Water Code Section 25806.
7. LIABILITY: Permittee shall assume entire responsibility for all activities and uses under this permit and shall save the District free and harmless from any and all expense, cost, or liability in connection with, or resulting from the exercise of this permit including, but not limited to, property damage, personal injury, wrongful death, chemical treatment of water, cleaning operations of District ditches, any erosion of up-stream random, silting of said reservoir area, and any, or all aquatic life, including fish life within said reservoir.
8. COVENANTS: The covenants, provisions, terms and conditions contained in this Permit shall bind and burden the successors and assigns of Permittee as well as benefiting the successors and assigns of District.
9. ISSUANCE: This permit is issued under the Rules and Regulations Governing Physical Encroachments to District Facilities and is subject to the rules and regulations stated within.

THE UNDERSIGNED, BEING THE LEGAL OWNERS OF THE SUBJECT PROPERTY OF THIS PERMIT HAVE READ ALL PROVISIONS GOVERNING THIS ENCROACHMENT PERMIT AND BY SIGNING AGREE TO COMPLY WITH ALL PROVISIONS INCLUDED WITHIN.

Date: _____ Owner(s) _____

_____

Approved this _____ day of _____ 1999 On behalf and for the **Nevada Irrigation District**.

_____
Nevada Irrigation District Manager

FORM 14-C

DOCK ENCROACHMENT PERMIT APPLICATION

(This form supplements the Encroachment Construction Authorization)

THIS IS A (check one):

_____ PRELIMINARY APPLICATION

A Preliminary Application is intended to result in a prompt, informal response indicating the advisability of a Formal Application for Development.

_____ FORMAL APPLICATION FOR DEVELOPMENT PERMIT

A Formal Application for Development is subject to compliance with all applicable laws and District Regulations.

Name of Property Owner _____

Mailing Address _____
ZIP

Telephone Number_____

Assessor's Parcel No. _____

Contact Person (if other than property owner):

Name of Contact Person _____

Mailing Address _____
ZIP

Telephone Number_____

Is the proposed dock part of a related development project?_____

If "Yes", describe the project: _____

_____

_____

What provisions are proposed for public access to the dock? _____

_____

_____

Does the applicant claim the right to use the dock for commercial purposes? Yes _____ No _____

_____ _____

Signature of Property Owner Date

SUBMITTALS TO ACCOMPANY APPLICATION

_____ PRELIMINARY APPLICATION

1. A copy of the deed or contract under which the right to construct a dock is claimed.

2. A site plan and elevation view including dimensions.

_____ FORMAL APPLICATION FOR DEVELOPMENT PERMIT

1. A copy of the deed or contract under which the right to construct a dock is claimed.

2. A copy of a current title report or a title insurance policy describing the property and identifying the owner.

3. Plans and specifications, including site plan and elevation view, prepared by a Civil Engineer in accordance with Section 14.05.03 and 14.05.05 of the District's Regulations.

4. A CEQA submittal in accordance with Section 14.05.06 of the District's Regulations. (The District may request additional information to meet the requirements of Public Resources Code Section 21080.1).

5. A narrative analysis os any adverse impacts on public safety and recreational use of the reservoir, and any proposed mitigation measures.

6. Identification of all other permits and public agency approvals required for construction and maintenance of dock facilities and any related development projects. district will require securing of all necessary permits and approvals.

7. Certification that site is not on any hazardous waste or substance list under Government Code Section 65962.5.

8. Verification of insurability in accordance with Section 14.05.07 of the District Regulations.

9. Proposed provisions for public access.

NOTE: APPLICANTS FOR FORMAL DEVELOPMENT PERMITS WILL BE NOTIFIED WHETHER THEIR APPLICATIONS ARE COMPLETE WITHIN 30 DAYS OF RECEIPT. THE DISTRICT MAY REQUEST THE APPLICANT TO CLARIFY, AMPLIFY, CORRECT, OR OTHERWISE SUPPLEMENT THE REQUIRED INFORMATION. STAFF DETERMINATIONS AS TO COMPLETENESS ARE SUBJECT TO APPEAL, WHICH WILL BE DECIDED WITHIN 60 DAYS. APPLICATION, ONCE COMPLETE, WILL BE APPROVED OR DENIED WITHIN 6 MONTHS IF BASED UPON A NEGATIVE DECLARATION OR EXEMPTION, AND WITHIN 1 YEAR IF BASED UPON AN ENVIRONMENTAL IMPACT REPORT. APPLICANTS, UPON WRITTEN REQUEST, WILL BE SENT NOTICE OF ANY PROPOSALS TO AMEND THE DISTRICT'S DOCK ENCROACHMENT PERMIT REGULATIONS.

Form 14-D

RECORDED AT REQUEST OF:

NEVADA IRRIGATION DISTRICT

WHEN RECORDED MAIL TO

Nevada Irrigation District

1036 W. Main Street

Grass Valley, CA 95945

SPACE ABOVE THIS LINE FOR RECORDER'S USE

DOCK ENCROACHMENT PERMIT

PERMITTEE_____ NO. _____

ADDRESS _____

_____ ZIP _____

DISTRICT RESERVOIR AFFECTED _____

PROPERTY TO WHICH DOCK IS APPURTENANT (SEE EXHIBIT "A" ATTACHED) _____

PROVISIONS GOVERNING THIS DOCK ENCROACHMENT PERMIT

1. EXTENT OF USE UNDER PERMIT: The right to install and use docks under this permit shall be limited to the Permittee, and his invitees, agents, and employees except insofar as the Permittee is otherwise obligated to provide public access. So long as the Permittee be not in default of the terms of this permit, the permit is appurtenant to the benefitted property described in Exhibit "A" attached, and shall pass to his heirs, successors, and assigns. Provided however, after recordation of this permit, subsequent subdivision of any parcel eligible for a dock shall not entitle each new parcel to a dock. Either the parties will share the single dock or the owner shall designate on the deed or subdivision map which parcel is to retain the dock rights.
2. MAINTENANCE AND REPAIR: Permittee shall maintain and repair the dock at his sole cost and expense. The dock shall be maintained in good and safe condition at all times.
3. COMPLIANCE WITH DISTRICT DOCK ENCROACHMENT REGULATIONS: Permittee shall comply with all District regulations applicable to dock encroachments.
4. PAYMENT OF RESERVOIR FEES: Watercraft owners or operators using Permittee's dock shall be subject to fees charged by the District, concessionaire or lessee, if any, for watercraft using the reservoir.
5. DAMAGE TO DISTRICT PROPERTY: Permittee shall promptly repair, at his own cost, any damage to District property due to work under this permit, to the reasonable satisfaction of the District. Should Permittee neglect to promptly make repairs, District may make repairs or have repairs made and Permittee shall reimburse the District for cost of such repairs.
6. REVOCATION: District may commence proceedings to revoke or cancel this permit only after giving written notice to Permittee and reasonable opportunity to correct any deficiency. If Permittee fails to make corrections in a timely manner, District may revoke the permit, upon giving written notice to Permittee of its intent to revoke the permit and reasonable opportunity to be heard regarding the cause for such revocation. Within 10 days subsequent to the hearing, the District shall give written notice of its decision to Permittee. Upon receipt of written notice of revocation, Permittee, at his cost, must remove the dock and restore the District property to its original condition. If Permittee fails to satisfactorily remove the dock, the District may complete the work at the Permittee's sole cost. Revocation of a dock encroachment permit shall not preclude reapplication at a later date by a subsequent owner of the appurtenant property.
7. UNPAID CHARGES: In the event Permittee fails to pay annual permit administration fees or the District's cost for labor, materials, and supplies (after being billed by the District) that are incurred in correcting any deficiency hereunder, the District may add the unpaid charges for services rendered to the annual assessment levied upon the land owned by the Permittee within the District boundaries pursuant to Water Code Section 25806.
8. LIABILITY: Permittee shall assume entire responsibility for all activities and uses under this permit and shall hold the District free and harmless from any and all expense, cost, or liability in connection with, or resulting from the exercise of this permit including, but not limited to, property damage, personal injury, wrongful death, chemical treatment of water, cleaning operations of District ditches, any erosion of upstream random, silting of said reservoir area, and any, or all aquatic life, including fish life within said reservoir. Permittee shall at all times maintain insurance naming the District and any concessionaire as additional insureds, in such amounts and types as set forth in the District Dock Encroachment Regulations.
9. PUBLIC ACCESS REQUIREMENTS: _____

_____

_____

_____

_____

10. COVENANTS: The covenants, provisions, terms and conditions contained in this permit shall bind and burden the successors and assigns of Permittee as well as benefiting the successors and assigns of District.
11. ISSUANCE: This permit is issued under the Rules and Regulations Governing Physical Encroachments to District Facilities and is subject to the rules and regulations stated therein, including provisions for revocation.

THE UNDERSIGNED, BEING THE LEGAL OWNERS OF THE SUBJECT PROPERTY OF THIS PERMIT, HAVE READ ALL PROVISIONS GOVERNING THIS ENCROACHMENT PERMIT AND BY SIGNING AGREE TO COMPLY WITH ALL PROVISIONS INCLUDED WITHIN.

Name _____ Date _____

Name _____ Date _____

Appendix L:
NID Water Shortage Financial Analysis

10632(g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

Note: Estimates are in 2010 dollars.

Existing Data:	2010		
Total treated water sales in HCF	4,007,956	HCF	0.067783
Total treated water revenue	$10,348,648		
Annual Rate/customer tier 1	438.92		
Rate/HCF tier 2 first 10 HCF	1.36		
Rate/HCF tier 3	1.76		
Total treated water services	18,760		
Raw water sales A-Ft	135,742	A-Ft	
Raw water revenue	$5,349,285		

Meter Assumptions:

Size	Qty	Bi-monthly	
5/8	11,555	$34.64	11,555
3/4	2500	$50.86	
1	2000	$82.98	
1.5	1500	$161.08	
2	1000	$256.06	
3	200	$476.84	
4	100	$781.10	
6	5	$1,562.36	

10632(a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50% reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage.

DROUGHT CONTINGENCY PLAN:	Raw Water (Is 77% of total) 0.7647059		Treated Water (Is 7% of total) 7.05882353		Total	Revenue		Admin.	Total Budget	Revenue
	Decrease %	Decrease Ac-Ft	Change %	Decrease HCF	Decrease %	Decrease $	Increase $	Costs $	Decrease $	Source
Stage I: Normal Water Conditions									No Impact	
Stage II: Drought Alert - 10% to 15% Shortage										
A. District leak repair receives high priority	1.00		1.00					$62,700	$62,700	
B. Strongly encourage customers to conserve water.			5.00	200,398		$272,541		$2,500	$275,041	
C. Restaurant owners requested not to serve water unless requested.			0.05	2,004		$2,725		$2,500	$5,225	
D. Declare no District surplus water is available.	11.98	16,260	0.00			$522,103			$522,103	<Not budgeted
(Affects raw water only.)			0.00							
E. Maintain 70,000 min AF in storage by the end of October			0.00							
TOTAL STAGE II IMPACT	12.98		6.05		10.42	$797,369		$67,700	$865,069	Reserves
Stage III: Drought Warning - 25% Shortage										
A. All of Stage II requirements above	12.98		6.05		10.42	$797,369		$67,700	$865,069	
B. Untreated water deliveries will be reduced by 25% and irrigation season delivery alternatives will be imposed. (Assume 10% raw water surcharge)	18.00	24,434	0.00			$537,538	$481,175	$70,000	$126,364	
C . Additional agricultural efficiency practices would be instituted to assist the agriculturist in proper water management as outlined in the Agricultural Water Management Plan.			0.00					$10,000	$10,000	
D. Limit Residential, garden, and landscape irrigation during the hottest portion of the day (10:00 a.m. to 6:00 p.m.)			1.00	40,080		$60,119	$57,500	$1,000	$3,619	
E. Limit fire department practice drills and flow testing of fire hydrants.			0.00							
F. Encourage that all treated water metered school grounds, and all other public grounds reduce their water usage by 15 percent from what they received under Stage I conditions and as outlined in the District's Urban Water Management Plan.			1.00	40,080		$60,119	$57,500	$1,000	$3,619	
G. Implement strong conservation pricing on treated water. (Assume 100% increase for 3 mos average 25% in tiers 2 and 3)			10.00	400,796		$601,193	$1,226,434	$1,500	-$623,741	
TOTAL STAGE III IMPACT	30.98		18.05		25.12	$2,056,339		$151,200	$384,930	Reserves
Stage IV: Drought Emergency - 35% Shortage										
A. Implement all items under Stages II and III and the following:	30.98		18.05		25.12	$2,056,339	$1,822,609	$151,200	$384,930	
B. Untreated water deliveries will be reduced by 35% and irrigation season delivery alternatives will be imposed. (Assumed 15% raw water surcharge.)	3.00	4,072	0.00			$89,590	$231,827	$70,000	-$72,238	
C. Implement strong conservation pricing on treated water. (Assume another 50% increase 3 mos avg 12.5% in tiers 2 and 3)			5.00	200,398		$291,779	$647,285	$1,500	-$354,006	
D. Suspend all NEW untreated water sales.	9.80	13,307				$533,559		$0	$533,559	
E. All new treated water services will not be allowed to plant new lawns, landscaping, or gardens. The District will encourage customers to utilize efficient water and irrigation systems.								$1,000	$1,000	
TOTAL STAGE IV IMPACT	43.78		23.05		35.33	$2,971,268		$223,700	$493,246	Reserves
Stage V: Drought Emergency - 50% Shortage										
A. Implement all items under Stages II, III and IV and the following:	43.78		23.05		35.33	$2,971,268	$2,469,894	$223,700	$725,074	
B. Untreated water deliveries will be reduced by 50% and irrigation season delivery alternatives will be imposed. (Assumed 25% raw water surcharge.)	19.00	25,791	0.00			$567,402	$478,188	$70,000	$159,213	
C. Conservation oriented rate structures and pricing methods will be established to encourage water conservation. (Assume another 50% increase 3 mos avg 12.5% in tiers 2 and 3)			5.00	200,398		$291,779	$647,285	$1,500	-$354,006	
TOTAL STAGE V IMPACT	62.78		28.05		50.31	$3,830,448		$295,200	$530,281	Reserves

10632(b) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

Per Section 3.5 of this Urban Water Management Plan, the driest three-year worst case scenario would be the equivalent of Stage III drought warning. Per response to 10632 (a) above, impact on revenue is estimated at $530,281 for 3 years which equals $1,590,843 which would be funded by reserves.

10632(c)

Power Outage Reduced Water Sales:	
Pump Zone services	1500
Loss in water sales 10 days	$12,310.94
Estimated cost of operating generators	$15,000.00
Earthquake:	
Rental of packaged plants	180000
Loss in water sales 6 mos.	$664,237.78

WATER DEMAND • WATER CONSERVATION • SURFACE WATER • AGRICULTURE

Prepared by

Brown AND Caldwell

Brown and Caldwell
10540 White Rock Road, Suite 180
Rancho Cordova, CA 95670
Tel: 916.444.0123