Squaw Valley Mutual Water Company

Plan for 2015

August 18, 2005

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Introduction:

As the old saying goes, would you get on an airplane where the pilot said "I am going to fly around for two hours and then land?" If you don't know where you are going, how will you know if you got there?

A Squaw Valley Mutual Water Company (SVMWC) Plan for 2015 will provide the background information and describe the important issues driving critical decisions that will influence where we will be as a mutual water company in 2015. This plan is intended for the SWMWC members as they discuss, with board members, the issues before the membership.

Any plan must be a living document in order for it to be useful. New information will become available, new problems will surface, and new ideas will be developed. They will need to be incorporated into the plan to keep it relevant. Members, your comments and corrections are always welcome.

Description of area served by the SVMWC

As described by the articles of incorporation and the bylaws, the SVMWC membership is restricted to persons owning land in:

> all of section 29; the West half and Northeast quarter of section 28; the Northeast Quarter of the Northwest Quarter and the Northwest Quarter of the Northeast Quarter of Section 32, all in Township 16 North, Range 16 East, M.D.B. and M., Placer County, California.

There are 282 parcels in the SVMWC and 261 hook-ups. The remaining 21 lots are vacant, however as of July 2005 eight of those lots are either scheduled to be developed or have construction in progress. There are no commercial hook-ups.

Purposes and principles of SVMWC

The purposes of the SVMWC are to:

1. Distribute, supply and deliver water for domestic use to members of this corporation

2. Be a non-profit corporation

3. Purchase, hold, have, use and enjoy real or personal property necessary for the uses and purposes of SVMWC.

The Goals of the SVMWC are:

1. To provide the highest quality of water at the lowest possible price to the Mutual members.

2. To protect and develop the sources of water utilized by the SVMWC, including the aquifer in the valley as well as the West and East horizontal well sites.

Introduction

A number of major issues are before the SVMWC that need discussion and decisions. The issues need to be discussed in the context of the water resource and what is known about it, its quality and quantity, as well as the operations of the SVMWC, including staffing and financing. The third section contains nine issues that are before the Mutual. The format for these is issue, facts, and options. Finally, there are three different alternative plans suggested. It is expected that only one plan will be adopted by the Board of Directors – either one suggested, modifications of the alternatives, or a new one proposed by a Director or member/customer.

Water Resource

Surface Water

California is a prior appropriation state when it comes to surface water rights. That means that the first person to appropriate water from a stream or river has the ongoing right to use as much water as was historically put to beneficial use. The next person to come along, called a junior right, has the right to the water left after the senior right (the first person) has taken the water historically used and put to beneficial use. First in time, first in right, is another way this western water right is known.

Creeks and rivers get their water from rain and snowmelt, springs, and seepage into the river bottom from ground water.

Squaw Creek is the surface water source that exists in the valley. The Truckee River is also a surface water source, but it is already mostly allocated to beneficial uses like drinking water and irrigation.

The U.S. Environmental Protection Agency (EPA) regulates drinking water quality under the Safe Drinking Water Act and amendments (SDWA). EPA requires all surface water sources used as drinking water to be filtered. That means, that in order to use Squaw Creek, or any other waterway, as a drinking water source, a water treatment plant would need to be constructed to filter and treat the water.

Ground Water

Ground water exists in an aquifer underneath the surface of the earth. An aquifer is made up of cracks and fissures in rock where water has found its way, percolating down through the soil, or the aquifer can be composed of sands and gravels where the water is found in the spaces between the grains. Water flows downhill through the soil to the aquifer and also moves downhill through the aquifer until it gets to a spring where it surfaces, to a river bottom, where it joins the river flow, or comes across a "rock dam" or bedrock, in which case the flow is held back. Water gets into the aquifer from rain and snowmelt percolating through the soil, or from stream beds where the water leaves the stream and flows down into the aquifer.

Aquifers can be mapped and their total volume approximately calculated. If more water is withdrawn from an aquifer then is replaced by the recharge, the aquifer can go dry. This is called mining the aquifer. If the aquifer is mined for a long time, its ability to hold water droplets suspended between the rocks and gravels can be destroyed because the soil layer above subsides, sinks, and the spaces, where water once sat, are lost. Such an aquifer is destroyed and cannot be recharged to the capacity it had previously.

California's groundwater right also follows prior appropriation. So the first person to pump water has the senior right to that water.

SVMWC water right

In 1966, the Squaw Valley Mutual Water Company got its right to ground water in the valley from the Poulsens who were the first to pump water from the aquifer. When the mutual water association was formed to provide water to the housing development, the Poulsens gave it a water right. The Poulsens conveyed to the SVMWC the first and primary right to pump up to 200 gallons a minute from Well #1 and 200 gallons a minute from Well #2. These two wells are both located on the valley floor. (See Map 1).

In the ongoing effort to provide the water needed by the growing development in the SVMWC area, the SVMWC drilled two horizontal wells; west well and east well. In the court settlement of 1995, the Poulsens agreed to convey to SVMWC a 100 foot square parcel of land that surrounds the westerly horizontal well head and convey easements so that the SVMWC could gain access to the well head for operation and maintenance, as well as a pipeline easement so the water could be piped to the water tank. Concurrently with the conveyance of the westerly horizontal well site, the Poulsens delivered all interest they had in the spring found at that site. The Poulsens also agree to cooperate with the SVMWC in obtaining conveyance of the easterly horizontal well site and necessary easements from the

Poulsen Foundation. The court settlement also stated that the SVMWC acknowledges the potential use rights or use rights of the water from the horizontal wells and spring sites and the SVMWC can apply for and obtain from the State of California an appropriative right to the water in the watershed area, the springs, the spring sites and the underground source that feeds the springs.

Water Quality

Water quality refers to the level of contaminants found in native waters. Pure water is distilled water. Surface and ground water contain contaminants that come from plants falling in the water, minerals dissolved from the rocks and soils that the water passes over, contaminants that the rain absorbs as it falls through air containing air pollution (nitrogen, sulfur, arsenic etc), and anthropogenic sources such as chemical spills. The USEPA requires that all purveyors of drinking water test the water being delivered monthly and a yearly report be sent to all customers (members). Below is the latest table sent to the SVMWC members.

The eastern horizontal well water is reported to have a “rotten egg” odor and a reddish slime color at the surface. Water samples were collected in 2002 and sent for analysis. The results suggested that the reported water quality issues at the east well are related to the presence of dissolved iron and manganese. The concentrations of these metals in the sample are above the allowable Maximum Contaminant Level (MCL) for iron (0.3 mg/L) and for manganese (0.15 mg/L). MCLs are the federal drinking water standards established by the EPA. The sulfate concentrations are well below the MCL of 250 mg/L for sulfate. The presence of the dissolved iron and manganese suggests that the water is highly reduced and therefore sulfur could be present not only as sulfate, but as hydrogen sulfide. Hydrogen sulfide produces a “rotten egg” smell at very low concentrations. The presence of iron, manganese and sulfate are common water quality problems and are treatable with standard technology.

For the year 2004, Tables 1, 2, and 3 shows the contaminants that have been found in SVMWC water.

TABLE 1 - SAMPLING RESULTS SHOWING THE DETECTION OF COLIFORM BACTERIA

Microbiological Contaminants (to be completed only if there was a detection of bacteria)	**Highest No. of detections**	**No. of months in violation**	**MCL**	**MCLG**	**Typical Source of Bacteria**
Total Coliform Bacteria	(In a mo.) 0	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or *E. coli*	(In the year) 0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or *E. coli*	0	Human and animal fecal waste

TABLE 2- SAMPLING RESULTS SHOWING THE DETECTION OF LEAD AND COPPER

Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	**No. of samples collected**	**90th percentile level detected**	**No. Sites exceeding AL**	**AL**	**MCLG**	**Typical Source of Contaminant**
Lead (ppb)	15	26.90*	3	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits.
Copper (ppm)	15	.835	0	1.3	0.17	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Sodium (ppm)	Mar. 18, 2003	5.7	4.6-6.5	none	none	Generally found in ground and surface water
Hardness (ppm)	Mar. 18, 2003	58.3	49-71	none	none	Generally found in ground and surface water

***** *Any violation of an MCL or AL is asterisked*

Fecal Coliform are an important indication of the purity of drinking water. These bacteria themselves do not generally cause disease, but they are an indicator of the presence of fecal material that could carry other disease organisms. The coliform bacteria can come from humans, but also wild animals, and domestic animals such as dogs and cats. SVMWC had no water tests that indicated the presence of total or fecal coliforms.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development.

Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure. It is possible that lead levels in your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water.[1]

EPA has established primary and secondary standards for drinking water. The primary standard is based on a health concerns and the secondary standard is based on aesthetics – color and smell. Tables 4 and 5 from the 2004 report show that SVMWC meets all primary standards for clean drinking water. The MCL is the Maximum Contaminant Level set by EPA base on a risk assessment.

TABLE 4 - DETECTION OF CONTAMINANTS WITH A PRIMARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Nitrate (as NO_3) (ppm)	Feb. 4, 2003	0.33	0-0.54	45	N/A	Erosion of natural deposits; Runoff and leaching from fertilizer use; Leaching from septic tanks.
Nitrite (as N) (ppb)	Feb. 4, 2003	ND	ND	1000	1000	Erosion of natural deposits; Runoff and leaching from fertilizer use; Leaching from septic tanks.

TABLE 5 - DETECTION OF CONTAMINANTS WITH A SECONDARY DRINKING WATER STANDARD

Chemical or Constituent (and reporting units)	**Sample Date**	**Level Detected**	**Range of Detections**	**MCL**	**PHG (MCLG)**	**Typical Source of Contaminant**
Color (Color Units)	Mar. 18, 2003	3.33	3-4	15	N/A	Naturally occurring organic material
Odor (Odor Units)	Mar. 18, 2003	0	0	3	N/A	Naturally occurring organic material
Turbidity (NTU)	Mar. 18, 2003	1.57	0.11-3.5	5	N/A	Soil runoff
Specific Conductance (umhos/cm)	Mar. 18, 2003	170	142-190	1600	N/A	Substances that form ions when in water; seawater influence
Iron (ppb)	Mar. 18, 2003	257.3	0-**602***	300	N/A	Leaching from natural deposits; industrial waste

[1] Additional information is available from the Safe Drinking Water Hotline 1-800-426-4791.

Manganese (ppb)	Mar. 18, 2003	4.67	0-14	50	N/A	Leaching from natural deposits
Copper (ppm)	Mar. 18, 2003	.0163	.015-.018	1.0	N/A	Erosion of natural deposits; Internal corrosion of household plumbing systems; leaching from wood preservatives
Chloride (ppm)	Mar. 18, 2003	4.3	0-7	500	N/A	Runoff and leaching from natural deposits; seawater influence
Sulfate (ppm)	Mar. 18, 2003	16.7	13-20	500	N/A	Runoff and leaching from natural deposits; industrial waste
Total Dissolved Solids (ppm)	Mar. 18, 2003	107.7	80-133	1000	N/A	Runoff and leaching from natural deposits

***** *Any violation of an MCL or AL is asterisked.*

Additional General Information on Drinking Water

All 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 the water poses a health risk.[2]

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.

The water supply is constantly monitored for various contaminants. In one out of one samples tested, radon was detected. There is no federal regulation for radon levels in drinking water. Exposures over a long period of time to air transmitting radon may cause adverse health effects[3].

Threats to Water Quality in Squaw Valley Aquifer

The ground water is vulnerable to impacts from potentially polluting surface discharges; for example from melting piles of snow scraped off the parking lot and water collected in storm water detention basins. This water contains heavy metals, grease, petroleum products, asbestos and other chemicals from motor vehicles. There is known groundwater contamination located beneath the parking lot as the result of several petroleum fuel leaks and spills that occurred over the past several years and potential groundwater contamination related to previous and ongoing activities. In addition,

[2] More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

[3] For more information call the National Radon hotline at 1 (800) 767-7236 or visit http://epa.gov.iaq.radon and http://www.dhs.ca.gov.

activities related to construction and operation of the existing and proposed Intrawest development such as surface disturbance, construction dewatering, and storm-water runoff are located in the same area and present both additional risks as well as increasing the risk that the known groundwater contamination will impact the drinking water supply[4]

There have been three significant spills.

1. Plump Jack plume. In 1987 the Inn at Squaw Valley discovered a petroleum hydrocarbon contamination of the aquifer from a leaking underground tank (UST). The contaminated soil was excavated and the groundwater monitored until 1993. In 1996 diesel contamination was identified in the Squaw Valley Ski Corporation parking lot east of Plump Jack and down gradient from the earlier spill. From 1998 to 2002 the diesel fuel contamination remained under the northwest corner of the parking lot. However, the concentration has declined and there does not appear to be significant movement of the contamination south or east toward the wells. However, the concern remains because the rate of decline of the diesel fuel concentration is so rapid that it appears to be dilution, not breakdown. The most recent data (2002) is insufficient to evaluate the movement of the plume.

2. In 1998 a leaking heating oil tank was removed from the opera house. The contaminated soil and groundwater were removed. The known contamination is relatively shallow (less than 30 feet below ground surface) requiring both horizontal and vertical migration in order to impact drinking water wells. The Public Service District (PSD) well #3 is 30 feet down gradient and to the east of the tank site and directly up gradient of SVMWC well #1. However, the hydrocarbons in well PSD#3 are below detection levels. Monitoring wells have been installed between the leak and the SVMWC well. In one of the monitoring wells MTBE, a highly mobile contaminant, was observed in groundwater at depths of 15 to 25 feet east and directly up gradient from SVMWC well #1. Studies have shown that the migration rates of the heating oil plume are variable, but it is possible that the permeability is sufficient to allow both lateral and vertical migration of contaminants. During the construction dewatering (pumping out water that flooded the construction of the underground garage in 2002), the groundwater flow appears to have reversed direction from east to west suggesting that dewatering has the potential to move contamination within the vicinity.

3. Loading Docks: Two former diesel underground storage tanks were removed from the Olympic House Loading Dock area in the southwest portion of the parking lot. Soil and groundwater investigations suggested that the tanks had leaked. Groundwater monitoring at this location in March and May 2000, showed that the diesel concentrations exceeded the California Secondary Action levels. The contamination plume appears to be flowing north. However, McGinley and Associates, consultant to the Squaw Valley Ski Corporation suggest that the groundwater was “most likely” influenced by the dewatering. Based on the potential to migrate, the plume remains a source of groundwater contamination for the drinking water wells.

[4] Geeologica Inc July 12, 2002 memo to Les Wilson.

In summary, groundwater contamination in the parking lot east of Plump Jack and near the Loading Docks remains a concern because it is up gradient of the drinking water wells. The Opera House groundwater contamination is of concern because of the close proximity to SVMWC wells, the presence of highly mobile MTBE and the possibility of moving the ground water contaminate plume. The factors affecting the risk of impacts to the quality of drinking water such as the size of the release and the rate and direction of the groundwater migration have not been quantitatively evaluated, the relatively high permeability of the groundwater aquifer and the uncertainty about the releases indicate a risk. The risk of groundwater contamination from these and other spills in the parking lot could be increased by pumping for dewatering, if the pumping moves the groundwater toward the SVMWC's supply wells.

Water Use

Water use refers to the amount of water that is pumped and delivered to the customers. For the sake of comparison, water use is typically reported in gallons per person per day. Reporting water use in such units encourages water conservation. In 2004, the average water usage per customer was 468 gallons per day[5] . In a mutual system that supports both full time and part time residents, the gallons per customer per day is somewhat misleading since there is no differentiation between time spent at Squaw Valley. In addition, there is no metering, so there is not any way for an individual customer to know how much she/he is using.

In the year 2004, SVMWC pumped an estimated 44,555,918 gallons from the two vertical wells (Well #1 and Well #2) and the horizontal well. Table 6 shows the pumping over the last 10 years. The amount pumped in 2004 was the lowest since 1998. Weather heavily influences how much water is used; in hot dry weather people use more water and water more outdoors; in cool, wet weather, people use less water.

Table 6 Pumping Data for SVMWC Wells (in gallons)

Year	Vertical Wells	Horizontal Wells	Total for Mutual
1995	28,810,355	17,449,800	46,260,155
1996	29,531,320	17,654,400	47,185,720
1997	34,381,000	18,060,800	52,441,800
1998	24,525,890	14,545,220	39,071,110
1999	32,009,500	15,617,200	47,626,700
2000	34,513,660	14,980,300	49,493,960
2001	33,520,900	14,460,900	47,989,800
2002	32.642,299	14,366,300	47,008,599
2003	38,854,120	12,156,200	51,010,320
2004	30,787,718	13,768,200	44,559,918

Source: December 9, 2004 Memorandum #3 from SVMWC.

[5] This cannot be converted to gallons per person per day since we do not know how many persons live in each household.

Mutual Water System

Existing Infrastructure

The three SVMWC wells feed into two water storage tanks. Well #1 was taken off line in spring 2005 and a new 10 inch perforated casing was inserted. The space between the old casing and the new one was filled with gravel. Well #1 is back on line and producing the same as it was before. Well #2 is working well. The western horizontal well is producing high quality water. The eastern horizontal well is not on line. It produces between 6 –12 gallons per minute and has a high iron and manganese concentration that could be brought to MCL standards by diluting with water from the other two wells. However, this is not being done.

One of the two water storage tanks is a welded steel tank with a capacity of 300,000 gallons and a water surface elevation of 6,617 feet. This tank serves the lots on Squaw Summit. It could serve the entire SVMWC through a pressure reducing valve. The 97,000-gallon redwood tank has a water surface elevation of 6,546 feet. The redwood tank provides gravity flow to the entire Mutual service area except for Squaw Summit. The steel tank is in good condition. The wood tank leaks moderately. It could be repaired indefinitely, but it would be difficult to completely stop the leaking. This combined storage capacity provides 120,000 gallons for fire protection (1,000 gpm for 2 hours), 70,000 gallons of equalization storage and 210,000 gallons for emergency storage. Equalization storage is required to meet peak short-term demand, typically between 7 AM and 9 AM and 5 PM to 8PM. Emergency storage is desirable so that water service can be maintained during unanticipated supply outages and amounts to slightly less than one day's usage during a period of maximum demand[6].

The mutual has 27,000 feet of pipe. This pipe can be PVC, asbestos-concrete (a-c) or galvanized pipe. These pipes bring the water down the streets of the service area. The SVMWC pipe delivers water to a box where the pipe is connected to each member's pipe that takes it to the house. This lateral pipe is the responsibility of the homeowner.

Originally, there were 5,650 feet of galvanized 2 inch pipe; 2,100 feet have been replaced and 900 feet removed from service. Of the remaining 2,6550 feet of pipe, 2,200 feet need to be replaced and 450 feet can be abandoned. Of the 2,200 feet needing to be replaced, 800 feet are in the Apache Replacement currently being engineered with replacement planned for 2006/7. The Sandy back line replacement consists of 1400 feet and work on that is planned for 2008/9. There is also 600 feet of 4 inch wrapped steel pipe in Sandy Way west of Navajo that needs to be replaced. This is planned as part of the 2006/7 Apache Replacement. There are no plans to replace the PVC pipe as its useful life is extremely long. There are no plans to replace the asbestos cement pipe unless there is

[6] Fahlen Report 1996 of ECO:LOGIC, Consulting Engineers

evidence of deterioration from acidity. Caustic soda is added to the water to prevent such deterioration. If sections of pipe are show to be defective, they will be replaced as necessary.

Operations

The SVMWC is governed by an elected board of 7 people. Each property that is a member of the mutual water corporation has one vote that is exercised by the home owner or owners. Election of the board takes place at the annual meeting held during the Labor Day weekend.

The board has hired a General Manager, Les Wilson, an Operations Manager Randy Dresselhaus, and an Office Manager Shawna McLaughlin who also handles the book keeping. Legal advice on water rights and other matters is handled by Roger Pierucci, water specialist Don Mooney and real property specialist Jim Hollander. Randy Dresselhaus keeps the wells and pumps operating, handles leaks and other crises for the system.

Finances

The expenditures of the last year form the guidance for expenditures during the current year as adjusted for known changes. The income and expenses for 2004/2005 are shown in Table 8.

Table 8
Profit and Loss- July 2004 through June 2005
(rounded to nearest dollar)

INCOME		
	Capital Assessment	$94,640
	Operating Maint. Assmt	$99,045
	Water Service Dues	$75,910
	Interest Earned	$349
	Members Late Charges	$3,794
	Total Income	$273,738
EXPENSES		
	Maintenance Contract	$30,000
	Manager's Salary	$47,261
	Bank Charges	$84
	Finance Charges	$300
	Consulting Fees	$6,146
	Engineering Fees	$4,720
	Water Testing	$2,137
	Director's Reimbursement	$2,900
	General Insurance	$9,944
	Bookkeeping & Accounting	$22,271
	Legal (Mooney)	$3,541

	Office Supplies & Expenses	$2,381
	Reference Materials	$1,043
	Web Page	$179
	Maint. Mat'ls & Supplies	$3,526
	Maintenance	$14,445
	Water Well Treatment	$1,165
	Property Tax	$7,526
	Franchise Tax	$800
	Fees and Licenses	$1,635
	Telephone	$778
	Utilities	$9,945
	Interest - State Loan	$11,112
	Total Expenses	$183,839
NET INCOME	This money goes to capital improvement	$89,839

The SVMWC must collect from its member sufficient funds to pay operating expenses and capital improvements. There are no other funds available. The Board of Directors sets the fee schedule. The current schedule is shown in Table 9.

Table 9
Summary of Rates for 2005/2006

	Vacant Lot	1 Bath House	2 Bath House	3 + Bath House
Capital Assessment	$338.00	$338.00	$338.00	$338.00
Operating Assessment	$355.00	$355.00	$355.00	$355.00
Water Service Dues	0	$170.00	$200.00	$270.00
Total Bill*	$693.00	$863.00	$893.00	$963.00

* In addition there is a fee of $180 per swimming pool and/or $355 per unit for additional living units.

SVMWC received a loan from the Department of Water Resources for $242,392 to finance two horizontal wells, one 300,000-gallon tank and replacement of certain pipelines. The loan interest rate is 8.1 percent and is payable in semi-annual installments of $10,898. It is amortized over a 28-year period and matures on January 1, 2018[7].

[7] Fahlen Report, 1996, ECO:LOGIC Consulting Engineers

Issues for Discussion

Pipe Replacement

Issue: How quickly should the SVWMC replace the 2 inch galvanized pipe with six inch PVC pipe and how should that be paid for?

Facts: Some of the water pipe that was installed when the subdivision was created was 2 inch galvanized pipe. Over the course of the years, the pipe corrodes, springs leaks, and is also not sufficient to deliver the amounts of water and at the pressure needed by today's homes. Therefore the Board of Directors has decided to replace it with PVC pipe; 6 inches in the streets for fire flow, and 4 inch backlines. About 2,200 feet of galvanized pipe are left to be replaced.

The cost of having operations manager Randy Dresselhaus replace the pipe when it is on private right-of-way is about $100 per foot. When a contractor replaces the pipe on county right-of-way, the cost is about $200 per foot due to the increased complexity of dealing with traffic on the road while undertaking the construction.

The Board has been spending about half of its budget for capital improvements including replacing the galvanized pipe. The total cost of replacing the galvanized pipe is about$600,000 and that can be done in about five years at the current replacement rate.

Options:
1. Continue the practice of having Randy Dresselhaus replace the back line pipe at the rate of about 1000 feet per year and contractors replace street pipe at about 1000 feet per year.

2. Hire a contractor to replace all remaining pipe in one year and pay the additional cost with a special assessment.

Metering

Issue: Should SVMWC install meters for every member?

Facts: At the present there are no water meters installed in the SVMWC service area although meter yokes have been installed in new or rebuilt services. Water fees are assessed on a per lot/per unit basis not on a water use basis. That means that vacation homeowners pay the same amount for water as those homeowners who live here year around. The By-laws and Articles of Incorporation allow for volumetric pricing of water.

Water meters provide additional information that is helpful in leak detection (running toilets) and system efficiency (water metered over water pumped). In 1996, the

cost of installing water meters was estimated at $300 per meter[8] and is probably more today.

Not having meters also does not allow the homeowner to know how much water they are using, and therefore does not provide the information necessary to encourage water conservation. Demonstrating that the SWMWC encourages conservation could become a factor in a discussion about water usage and water rights.

According to AB 2572 passed in 2004, SVMWC is required to install a water meter on services installed after January 1, 1992, but SVMWC is not required to retrofit water meters, nor is required to read any meters installed.

Options:

1. Continue as at present with no water meters.

2. Develop a plan whereby SVMWC would, over time, rebuild the service lines and boxes as necessary, then implement a one-time assessment to cover the cost of installation of the meters in one year.

3. Install water meters as work is done on service boxes and assess the cost to the individual homeowner.

4. Install water meters this year and have a special assessment added to the annual water bill.

Water Shortage Emergencies and Water Conservation Programs

Issue: Can the SVWMC declare a water emergency in time of drought and institute a mandatory water conservation program?

Facts: According to Water Code Section 350, the SVMWC could declare a water shortage emergency under suitable conditions, but only after a public hearing. When the SVMWC Board has declared such a shortage, it shall adopt regulations and restrictions on the delivery of water and its consumption that will conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection (Water Code section 353). However, this would be only a temporary conservation program as contrasted to a permanent conservation program which public companies can institute (Water Code Section 375). Under that section of the Water Code the SVMWC is not defined as a "public entity."

[8] Fahlen Report 1996, 5/8" meter $80; Meter yoke with valve and check valve $55; Miscellaneous material $20; Meter box with concrete lid, $25; Installation, 4 hours@$30 $120; Total $300.

Options:
1. Recognize that the SVMWC Board could declare a water shortage emergency and adopt water conservation regulations that would in effect until the shortage has passed.

2. The SVMWC Board could consider the various provisions found in the Public Service Water Code and adopt them if considered appropriate and within the authority of the Mutual, on a case by case basis.

Water loss/efficiency

Issue: Is the SVMWC system efficient in using the water that is pumped into the system?

Facts: System efficiency is measured by the amount of water pumped divided by the amount of water that is delivered to the customers. The desired efficiency is 100%, but the reality is often less due to leaks in the system. In order to make this efficiency determination, it is necessary to meter the individual customer and SVMWC has, so far, not adopted the use of water meters.

System efficiency becomes important when the amount of water being used becomes an issue. If there is conflict over the amount of water being put to "beneficial use" (a legal term that is part of the water right concept), an entity challenging SVMWC's water right could claim that Mutual's system is losing water due to leaks, is not putting it to beneficial use, and therefore should have its water right diminished.

Options:
1. Install individual water meters so that system efficiency could be measured (see earlier discussion of water meters)

2. Install water meters throughout the system so that a good approximation of water efficiency could be measured.

3. Simply monitor the system and fix leaks as they are reported.

Squaw Creek

Issue: Is SVMWC's pumping of water causing the decline of the volume of water in Squaw Creek with all the concomitant impacts on fish, other wildlife, and plant life? If so, what should SVMWC do about it?

Facts: As best is known at this time, Squaw Valley Creek is connected to the underlying aquifer. That means, that as the aquifer is drawn down, due to pumping, then the amount of water that can go from the aquifer to the creek is diminished and the creek flow is diminished. However, it is not this simple because the Squaw Valley Aquifer has, in some areas, two parts. The upper aquifer is separated from the lower aquifer by a layer of clay.

Clay is generally considered impermeable – that is water passes very slowly, if at all, from the upper aquifer to the lower aquifer. The creek connection is most likely to the upper aquifer. However, in other parts of the valley, the two aquifers are combined as one. The SVMWC generally draws water from the lower aquifer.

Also, it must be recognized that the Squaw Valley Public Service District (PSD) has wells that are also drawing from the Squaw Valley Aquifer. PSD has increased its pumping from the vertical wells in the valley from 127,008,000 gallons (1995) to 141,000,000 gallons (2004), with a high pumping level of 150,543,000 gallons in 2000. From 1995 to 2004, this is an increase of approximately 11%. During the same period, SVMWC pumped from its vertical wells 28,810,355 gallons (1995) with a high in 2000 of 34,513,660 gallons and in 2004, 30,787,718 gallons. This is an increase of about 7 %.

The impact of water usage in the valley on Squaw Creek has to be viewed from a watershed perspective. All of the users have an effect on the creek. In order to solve this issue, all of the parties using water in the valley (e.g. Ski Corp, Resort at Squaw Creek irrigation etc.) need to be part of the discussion of how their use influences the creek. There are a number of techniques that can be used to ensure adequate instream flow. These include use of conservation easements for water rights to be used in Squaw Creek, redirecting Squaw Creek to be a meandering stream through the meadow, and restricting pumping so that the aquifer remains at a high enough level to ensure water flow.

Options:

1. Form a Squaw Creek watershed group of all water users to study the interaction between the aquifers and the creek, and to come up with a plan to preserve the creek.

2. SVMWC investigate the possibility of using conservation easements of their water rights to ensure Squaw Creek water flow (This would be legally precedent setting and highly problematic.)

3. Enter into a legal adjudication of the amount of water in the Squaw Valley and allocate water rights according to seniority and beneficial use.

Threats to SVMWC water supply

Issue: Is there any threat to an adequate supply of water for the SVMWC members?

Facts: The SVMWC water supply is based on a water right of 1966 from the Poulsens as described on pages 5-6. The annual precipitation (snow and rain) in the Squaw Creek watershed varies. Squaw Creek empties into the Truckee River and is counted as part of the water in that river system. The aquifer holds a certain amount of water as defined by its geology, and it is recharged each year from the spring snow melt. The dry months of July and August are when the most water is pumped from the aquifer. If the aquifer were pumped until the water level was very low and the following winter had low snowfall,

insufficient to replenish the aquifer, then the following summer there could be big problems with adequate water supply.

As more housing and hotel rooms come into the valley, more water is needed to supply the total number of customers. More water can come from greater pumping of the aquifer, new water sources - such as gaining an allotment from the Truckee River, capturing water from Squaw Creek during high flows and storing it in the aquifer (Aquifer Storage and Recovery – ASR); and conservation – using less water per customer. Since SVMWC has a fixed number of lots in its service area, it is unlikely that its water demand will increase very much. However, the Public Service District has a lot of undeveloped land in its service area that could increase its demand for water a great deal. The politics of the debate over how much water each customer is using and the right of the private property owner to develop as he or she wishes could become very heated. The Placer County Board of Supervisors will make the decisions about how much development in the valley.

Courts can order an adjudication of water rights by a water master. That process is often used to settle how much water each party in a watershed has a right to use, based on the amount of water in the aquifer according to the best scientific knowledge.

Options:

1. Request an adjudication of the water rights in the Squaw Creek Watershed by a special water master.

2. Develop a collaborative approach to the issue of amount of water use by each entity through cooperative discussion and decision-making. It may be advantageous to hire a professional mediator.

3. Do nothing and see what happens in the next 10 years. The problems are a ways into the future.

Alternative Plans

Things are going well, continue on the same path.

In this plan, SVMWC continues under the same goals and objectives as it has over the past few years.

Objectives:

A. The Mutual shall work within its current budget to replace the older components of the Company's infrastructure with an allotment of approximately $100,000 per year for capital improvements.

B. The Mutual shall make an additional assessment of its membership for capital improvements only in the event that these capital improvements are necessary to preserve the quality of water delivered to the Mutual members and/or will result in overall cost savings to the Mutual members.

C. The Mutual will follow the movement of the diesel plumes in the valley to ensure they do not pollute the drinking water used by the members and will monitor the possible aquifer pollution from melting snow that is scraped off the parking lot and piled near the wells.

The policy of not retrofitting members with water meters nor reading those meters installed will be continued. The cost to the members for water will stay about the same, with perhaps a small rise, less than 10% over the next ten years. The galvanized pipe will slowly be replaced as capital funds become available. The wells and storage tanks will be maintained. SVMWC's senior water right will be protected and action will be taken as necessary to ensure that there is an adequate supply to meet all members' needs. Protecting Squaw Creek's water flow will be a concern, but not a high priority, at least not high enough to change how the SMVWC operates.

Preserve Squaw Creek and the Aquifer

The overarching focus of this alternative plan is to preserve the flow in Squaw Creek and to protect the aquifer. This will require the investment of time and money to restructure the focus of SVMWC to a vision of the sustainability of Squaw Valley as we have known it.

Objectives:

A. The Mutual shall work within its current budget to replace the older components of the Company's infrastructure with an allotment of approximately $100,000 per year for capital improvements.

B. The Mutual will judge its administrative and maintenance actions in terms of protecting the aquifer from degradation.

C. The Mutual will follow the movement of the diesel plumes in the valley to ensure they do not pollute the drinking water used by the members and will monitor the possible aquifer pollution from melting snow that is scraped off the parking lot and piled near the wells.

D. The Mutual shall make a special assessment of its members to install and read quarterly water meters for all customers and will change to a volumetric pricing of water.

E. The Mutual will initiate and participate in with other water users in a watershed effort to restore Squaw Creek to its old meandering path through the meadow and to ensure an adequate flow during all times of the year.

The Board of Directors will meet monthly to work on projections and actions necessary to meet these objectives and report annually on the efforts in a newsletter and at the annual meeting.

Watershed Approach to Water Use

The focus of this alternative plan is to take a more aggressive stance toward the issue of water use in the Squaw Creek Watershed and the protection of the aquifer and Squaw Creek. This alternative is based on the assumption that unless there is deliberative action to bring all water users to the table and begin the discussion, with or without a mediator, nothing much will change.

Objectives:

A. The Mutual shall work within its current budget to replace the older components of the Company's infrastructure with an allotment of approximately $100,000 per year for capital improvements.

B. The Mutual will evaluate its administrative and maintenance actions in terms of protecting the aquifer from degradation.

C. The Mutual will follow the movement of the diesel plumes in the valley to ensure they do not pollute the drinking water used by the members and will monitor the possible aquifer pollution from melting snow that is scraped off the parking lot and piled near the wells.

D. The Mutual shall make a special assessment of its members to install and read quarterly water meters for all customers and will change to a volumetric pricing of water.

E. The Mutual will initiate and participate in with other water users in a watershed effort to ensure an adequate flow during all times of the year for Squaw Creek.

F. The Mutual will initiate and participate with other water users in the Squaw Creek watershed in a collaborative process that works at developing an aquifer management plan to which all parties will agree.

The Board of Directors will meet monthly to work on projections and actions necessary to meet these objectives. The Board will be actively involved in collaborating with the other water users in the Squaw Creek Watershed, keeping the Mutual's members informed as to what is happening, and taking the lead in establishing a sustainable future for the valley.

Summary and Conclusions

If Squaw Valley is to continue as a lovely, mountain valley, in summer and winter, enjoyed by year-round and vacation-home residents, then all water users in the watershed need to face squarely and deliberately, with the best science available, the issue of the sustainability of the water supply. This kind of negotiation is tough, and takes individuals with a common goal, to make such agreement happen. There is likely to be an economic cost to the residents and businesses of such an approach. But without it, the cost of a diminished aquifer, water rationing or some such program, and loss of Squaw Creek as a perennial flowing stream is likely to occur, as well as potentially reduced property values due to uncertain water supplies. In ten years this dire picture may not come to pass, and unexpected occurrences (earthquake, devastating fire, extreme change in transportation costs) could change the picture.

What next?

The SVMWC Board of Directors has put this information and alternative plans before the members/customers in order to facilitate informed decisions about issues before it. A discussion of the alternatives at the annual meeting, and perhaps subsequent Board meetings will lead to adoption of one of the above alternative plans, or modifications of them, or an entirely different alternative that comes out of the discussion.

Come and participate. IT IS YOUR WATER COMPANY AND YOUR FUTURE IN SQUAW VALLEY!

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