State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

PETITION FOR EXTENSION OF TIME

WATER USERS:

Application 15673 Permit 11605

Water Code section 1396 requires an applicant to exercise due diligence in developing a water supply for beneficial use. The State Water Resources Control Board (SWRCB), in considering requests for extension of time, will review the facts presented to determine whether there is good cause for granting an extension of time to complete the project. Where diligence in completing the project is not fully substantiated, the SWRCB may set the matter for hearing to determine the facts upon which to base formal action relating to the permit. Formal action may involve:

1. Revoking the permit for failure to proceed with due diligence in completing the project.
2. Issuing a license for the amount of water heretofore placed to beneficial use under the terms of the permit.
3. Granting a reasonable extension of time to complete construction work and/or full beneficial use of water.

The time previously allowed in your permit within which to complete construction work and/or use of water has either expired or will expire shortly.

Please check below the action you wish taken on this permit.

☐ The project has been abandoned and I request revocation of the permit.

_____
Signature

☐ Full use of water has been made, both as to amount and season, and I request license be issued.

_____
Signature

☒ The project is not yet complete. I request the SWRCB's consideration of the following petition for an extension of time. See attachment - the need for this extension.

PETITION FOR EXTENSION OF TIME
If START of construction has been delayed

Complete items 1, 2, and 3.

1. What has been done since permit was issued toward commencing construction?
   Construction complete
2. Estimate date construction work will begin. N/A
3. Reasons why construction work was not begun within the time allowed by the permit.
   N/A

"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demands and cut your energy costs, see our web-site at: http://waterrights.ca.gov. *"*
Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

10/25/06 $ DC

Continued on next page

PETITION FOR EXTENSION OF TIME
If construction work is proceeding

If construction work and/or use of water is proceeding but is not complete, an extension of time may be petitioned by completing items 4 through 16. Statements must be restricted to construction or use of water only under this permit.

4. A See attachment - Response to Questions - #4. - year extension of time is requested to complete construction work and/or beneficial use of water. (Indicate a period of time less than or equal to 10 years. Must be consistent with the time frame allowed in (California Code of Regulations sections 840 through 844)

5. How much water has been used? 126,000 acre-feet/year 350 cfs

6. How many acres have been irrigated? n/a

7. How many houses or people have been served water? See attachment #7.

8. Extent of past use of water for any other purpose. See attachment #8

9. What construction work has been completed during the last extension? n/a

10. Approximate amount spent on project during last extension period. $ n/a

11. Estimate date construction work will be completed. n/a

12. Estimated year in which water will be fully used. See attachment #12

13. Reasons why construction and/or use of water were not completed within time previously allowed. See attachment - the need for this extension.

If the use of water is for municipal (including industrial) and irrigation supplies and is provided or regulated by public agencies and use of the water has commenced, but additional time is needed to reach full use contemplated, the following information must be provided.

14. What water conservation measures are in effect or feasible within the place of use? See attached Truckee Meadows Water Authority Water Conservation Plan and U.S. Fish & Wildlife Service Six Flow Regime Plan

15. How much water is being conserved or is it feasible to conserve using these conservation measures? _____ acre-feet per annum. See attachment #15.

16. How much water per capita is used during the maximum 30-day period? _____ gpd. See attachment #16.

I (we) declare under penalty of perjury that the above is true and correct to the best of my (our) knowledge and belief.

Dated: OCT 2 3 2006, 20___, at Sacramento, California

Michael Heaton
Signature(s)

916-978-5259
Telephone No.

Michael Heaton, Acting Regional Resources Manager,
Reclamation, MP Region, 2800 Cottage Way, Sacto., CA. 95825

PLEASE PRINT YOUR NAME AND ADDRESS

NOTE: A **$1,000 filing fee**, for each Application listed, made payable to the State Water Resources Control Board must accompany a petition for an extension of time. An **$850 fee** made payable to the Department of Fish and Game must accompany all but the first petition for an extension of time.

California Environmental Protection Agency

State Water Resources Control Board

DIVISION OF WATER RIGHTS

P.O. Box 2000, Sacramento, CA 95812-2000

Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

ENVIRONMENTAL INFORMATION FOR PETITIONS

☐ **Petition for Change** ☒ **Petition for Extension of Time**

Before the State Water Resources Control Board (SWRCB) can approve a petition to change your water right permit or a petition for extension of time to complete use, the SWRCB must consider the information contained in an environmental document prepared in compliance with the California Environmental Quality Act (CEQA). This form is not a CEQA document. If a CEQA document has not yet been prepared, a determination must be made of who is responsible for its preparation. As the petitioner, you are responsible for all costs associated with the environmental evaluation and preparation of the required CEQA documents. Please answer the following questions to the best of your ability and submit any studies that have been conducted regarding the environmental evaluation of your project. If you need more space to completely answer the questions, please number and attach additional sheets.

1. DESCRIPTION OF PROPOSED CHANGES OR WORK REMAINING TO BE COMPLETED

For a petition to change, provide a description of the proposed changes to your project including, but not limited to, type of construction activity, structures existing or to be built, area to be graded or excavated, increase in water diversion and use (up to the amount authorized by the permit), changes in land use, and project operational changes, including changes in how the water will be used. For a petition for extension of time, provide a description of what work has been completed and what remains to be done. Include in your description any of the above elements that will occur during the requested extension period.

The last extension was approved by the State Water Resources Control Board on July 7, 1982, and the time for complete application of the water to the proposed use under the permit was changed to December 1, 1992. In a letter dated November 1, 1992, Reclamation requested an extension of an additional ten years to the current expiration date of December 1, 1992. Reclamation was advised by the SWRCB staff that there was a hold on any actions on the Truckee River due to the current negotiations on the Truckee River Operating Agreement. Please see Attachment to this Petition - "The Need for this Extension" for further explanation.

☐ *See Attachment No.* ___

2. COUNTY PERMITS N/A

a. Contact your county planning or public works department and provide the following information:

Person contacted: _____ Date of contact: _____

Department: _____ Telephone: (____) _____

County Zoning Designation: _____

Are any county permits required for your project? ☐ YES ☐ NO If YES, check appropriate box below:
☐ Grading permit ☐ Use permit ☐ Watercourse ☐ Obstruction permit ☐ Change of zoning
☐ General plan change ☐ Other (explain):

_____

_____

b. Have you obtained any of the required permits described above? ☐ YES ☐ NO
If YES, provide a complete copy of each permit obtained.
☐ *See Attachment No.* ___

3. STATE/FEDERAL PERMITS AND REQUIREMENTS N/A

a. Check any additional state or federal permits required for your project:
☐ Federal Energy Regulatory Commission ☐ U.S. Forest Service ☐ Bureau of Land Management
☐ Soil Conservation Service ☐ Dept. of Water Resources (Div. of Safety of Dams) ☐ Reclamation Board
☐ Coastal Commission ☐ State Lands Commission ☐ Other (specify) _____

b. For each agency from which a permit is required, provide the following information:

AGENCY	PERMIT TYPE	PERSON(S) CONTACTED	CONTACT DATE	TELEPHONE NO.

☐ *See Attachment No.* ___

c. Does your proposed project involve any construction or grading-related activity that has significantly altered or would significantly alter the bed or bank of any stream or lake? ☐ YES ☐ NO
If YES, explain: _____

_____

_____

_____

_____

_____

_____

_____

_____

☐ *See Attachment No.* ___

d. Have you contacted the California Department of Fish and Game concerning your project? ☒ YES ☐ NO
If YES, name and telephone number of contact: Copies of TROA Petition Package will be sent to DFG along with the fee of $850.

4. ENVIRONMENTAL DOCUMENTS

a. Has any California public agency prepared an environmental document for your project? ☐ YES ☐ NO
If YES, submit a copy of the latest environmental document(s) prepared, including a copy of the notice of determination adopted by the California public agency. Public agency: _____

b. If NO, check the appropriate box and explain below, if necessary:
- ☐ The petitioner is a California public agency and will be preparing the environmental document.*
- ☐ I expect that the SWRCB will be preparing the environmental document.**
- ☐ I expect that a California public agency other than the State Water Resources Control Board will be preparing the environmental document.* Public agency: _____

To be discussed with SWRCB staff

☐ *See Attachment No.* ___

* Note: When completed, submit a copy of the final environmental document (including notice of determination) or notice of exemption to the SWRCB, Division of Water Rights. Processing of your petition cannot proceed until these documents are submitted.

** Note: CEQA requires that the SWRCB, as Lead Agency, prepare the environmental document. The information contained in the environmental document must be developed by the petitioner and at the petitioner's expense under the direction of the SWRCB, Division of Water Rights.

5. WASTE/WASTEWATER

a. Will your project, during construction or operation, (1) generate waste or wastewater containing such things as sewage, industrial chemicals, metals, or agricultural chemicals, or (2) cause erosion, turbidity or sedimentation?
☐ YES ☒ NO
If YES, or you are unsure of your answer, explain below and contact your local Regional Water Quality Control Board for the following information (See instruction booklet for address and telephone no.):

_____

☐ *See Attachment No.* ___

b. Will a waste discharge permit be required for your project? ☐ YES ☒ NO

Person contacted: _____ Date of contact: _____

c. What method of treatment and disposal will be used? n/a

_____

_____

☐ *See Attachment No.* ___

6. ARCHEOLOGY

a. Have any archeological reports been prepared on this project? ☐ YES ☐ NO n/a
b. Will you be preparing an archeological report to satisfy another public agency? ☐ YES ☐ NO
c. Do you know of any archeological or historic sites located within the general project area? ☐ YES ☐ NO

If YES, explain: _____

☐ *See Attachment No.* ___

7. ENVIRONMENTAL SETTING

Attach **three complete sets of color photographs**, clearly dated and labeled, showing the vegetation that exists at the below-listed three locations. For time extension petitions, the photographs should document only those areas of the project that will be impacted during the requested extension period.

☒ Along the stream channel immediately downstream from the proposed point(s) of diversion.
☒ Along the stream channel immediately upstream from the proposed point(s) of diversion.
☒ At the place(s) where the water is to be used. See attached photos.

8. CERTIFICATION

I hereby certify that the statements I have furnished above and in the attachments are complete to the best of my ability and that the facts, statements, and information presented are true and correct to the best of my knowledge.

Date: OCT 2 3 2006 Signature: Michael Heaton

Attachment to
Petition for Extension of Time
Water Rights Permit 11605 (Application 15673)

The Need for this Extension

In a letter dated November 1, 1992, the United States Bureau of Reclamation (Reclamation) petitioned for an extension of time for Permit 11605 (Stampede Reservoir). The last Petition for Extension of Time was approved by the State Water Resources Control Board (SWRCB) on July 7, 1982. The time for complete application of the water to the proposed use under the permit was changed to December 1, 1992. In 1993, Reclamation was advised that the SWRCB did not intend to take action on the request for extension of time until the outcome of negotiations on the Truckee River Operating Agreement (TROA).

In 1990, Public Law 101-618 was signed into law and includes provisions for negotiations of an operating agreement to govern the operations of Federal reservoirs (including Stampede Reservoir) in the Truckee River Basin and use of water from the Truckee River. On December 19, 2003, Reclamation and the other TROA parties filed with the SWRCB the following documents and the $850 filing fee for the California Department of Fish & Game. In December 2005, revisions to these petitions and applications were made.

1. Petition for Change – License 10180 (Application 18006), Permit 11605 (Application 15673), License 3723 (Application 5169), and License 4196 (Application 9247).
2. Two new water right applications have also been filed: Application 31487 for Stampede Reservoir, and Application 31488 for Prosser Reservoir.

Description of Project

Completed in 1970, Stampede Dam and Reservoir is located on the Little Truckee River immediately below the mouth of Davies Creek and approximately 8 miles above the confluence of the Little Truckee and Truckee Rivers. The dam is a zoned earthfill structure with a height of 239 feet, a crest length of 1,511 feet, and an embankment volume of 4.5 million cubic yards. The reservoir, with a capacity of 226,500 acre feet, provides flood control, recreation, a reservoir fishery, and a supplemental water supply to improve spawning habitat conditions on the lower Truckee River for endangered or threatened Pyramid Lake fish. The reservoir has 3,452 surface acres of water and 29 miles of shoreline.

Summary of Permit 11605 (Application 15673):

Permit 11605 was issued on October 27, 1958 and the last extension of time was granted on July 7, 1982.

County: Sierra
Source: Little Truckee River, tributary to the Truckee River
Point of Diversion: S10° 24'E – 480 feet from NW corner of Section 28, being within NW ¼, NW ¼ Section 28, T19N, R17E.
Amount: 126,000 acre-feet by storage and a maximum diversion rate 350 cubic feet per second, to be diverted from April 1 to November 1 of each year.
Storage Season: January 1 to December 31.
Purpose: Domestic, Municipal, Industrial, Irrigation, Flood Control, Fish Culture and Recreation.
Place of Use: Truckee Meadows gross acreage 36,340; net acreage 26,800 within Township 18, 19 and 20N, R18, 19, 20 and 21E, MDB&M and Newlands Project gross acreage 107,140; net acreage 70,000 within Township 17, 18, 19 and 20N, R24, 25, 26, 27, 28, 29, 30 and 31E, MDB&M, as shown on Map #320-419-156 dated December 17, 1953, on file with the State Water Resources Control Board.

Petition Summary

We are requesting that the SWRCB act on the 1992 request for extension of time for ten years from the expiration date of December 1, 1992, and the current Petition for Extension of Time for an additional ten years regarding Permit 11605. Construction under Permit 11605 is complete and water will be fully used when TROA becomes effective. The project does not and will not have significant adverse impacts on downstream resources. We are not requesting licensing of Permit 11605 at this time since a change petition for Stampede Reservoir has been filed with the SWRCB.

Response to Questions

4. The last extension was approved by the SWRCB on July 7, 1982 and the time for complete application of the water to the proposed use under the permit was changed to December 1, 1992. On November 1, 1992, Reclamation requested an extension of an additional ten years to the current expiration date of December 1, 1992. Reclamation was advised that there was a hold on any actions on the Truckee River due to the current negotiations on the Truckee River Operating Agreement. Reclamation is now requesting that the SWRCB act on this previous request for an extension of time and the enclosed Petition for Extension of Time.

7. 5,000 to 14,000 AF – Interim storage contracts for the Cities of Reno and Sparks for drought reserve.

8. Provides flood control, recreation, a reservoir fishery, and a supplemental water supply to improve spawning habitat conditions on the lower Truckee River for endangered fish species, instream flow and riparian habitat. Stampede offers swimming, boating, fishing, and camping. Picnicking facilities are available at Stampede Reservoir.

12. Water will be fully used when TROA becomes effective.

15. Water conserved is 3,000 to 7,000 acre-feet per annum.

16. Water per capita used during maximum 30-day period is 431 gpd. On an annual average the per capita usage is 231 gpd.

Exhibit 14

Truckee River Operations Model

Lower Truckee Flow Regime Criteria

Memorandum

June 26, 2003

To: Mary Jo Elpers

Subject: Operation Model Incorporation of Lower Truckee Flow Regime Criteria

From: Roderick L. Hall

The operation model uses criteria for selection of lower Truckee Flow Regimes provided by Stetson Engineers. It is my understanding that Stetson Engineers developed the criteria in consultation with the USFWS and others. This memorandum presents a brief summary of the criteria and the operation models use of the flow regime criteria.

Target flow regime criteria utilize March first Stampede Reservoir storage and the forecast of March-July runoff expected to be produced by the watershed located between Independence Lake and Stampede Reservoir. The operation model then manages Fish Water (federal project water) and Fish Credit Water to supply the selected target Pyramid Lake inflows while storing water that is surplus to such target inflows to Pyramid Lake.

Criteria are summarized in the following tables.

A "hydrologic year type" is selected based upon forecast of March-July Stampede inflow.

Criteria for Hydrologic Year Types

Basin between Independence Lake and Stampede Reservoir March – July Flow (acre-feet)	**Hydrologic Year Type**
Greater than 150,000	Wet
Greater than 107,000 and less than 150,000	Above Average
Greater than 76,000 and less than 107,000	Average
Greater than 52,000 and less than 76,000	Below Average
Greater than 30,000 and less than 52,000	Dry
Less than 30,000	Critical

A Stampede "storage level" is selected based upon Stampede storage.

Stampede Reservoir Storage Levels

Stampede March 1 Fish Water and Fish Credit Storage (acre-feet)	Storage Level
Greater than 200,000	Full
Greater than 150,000 and less than 200,000	High
Greater than 100,000 and less than 150,000	Low
Less than 100,000	Critical

Utilizing selections of hydrologic year type and storage condition, a month's flow regime is selected using relationships shown in the following table.

Flow Regime Selection Matrix

Storage Condition	Hydrologic Year Type					
	Wet	Above Average	Average	Below Average	Dry	Critical
Full	1	1	1	1	3	4
High	1	1	2	2	4	5
Low	1	2	3	4	6	6
Critical	2	3	5	6	6	6

As part of the model's calculations, flow regimes are selected each month of March through August. The monthly selections are made as follows:

- Using the above flow regime selection matrix, the operation model makes a flow regime selection on March 1 using March 1 Stampede storage calculated by the operation model and the March 1 forecast of March-July Stampede inflow.

- On April 1, the forecast of March-July Stampede inflow is updated (based upon changes in hydrologic conditions during March) and a flow regime is selected that may or may not be different from the flow regime selected on March 1. The April 1 flow regime selection continues to use the March 1 Stampede storage.

- On May 1, the forecast March-July Stampede inflow is again updated and a flow regime is selected. Again, this continues to use the March 1 Stampede storage and the selected flow regime may or may not be the same as selected on April 1.

- On June 1, the procedure is repeated. The forecast March-July Stampede inflow is updated, the March 1 Stampede storage is used and a flow regime is selected.

- On July 1, the procedure is repeated. The forecast March-July Stampede inflow is updated, the March 1 Stampede storage is used and a flow regime is selected.

- On August 1, the March-July Stampede inflow is "known" by the operation model. A forecast is no longer necessary. Using the "known" March-July Stampede inflow and the March 1 Stampede storage, the flow regime is selected. The regime selected on August 1 is used for operation during the months of August through the following February.

Once a flow regime for the month being analyzed by the operation model has been selected, the operation model sets a target inflow to Pyramid Lake based upon the following:

Pyramid Inflow Targets for Each Flow Regime

(in cfs)

Month	Flow Regime No. 1	Flow Regime No. 2	Flow Regime No. 3	Flow Regime No. 4	Flow Regime No. 5	Flow Regime No. 6
January	160	150	120	110	100	90
February	160	150	120	110	100	90
March	290	220	200	160	160	140
April	590	490	420	350	300	200
May	1000	800	600	530	400	300
June	800	600	500	400	270	170
July	300	300	300	200	150	120
August	200	200	200	200	150	110
September	170	170	120	110	100	100
October	160	150	120	110	100	100
November	160	150	120	110	100	90
December	160	150	120	110	100	90

The above flow target criteria are modified for years with substantial spring runoff. In years when the May and June inflow to Pyramid Lake exceed 1000 cfs, the August and September target inflows are set to 300 cfs.

The operation model calculates the Pyramid inflow that will result from an operation that supplies California's water demands and Orr Ditch Decree demands (Truckee Meadows diversion rights, Water Quality water rights, Newlands Project rights, etc.). If the resulting inflow to Pyramid Lake supplies the target flow, the operation model tries to withhold any surplus inflow (amount that such Pyramid inflow exceeds the target inflow) and accumulate such surplus in storage as either Fish Water (federal project water) or Fish Credit Water.

If the resulting inflow to Pyramid Lake is less than the target flow, first Fish Credit Water and then Fish Water (federal project water) is released from storage and delivered to Pyramid Lake. Such releases are increased until Pyramid Lake inflow equals the target or until there is no more Fish Credit or Fish Water left in storage.

There are numerous operational adjustments related to management of Fish Water and Fish Credit Water that are calculated by the operation model and that have not be described. However, the above discussion describes the basic approach used by the operation model to incorporate the six flow regimes into the model calculations of storage, release, and streamflow.

2005 – 2025

Water Resource Plan

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Table of Contents

Chapter 4 Water Conservation Plan

Water conservation is a vital part of an integrated water resource plan. Water conservation can influence customer utility bills, the need for future facilities or timing of those facilities, drought protection for the community, and the rate at which new resources are needed. There has been a process of developing and implementing a conservation program over the past 16 years, implemented by TMWA and the Regional Water Planning Commission. In developing water conservation strategies for TMWA, there are three overriding planning objectives that must be satisfied.

JPA Conservation Objectives Article 5(i) of the JPA requires TMWA to "prepare, update and oversee the implementation of a water conservation plan for the use of municipal, industrial, and domestic water supplies within the retail service area of the Authority and to carry out the former Sierra Pacific Power Company role with regard to the Water Conservation Agreements with Members."

NRS Conservation Objectives In addition to Article 5(i), TMWA is required to meet NRS 540.131 through 540.151, which calls for a conservation program that provides:

a) Methods of public education to (1) increase public awareness of the limited supply of water in the State and the need to conserve water, (2) encourage reduction in the size of lawns and encourage the use of plants that are adapted to arid and semiarid climates.

b) Specific conservation measures required to meet the needs of the service area, including, but not limited to, any conservation measures required by law.

c) Management of water to (1) identify and reduce leakage in water supplies, inaccuracies in water meters and high pressure in water supplies, and (2) increase the use of effluent.

d) A contingency plan for drought conditions that ensures a supply of potable water

e) A schedule for carrying out the plan

f) Measures to evaluate the effectiveness of the plan.

TMWA is required to adopt a plan to provide incentives to (a) encourage water conservation in its service area; (b) to retrofit existing structures with plumbing fixtures designed to conserve the use of water, and (c) for the installation of landscaping that uses a minimal amount of water. In addition, the plan must be accompanied by an analysis of the feasibility of charging variable rates for the use of water to encourage the conservation of water.

TROA Conservation Objectives TMWA has assumed responsibilities along with RSW to implement the water conservation element of TROA. The TROA Water Conservation Agreement, entered into in July 1996 between PLPT, Sierra, Reno, Sparks, and Washoe County fulfills the PSA requirement Section 29(c) and stipulates that a result of the agreement, the signatories will not make further determination whether such design criteria (10%) is met in ensuing drought situation years. The agreement requires TMWA to spend $50,000 per year for public education and $100,000 per year escalated at 3.5% per year (currently $125,000) for

implementation of landscape efficiency programs, and $100,000 per year for the "Water Watcher Program" with distribution of water saving devices and materials regarding water saving measures. RSW supported the agreement by enacting local ordinances to restrict lawn watering, established laws for lawn watering and prohibiting water waste. When retrofit water meters are at least 90% installed then the requirement to spend on landscape measures and the water watcher program is extinguished as is the requirement to implement mandatory twice-a-week watering.

To satisfy all these objectives outlined above, TMWA's conservation plan has been categorized following the guidelines of the NRS. The plan consists of three elements that address:

- A. public education
- B. other conservation measures
- C. system management.

Conservation measures, target audience, and the primary benefit to TMWA of each measure are summarized in Table 1.

TMWA's Conservation Plan is comprised of the conservation measures currently practiced and described for its retail customers under each of these three sections. TMWA will continue the programs described herein unless required to do otherwise. At conclusion of this chapter the reader will find that the Conservation Plan meets the requirements of the JPA, NRS, and TROA Conservation Agreement.

Table 1: Conservation Measures

	Primary Benefit	Target Audience
A. Public Education		
Irrigation Management Workshops & Certifications	1, 2	Landscape Professionals
Homeowner Workshops	1, 2	Residential Users
Public Education/Presentations, Free Kits	1, 2	Residential, Children
Yard Fitness	1, 2, 3	All Users
Landscape Retrofit	1, 3	Irrigation & Residential Users
Water Watchers	1	All Users
Teacher Materials	2	Children
Pilot Audit Program **	1, 2	Residential Users
B. Other Conservation Measures		
Water Management Programs	1, 3	Large Water Users
Water Rates	1	All Users
Codes and Ordinances	1	All Users
C. System Management		
Meter Retrofit Program	1, 3	Residential
Meter Replacement	1	Commercial and Irrigation
Coordination of Effluent Use	3	Irrigation
Non-Potable Water Service	3	Irrigation
Leaks and System Repairs	1, 4	All Users
System Pressure Standards	1, 4	All Users
Unauthorized Use of Water	1, 4	Construction

** Proposed pilot program run by TMWA for the Regional Water Planning Commission.

1 Reduces water waste
2 Education
3 Peak day savings
4 Minimize operation and maintenance to distribution facilities

A. Public Education

Irrigation Management Workshops and Certifications In February 2002, TMWA initiated a training and certification program for local landscape industry professionals. A two-day training class leading to certification as a Landscape Irrigation Auditor was conducted at TMWA facilities. Those who completed the training were awarded with a certificate of recognition by TMWA. In addition to the Landscape Irrigation Auditor class, a one-day Spanish class was also held. Certificates were awarded in Spanish and English. Due to the success of the classes, the RWPC is funding the class in April 2003 and TMWA will participate in hosting this event.

Homeowner Workshops As an outcome of the Consumer Outreach Group which was formed to gain input for the landscape retrofit program, TMWA has partnered with Washoe County to offer a 'Common Sense Gardening Series' at Rancho San Rafael, a regional park with an extensive arboretum. The arboretum contains examples of low water-use plants and native plants. TMWA is co-sponsoring guided tours of water efficient plants, and seminars including designing and winterizing irrigation systems, turf alternatives, and expert panel sessions.

Public Education, Distribution of Kits and Materials TMWA utilizes every opportunity to promote wise water use, attending public events and distributing information. Organizations can request that TMWA present conservation advice to a specific audience. A residential indoor and outdoor guide provides water savings tips for households, as well as some general usage information about TMWA customers and how to read your meter.

Doorhangers are left at residences whenever TMWA has visited a neighborhood, reminding customers of their watering times, and conservation tips. Bill inserts remind customers of both summer and winter habits that can conserve water, and TMWA uses its billing system to print conservation messages and facts. TMWA's internet site www.tmh2o.com, also provides local conservation facts, tips, and links to professional horticulture sites.

In addition, TMWA is producing a video set that is aired every month on public television SNCAT. One of the first videos made, that is available for public education, addresses conservation. The series is called "Fresh from the Tap". Education on winterizing irrigation systems was also presented on this series in December 2002.

"Yard Fitness" Program Called the "Yard Fitness" program, TMWA sponsors an advertising campaign for mandatory two-days-a-week watering during the summer months, and for a fall 'cool-down' period during the autumn months. The program began as a voluntary program in 1987 to spread the use of water more evenly throughout the week and reduce total weekly and daily water production used for landscape irrigation. The plan calls for watering deeper and less often, and assigns days of the week when customers should water.

Advertisements are placed on the TV, radio, and in local newspapers. TMWA also distributes tips on yard and turf maintenance, and reminders of watering days and times with bill inserts and refrigerator magnets. TMWA's Yard Fitness Program for 2002 was centered on children and a poster contest was run to generate some new ideas and eye-catching pictures for conservation. The Yard Fitness Program is partially mandatory and partially voluntary. Outdoor watering is limited to twice-a-week, and watering between 1pm and 5pm is prohibited. Tips on how to keep a healthy landscape are provided as information.

Landscape Retrofit The landscape retrofit program encompasses promotion of water efficient landscaping in the Truckee Meadows primarily through education. In the infancy of this program, Sierra conducted several studies, engaging outside consultants and forming focus groups to form a program that balances the needs of our community between visually pleasing landscapes and reduction in water use. As a result of these efforts, Sierra produced a guide to Water-Efficient Landscaping in the Truckee Meadows with ideas for yard designs, irrigation layout, plant selection, and maintenance. TMWA has revised the publication and will continue to produce the guide in the future. On March 1, 2003, TMWA will be launching an interactive guide on its website. This interactive guide will provide searchable functions, enabling the customer to individualize their needs from the guide easily.

In January 2002, TMWA formed its first outreach group to enhance the program with new ideas and implement ideas brought out in previous studies. The outreach group recommended helping the school district in taking out large turf areas, and providing homeowner workshops at regional parks. Long-term recommendations included setting water budgets, additional rate tiers to penalize excessive water users, and financial rewards for customers consistently achieving lower than budget water use. During 2002, TMWA hired professional landscape services to remove large turf areas at select schools district sites. For 2002, a total of 77,000 square-feet of turf was removed and replaced with low water use plants, materials, and hardscapes.

Water Watchers TMWA hires at least four temporary seasonal water consultants during the summer months to enforce the two-days-a-week summer watering schedule, provide advice to customers, and help high bill customers reduce their water consumption.

Teacher Materials TMWA currently provides EPA teaching materials for grade school via the Internet site ***www.tmh2o.com***. TMWA is developing a series of modules that meet the Nevada standards for the science curriculum, and will be releasing the first set of materials in the spring of 2003. Modules will be released for school grades over the next two years so that children can be introduced to the subject and build their knowledge base with each grade that they progress through. Teachers will be able to either download the materials directly from the Internet, or order the materials from TMWA.

Residential Audit Program TMWA does not have an official audit program. The water consultants do provide limited audit services where particular cases warrant them, however, at this time, a customer cannot call and request a general home water audit as TMWA does not have staff time allocated to this within the budget for conservation. TMWA does provide low-flow shower-heads, automatic hose shut-offs, and other retrofit devices that can result in substantial annual water savings for households. Free kits are available at special events and upon request.

TMWA and Washoe County have signed an interlocal agreement for TMWA to provide a pilot residential audit program for the summer of 2003. This audit program includes a comprehensive house (indoor and outdoor) water audit to be performed by two auditors. If the program is successful, TMWA and the RWPC may consider extending the program.

B. Other Conservation Measures

Water Management Programs The Washoe County School District ("WCSD") is one of TMWA's largest municipal customers. TMWA has prepared a Water Management Program for the School District to help them reduce water use on their sites, lowering their water bills, and reducing peak day demand for TMWA. Several creative ideas have surfaced including water budgets and use of non-treated water at some sites. Similar water management programs may be prepared for other large municipal customers in the future.

Water Rates Metered customers pay an inverted block structure with two tiers. First tier usage is set at the approximate average indoor water usage of 6,000 gallons per month for single-family residential customers, and based on the average actual use during the months of December, January, February and March for commercial customers. Usage in excess of the first tier allowance is charged a higher rate per 1,000 gallons.

For single family residential metered customers, the first 6,000 gallons per month is charged at $1.56 per 1,000 gallons. Usage in excess of 6,000 gallons per month is charged at $2.43 per 1,000 gallons. Multi-unit residential metered customers are charged $1.56 per 1,000 gallons for the first 4,000 gallons used per month, and $2.43 per 1,000 gallons for usage in excess of 4,000 gallons per month. For commercial customers, the first tier usage, defined as the customer's average consumption level, in gallons per month, during the months of December, January, February, and March, water is charged at $1.76 per 1,000 gallons, and usage above the average level is charged at $2.43 per 1,000 gallons.

TMWA will continue to use a tiered rate structure for metered customers, and will consider increasing the number of tiers in upcoming rate changes. Increased tiers provides greater incentive to the heavy water users to conserve, and also creates revenue with which to enhance existing conservation measures to help those excessive water users.

Codes and Ordinances TMWA is working with local agencies to require landscape designs that make sense in our high desert environment. TMWA also supports the RWPC in their efforts to change the residential hot water plumbing code to reduce pipe size where applicable.

The Cities of Reno and Sparks, and Washoe County (April 2002, July 2002, and March 2002 respectively) have enhanced ordinances that support TMWA's conservation efforts and allow enforcement of penalties to water wasters. The ordinances give TMWA Board of Directors authority to recommend to the local governments that a water emergency be declared with associated watering restrictions[1].

[1] Appendix I contains the water waste and water emergency ordinances.

C. System Management

Meter Retrofit Program The installation of water meters in the incorporated areas of the Truckee Meadows evolved over a period of 15 years. The NRS prohibited cities with populations greater than 7,500 people from the installation and operation of water meters. With rapid population growth in the Cities of Reno and Sparks in the latter half of the twentieth century increasing demands on limited water resources it became apparent that this condition needed to change. In 1979 this condition was changed and meters were installed at commercial customer services and meters began to be installed at irrigation services. In 1985 NRS was modified to allow customers to volunteer for installation of meters and required meters in new homes after July 1, 1988. With passage of AB 900 in 1990, Sierra was authorized to install meters on remaining flat-rate customers and in 1995 the PUCN approved the "Finance and Meter Retrofit Construction Plan".

Per the terms of the PSA which will be incorporated into the TROA, Sierra was required to provide a financing plan for the installation of water meters on 44,651 unmetered, flat-rate water customers (as of November 1994, when Sierra's 1995 WRP was approved). The finance plan meets the requirements of the conditions for effectiveness of the PSA and TROA. Flat-rate water customer counts at that time included approximately 6,330 customer connections where metering facilities had been previously installed and were awaiting the "drop-in" of a water meter.

The financing element of the meter retrofit program has always been a "pay-as-you-go" process. No long-term bond financing has been included to fund this program. On February 21, 1995, the PUCN approved a rule change to Sierra's Rule 17 which allowed Sierra to collect $1,350 for every 1 acre foot of demand dedicated for water service and use the funds for drop-in meter installations, individual customer requests for a meter, or installation of meter-related facilities when required by repairs on customer services due to emergency repair or customer initiated construction. The current retrofit fee of $1,830 per acre-foot of demand was approved in 1999.

Project management of the Retrofit Program initiated setting up the program in early 1995. By June 1995, all the elements—financing, accounting, cash collection and management, personnel, equipment and data tracking were in place to begin installations of meters. By 1995 year-end, 503 customers had volunteered to convert to metered billing.

In 1996, the Retrofit Program tested the efficiency of 'random' installs (for customers who volunteered for a meter) versus systematic installs when groups of meter installations were clustered together based on geography. Tests concluded that the number of installs could average 12 or more per day on a systematic basis as compared to the 1.5 to 3.5 per day on a random basis.

The RWPC sought legislation in 1997 to allow the installation of meters without customers' consent but continue the requirement for customer consent for metered billing. The effort failed and the program continued in 1997 and 1998 with random requests for retrofits. At that time the Retrofit Program began to actively pursue installing metering facilities (meter boxes and setters) in cooperation with Reno, Sparks and Regional Transportation Commission in streets scheduled for reconstruction and/or repaving. Over 4,500 facilities were installed through

systematic installations in conjunction with street repaving in those years. After some reductions in crew size, a three-man crew was able to average 12 or more installations per day in the new areas of Reno/Sparks and average 7 or more installations per day in the older, downtown areas of Reno/Sparks. In 1999 and 2000, the Retrofit Program installed over 6,500 metering facilities in conjunction with street repaving programs.

TMWA assumed the meter financing plan responsibilities and the program is an integral part of TMWA's integrated resources plan. It provides the following benefits and is a necessary part of the Truckee Meadows water resource strategies.

- Encourages efficient use of water resources
- Delays future development of water supplies and/or treatment capacity
- Promotes equity in billing
- The developer-financed plan imposes no cost on existing customers.

In March 2002, as a result of a November 28, 2001 Board action, TMWA began installing meters, and billing on the metered rate whenever a single family residence changed tenant. Meter retrofit funds will finance these installations, but that will result in fewer systematic installations over the coming years. It will take another 5 to 7 years to completely meter the system based on current financing made available through annual meter retrofit fees of over $2 million annually. The Retrofit Program will continue to:

- Cluster random retrofits, both from tenant change-outs and voluntary requests, to achieve better economies of scale
- Retrofit in a systematic fashion, recognizing that the program is moving into older areas of Reno and Sparks that will require more extensive ground work and/or service line repair to install the metering facilities
- Collect money from new development to fund the program
- Install facilities and meters as funds are available
- Retrofit until all flat-rate services are retrofit and ready to convert to metered billing.

Table 2 summarizes the Retrofit Program funding and expenses since June 1995. The total number of retrofits installed (setters) as of this writing is 26,770 with 8,904 meters installed in those setters. 1,329 meters have been dropped-in to pre-existing metering facilities. Of the total customers requiring retrofit, there are approximately 15,180 single-family customers and 2,700 multi-family customers requiring meter facilities and a meter (total of 17,880 which is 44,651 less 26,771) facilities to install and 35,750 meters to install.

Table 2: Retrofit Program Funding Summary

	June 1995 Through September 2002			
	Drop-In Meters ---a---	Retrofits ---b---	Project Management ---c---	TOTAL ---d---
INCOME				
Contributions				$18,486,542
Net Interest Earned				$328,680
TOTAL INCOME				$18,815,222
Labor & Transportation	$377,416	$5,948,908	$489,697	$6,816,021
Facilities Parts & Materials	$1,680,306	$4,502,509	$5,549	$6,188,364
Concrete, Supplies, Fees, Permits	$6,098	$3,198,668	$45,905	$3,250,670
Contracted Installations	$0	$588,063	$0	$588,063
A&G Overhead	$13,304	$400,152	$351,418	$764,874
TOTAL EXPENSES	$2,077,123	$14,638,300	$892,569	$17,607,993
INCOME LESS EXPENSES				$1,207,229
Number of Setters				
TMWA Installed	0	2,345	0	2,345
Sierra Installed	0	16,871	0	16,871
Contractor Installed	0	1,223	0	1,223
Total Setters Installed	0	20,439	0	20,439
Setters Installed prior to 1995				6,332
Total Setters Installed To Date				26,771
Remaining Flat-Rates needing Setters				*17,880*
Number of Meters				
TMWA Installed	175	2,170	0	2,345
Sierra Installed	1,154	4,210	0	5,364
Contractor Installed	0	970	0	970
Total Meters Installed	1,329	7,350	0	8,679
Meters Installed prior to 1995				225
Meters Installed To Date				8,904
Remaining Flat-Rates needing Meters				*35,747*

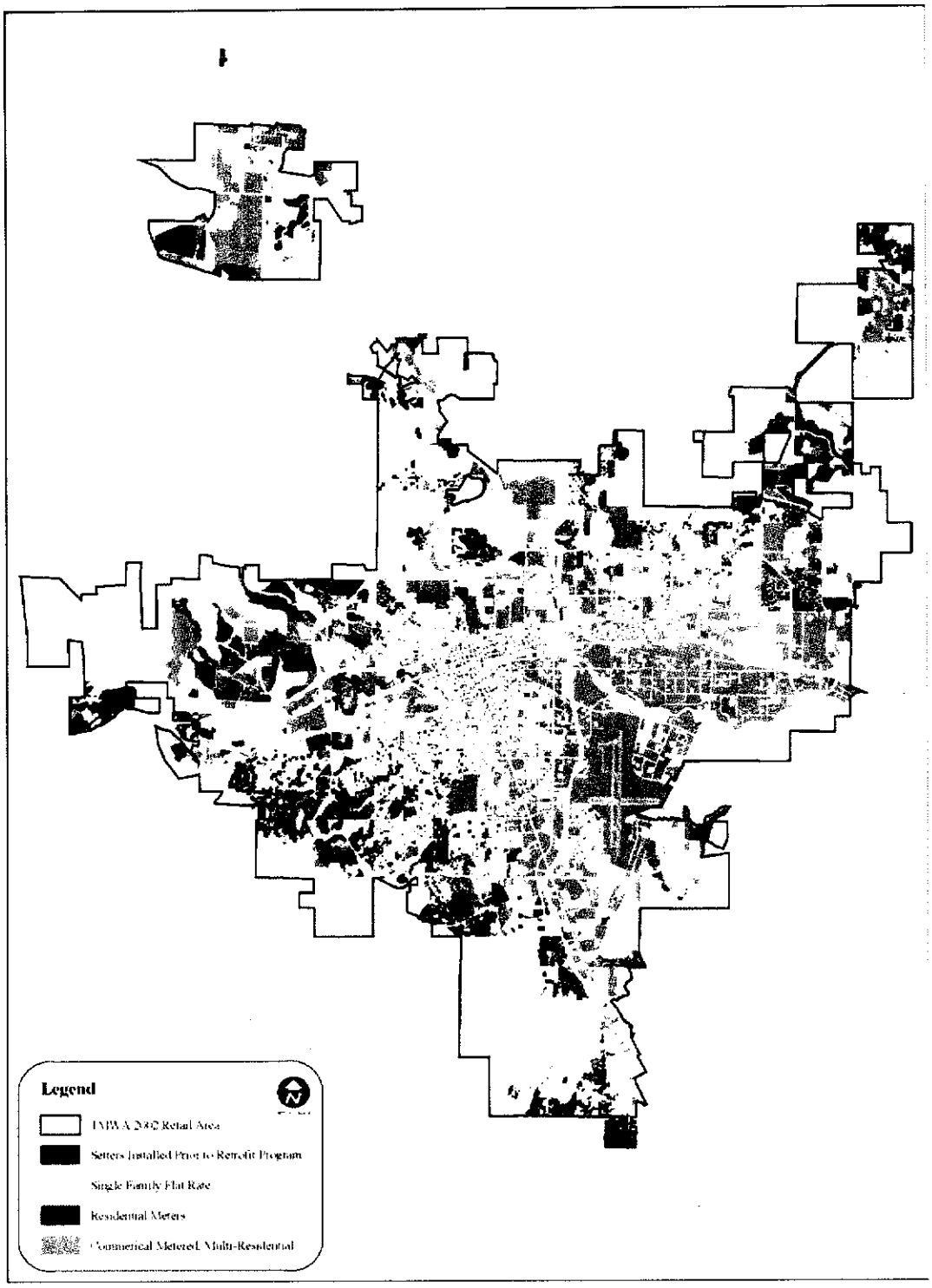

Figure 1: Parcels Requiring Meter Retrofit, June 1995.

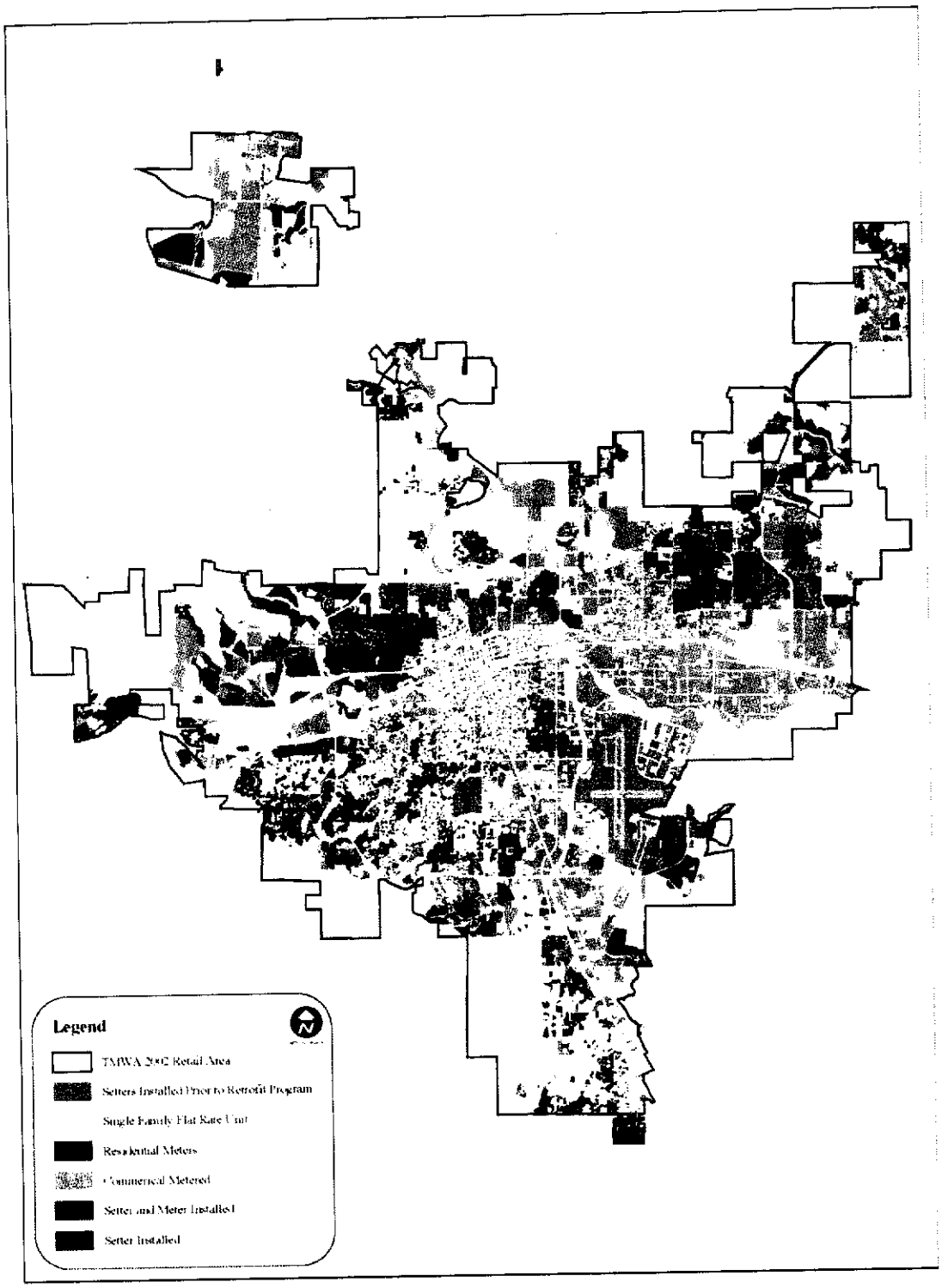

Figure 2: Parcels Requiring Meter Retrofit, June 2002.

The map in Figure 1 highlights in yellow the area where retrofits were required at the start of the program. Figure 2 shows the areas of the service area where setters and voluntary

meter conversions have occurred through June 2002. Retrofits in late 2001 and 2002 declined due to the need to start TMWA as a business and because the areas where retrofits were to occur are older services.

Meter Replacement Since TMWA was created, crews have been targeting large commercial meters that were install in the 1980's. Many of these meters are no longer functioning properly and are a source of lost revenue. An additional benefit of this process is the detection and repair of leaks resulting from the older facilities. This program is also resulting in further reduction of water waste.

Effluent Water Service Co-ordination with Local Agencies Expansion of the use of effluent is a goal of RSW. TMWA has been asked by RSW to ensure that effluent is being applied at suitable sites where the infrastructure is or is planned to be installed while meeting return flow obligations associated with the use of effluent. When new business applications are reviewed by TMWA, verification will be made whether the site applying for municipal, treated water has already been designated or is within feasible range to be serviced by effluent water.

Supplying large turf sites with effluent or other non-potable sources leaves capacity for new municipal demand that requires treated water, enabling the water resources to go further.

Non-Potable Service Effective November 1, 2002, TMWA has "Non-Potable Service" ("NPS") to provide sources of untreated water to sites that can receive treated or untreated Truckee river water or poor quality ground water with minimal capital investment. Non-potable water service is available at a significantly reduced rate than treated water, providing incentive for qualified customers to switch to this service. The service will reduce TMWA peak day demand and lower system capacity needs. It is anticipated that irrigation and construction sites utilizing this service will also conserve water due to the requirement to demonstrate responsible watering practices specified in the contract for this service.

Specific facility needs for each service connection will be identified in the service agreement between TMWA and the customer receiving non-potable service. The recipient of this service will have to demonstrate at each site the ability to tolerate the interruptible nature of this service and/or the potential to switch between treated and untreated water.

Leaks and System Repairs TMWA repairs detected and reported water breaks and leaks as soon as is practicable. Of primary concern is assessing public safety and safety of the work crews, minimal interruption to public and private services, as well as minimizing overtime expenditures. If water leaks are not large, not causing a safety problem, and are reported outside normal working hours, field supervisors will determine the urgency of the needed repairs and schedule repair work accordingly.

When the source of the leak is determined and the appropriate underground locations of other utilities are completed, the crew will excavate the leak site and make repairs. In the case of a leaking poly-butylene pipe, the crew will usually replace the entire service, as this type of pipe has proven particularly prone to leaks. All leaks are reported and entered into a database. TMWA repaired 221 leaks over the fiscal period of 2001-2002, with the majority of leaks and repairs taking place in the summer months when pipes are stressed by increased demands.

System Pressure Standards Engineering design criteria require that a pressure of 40 to 125 PSI be maintained at the customer's connection. Pressures exceeding 125 PSI may increase the possibility of main breaks or accelerate the development of leaks, both on TMWA and the customer facilities. Excessive pressure results in more water delivered through the tap since flow rate is proportional to pressure. This can result in such forms of water waste as sprinkler overspray, faucet splashing and higher leakage flow rates.

Unauthorized Use of Treated Water Use of water without dedicated water rights, or for temporary purposes without TMWA permission, is illegal. Use of fire hydrants as a water source is also illegal under both City ordinances except for City vehicles.

All of these measures outlined in elements (a) through (c) comprise TMWA's plan for conservation in every year through 2025, regardless whether it is a drought or non-drought year. TMWA increases conservation efforts during droughts. The goal during droughts is to further reduce water use in the event successive drought years are experienced. The Drought Plan is a cooperative effort with the Regional Water Planning Commission, the Cities of Reno and Sparks, and Washoe County. Four stages of conservation are identified:

Stage 1. Includes voluntary two-days-a-week watering and is called for when it is predicted that Floriston Rates may not be met all year.

Stage 2. Requires mandatory two-days-a-week watering and is called when Floriston Rates are not met.

Stage 3. Prohibits planting new lawns in the summer and limits watering to once-weekly after August 15. It is called when TMWA predicts it will use more than 3,000 AF from Independence Lake.

Stage 4. Emergency Condition. Measures to be determined as needed. Measures could include no outside watering or even a building moratorium. Stage 4 would be implemented if TMWA were unable to meet customer demands.

With the agreement to satisfy condition 29(e) of the PSA in 1996, RSW agreed to twice-a-week-watering until the system is fully metered. In essence the region is always in Stage 2 of the drought plan. Two-day-a-week watering has certainly reduced peak day demand. The ability for substantial water savings reducing demand 15% to 20% during drought years exists, as was demonstrated during the last drought.

Since the region is effectively in Stage 2 until two-days-a-week watering is no longer mandatory, and since river operating conditions have changed since these stages were made, it is appropriate that review and possible revision of the stages is conducted in the near future.

Summary

This chapter presented TMWA's Conservation Plan in satisfaction of Article 5(i) of the JPA. This water conservation plan is for the use of municipal, industrial, and domestic Water Supplies within the retail service area of the Authority, including continuation of the Water Conservation Agreements with PLPT and TMWA's Members.

This chapter, upon adoption by the Board, will also satisfy the requirements of NRS 540.313 through 540.151, that a conservation plan be submitted by TMWA to Nevada Division of Water Resources.

TMWA has a comprehensive conservation program that is designed to achieve 20% savings through 2025. Water savings will accrue from metering the system fully (10% savings) and continuing conservation programs that together will achieve at least 10% savings in any year. TMWA will continue to fulfill its water conservation agreements with all parties, including its Members. Quantification of savings as a result of each measure is not estimated, as the sum of all measures is designed to achieve 10% savings in all years, not only drought years in satisfaction of the water conservation contingency Section 29 (e) of the Preliminary Settlement Agreement ("PSA"), which was meet by the 1996 Water Conservation Agreement entered into by the Pyramid Lake Paiute Tribe, Sierra Pacific, City of Reno, City of Sparks, and Washoe County.

A detailed description of the progress of the water meter retrofit program was presented with maps illustrating the areas within TMWA's retail boundaries that have been retrofitted, as well as remaining flat-rate customer areas.

TMWA will continually assess the benefits from these measures and may modify programs to reflect new practices and technologies. As needed, TMWA forms consumer outreach groups for input and consumer perspective on the effectiveness of the programs. Success of a program is evaluated differently depending on the type of program, and may be measured by attendance, water saved from repaired leaks, estimated reduction of peak day usage, visibly improved water management practices, and number of children receiving water conservation education.

Figure 3 shows use per service has dropped since 1987 and remained stable since 1994, indicating that TMWA's conservation plan with all its measures work[2]. TMWA has and will continue to seek innovative ways to enhance its conservation program including integration of conservation into system management as evidenced by its non-potable water service, effluent coordination with local agencies, and water management programs.

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[2] This sustained level of conservation occurred even though over 24,500 new residential services were added over the period 1987 to 2001.

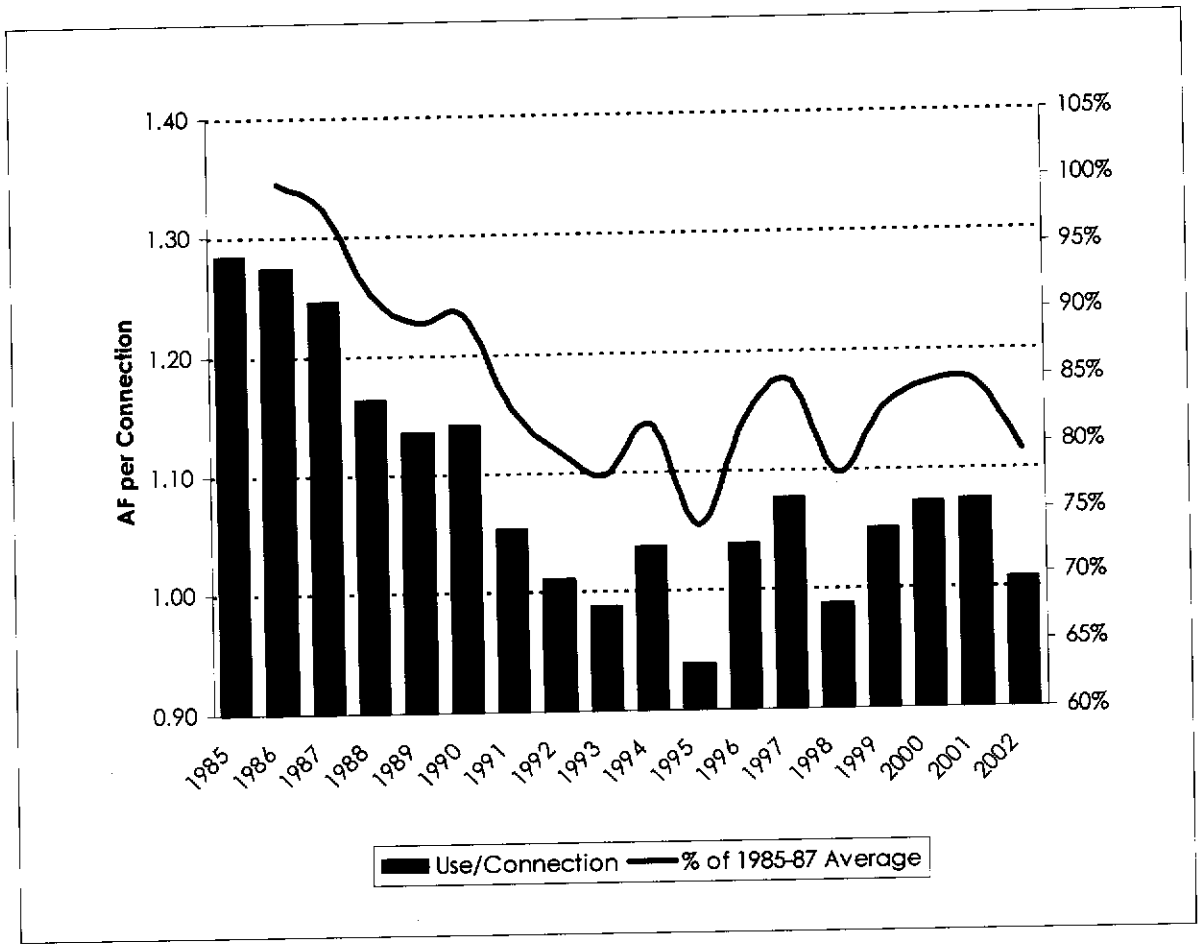

Figure 3: Annual Use per Connection