

PART I. UTILITY PROFILE

1. **Does your utility provide drinking water only or water/wastewater?** Drinking water only.
2. **What are your water sources, i.e., groundwater, surface water, desalination, etc.?** All Tualatin Valley Water District (District, TVWD) water is purchased from two primary sources: the City of Portland Water Bureau (PWB) – surface and groundwater – and the Joint Water Commission (JWC) – surface water. The District also uses aquifer storage and recovery (ASR) as a secondary source.
3. **Characterize your climate, i.e., arid, tropic, etc.** While there are differing opinions about climate zones, the Pacific Northwest is typically classified by the Trewartha climate scheme as an Oceanic climate. It is characterized by warm, dry summers and mild to cool, wet winters.
4. **Does your utility have watershed management responsibilities? If yes, please describe briefly.** No, TVWD purchases all of its water, so there are no watershed management responsibilities, per se. District staff are active in the Tualatin River Watershed Council and are developing a wellhead protection program (both detailed in Section IV).
5. **Is your utility a wholesaler, retailer or combination?** The District is primarily a retailer. The District wholesales a small amount of water to a neighboring local utility to keep an emergency backup supply line clean by flushing it daily. The wholesale percentage of entire District sales is 0.15% of its 9.3 million CCF annual sales.
6. **Are you a stand-alone utility or part of a municipal organization?** TVWD is a stand-alone domestic water supply district, formed as a special service district under Oregon Revised Statutes ORS 264.
7. **What is your governance structure?** A five-member Board of Commissioners (Board), elected publicly at large to overlapping four-year terms, governs the District. The Board sets policy and appoints a Chief Executive Officer (CEO), who manages the District.
8. **What is your population served?** TVWD serves about 215,000 customers through approximately 60,000 water connections. Population growth in the District has averaged about 0.9% annually over the past 10 years.
9. **What is your annual budget?** The District prepares a biennial budget, summarized below.

Adopted 2013 - 15 Biennial Budget

Personnel Services	\$	30,680,647
Materials & Services	\$	35,451,230
Total Operating Budget		\$ 66,131,877
Capital Outlay/Capital Improvement Plan	\$	49,000,382
Debt Service	\$	7,256,350
Total Capital Budget		\$ 56,256,732
Contingency	\$	9,302,840
Rate Stabilization Account	\$	33,000,000
Inter-fund Transfers	\$	40,255,248
Total 2013 - 15 Budget Appropriation		\$ 204,946,697

TVWD's 2013-15 Biennial Budget received the Government Finance Officers Association's Distinguished Budget Presentation award. To receive this award, the District's budget document met program criteria as a policy document, financial plan, operations guide, and communications device.

10. **Other relevant profile information?** TVWD is located west of the City of Portland, in suburban Washington County, Oregon. The District serves unincorporated urban areas of Washington County and portions of the cities of Beaverton, Hillsboro, and Tigard. The system includes nearly 800 miles of pipe comprised of approximately 95% iron pipe. Roughly 75% of this iron pipe is ductile iron and 25% is cast iron.

TVWD is organized into five departments and the Office of the Chief Executive. The five departments are Customer & Support Services, Engineering Services, Finance & Information Technology Services, Field Operations, and the Water Supply Program. TVWD currently operates with 125 full-time staff.

PART II. SUSTAINABILITY MISSION/POLICY STATEMENT

At TVWD, sustainability is not a program, but an integrated philosophy. The TVWD Board directs policies that place a premium on sustainability and resilience. Additionally, TVWD staff strives to incorporate sustainable ideals, planning, and behavior into all aspects of District work. Triple bottom line thinking permeates everything from procurement of office products to development of a new regional water supply system, as is detailed later in this application.

SUSTAINABILITY POLICY

In 2008, the TVWD Board adopted a formal Sustainability Policy: “to provide our community with quality water and customer service in a manner that protects the earth’s environment, supports a strong economy, and promotes a robust community.” Additionally, TVWD incorporates sustainability and system resilience (frequently related to climate change and seismic events) within its existing policies, organizational procedures, and goals.

STRATEGIC ALIGNMENT

TVWD operates and strategically plans under the guidance of the following vision, mission, and values:



TVWD’s strategic planning focuses on identifying organizational achievements through what the District terms ‘Desired Results’. Infused with sustainability concepts like community service and resource stewardship, the District’s current Desired Results are:

- The Water Supply Meets Community Needs and Expectations
- The Community is Confident in our Water, Service and Employees
- We are Good Stewards of Natural Resources
- We are Good Stewards of our Own Assets and Resources
- We are Good Stewards of our Financial Resources

INCORPORATION INTO DISTRICT OPERATIONS

The District incorporates a sustainability mindset into its Capital Improvement Plan (CIP) project development, system operation, purchases, organizational partnerships, and employee training and practices. Most District efforts support more than one aspect of the triple bottom line and employees consciously work to break down silos and cross departmental boundaries whenever possible. TVWD Board and leadership routinely take into consideration its people, the planet and long-term financial sustainability, all of which take thoughtful planning and a passion for sustainability and resilience. From its mission and policies to the metrics that track progress towards District goals, TVWD emphasizes each element of the triple bottom line, which permeates its business culture, service to the community and commitment to the environment.

PART III. FINANCIAL MANAGEMENT

TVWD’s sustainable financial management enables the District to successfully serve the community now and continue to provide its essential product well into the future. Long before sustainability was the much-discussed topic it is today, TVWD engaged in practices that kept the District financially stable for its customers, staff, and community. Looking to the future, the District continues to use long term financial sustainability as a guiding principle for everything from strategic planning to daily operations.

STRATEGIC PLANNING AND PERFORMANCE MEASURES

The District’s financial management strategies begin with effective long-term and near-term planning. These strategic planning and performance indicator processes reflect a commitment to long-term excellence and sustainability. The District has consciously chosen to develop a strategic process rather than merely a written plan. This ongoing process compels staff to regularly review and update District goals (called Desired Results) and track staff progress toward reaching those goals.

The TVWD Management Team purposefully integrates the strategic planning process with biennial budgeting and other financial efforts. This integration ensures that financial decisions are driven by a strategy that prioritizes the most pressing District issues and channels resources toward those issues.

Each year, the District identifies a series of key initiatives for the coming year. This process involves staff at every level of each department, with the resulting Departmental and District Initiatives formally approved by the Board. Progress on initiatives is reported within the Management Team by a different manager every two weeks, and reported to the Board semiannually. Through this process, the District’s environmental, societal and economic priorities are kept in sharp focus at all times. Figure 1 illustrates the relationships between various elements of TVWD’s strategic planning for the District’s Distribution Team.

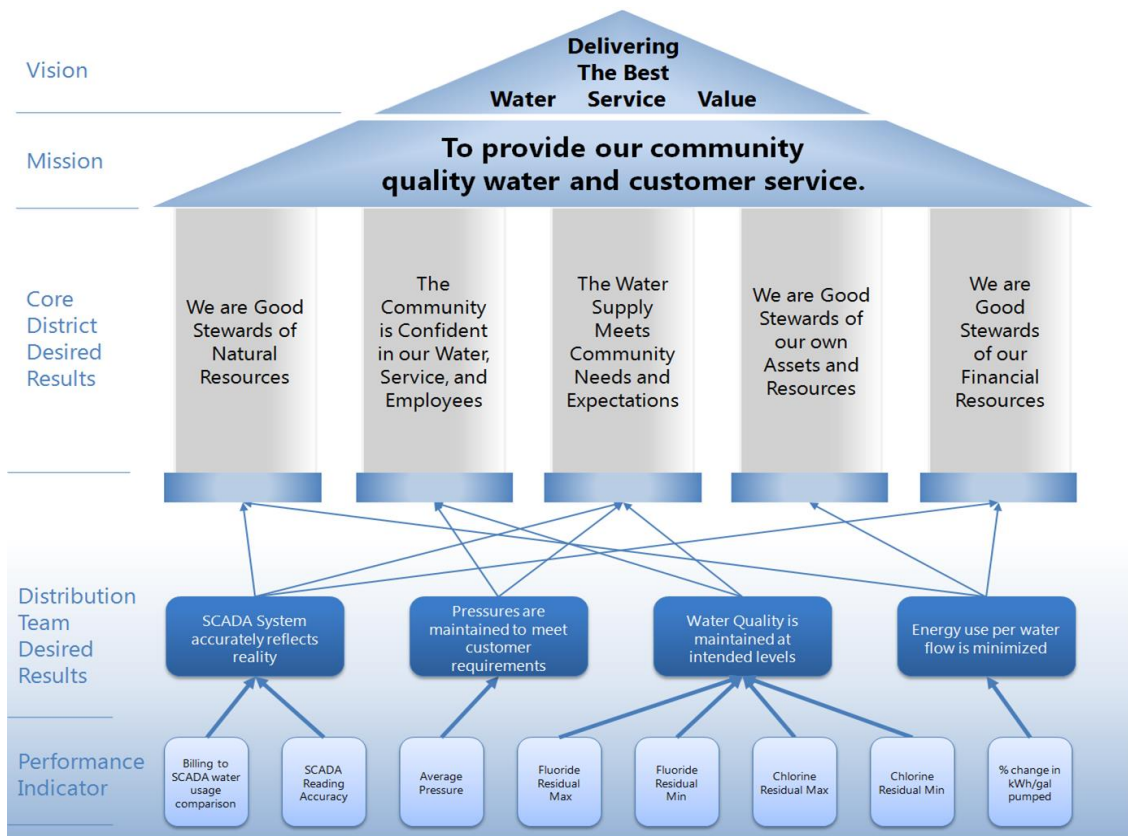


Figure 1. TVWD Strategic Planning Model

WATER RATE SETTING PRACTICES THAT SUPPORT FINANCIAL SUSTAINABILITY

As a self-supporting water utility, the District receives no tax or other non-enterprise revenue to fund its operations and capital improvements. The District's water rates are designed to reflect both the true cost of water and, through its two-tier inclining block rate structure, send an appropriate conservation price signal to customers. Over the last five years, this approach has held residential rate increases to an average of 4.1%.

TVWD operates under a biennial budget, but rates are set annually in accordance with TVWD policy. Annual rate setting results in water rates and charges that track with current revenue requirements, minimize rate shock, and provide a yearly opportunity for customers to offer the District comments regarding their water bills and services.

The District's rate setting process is closely aligned with its financial forecasting practices to provide a long-term view of the annual projected water rate requirements based on the projected operating, capital and debt management needs of the District. By setting rates using the long-term financial forecast, the District's rates and resulting finances are sustainable over long-term infrastructure investment cycles.

Other pertinent water rate setting and financial planning initiatives and practices include:

- Planning for long-term rate increases, with projected 10 to 20-year rate strategies presented to the Board to provide context for their near-term decisions
- Presentation of multiple scenarios to provide the TVWD Board rate increase options based on different levels of operating costs, capital expenditures and revenues
- Development of the District's zero-based approach biennial budget
- Vetting and justifying new staff positions
- Evaluation of operating expenses and equipment/fleet on an item-by-item basis
- Development of a six-year CIP and identification of future requirements beyond the six-year horizon during the budgeting process
- Incorporation of public review of the proposed budget, with public workshops and public hearings by a Citizen Budget Committee and the Board of Commissioners.
- Development of substantial reserves to fund future capital investments and to meet projected bonded debt coverage requirements. A healthy rate stabilization account is also maintained to help mitigate rate increases when bonds are sold.

CAPITAL IMPROVEMENT

TVWD staff takes a holistic approach to identifying and prioritizing projects in the District's Capital Improvement Plan (CIP). This includes being responsible stewards of funding sources as well as considering community and environmental project impacts.

The CIP is funded through a combination of income sources, including water service revenues, partner shares (as with the District's partners in the development of a long-term future water supply), interest earnings, and allowable system development charges (SDCs). Given limited financial resources, staff selects the projects that provide the most value to the District and its community based on established criteria (see Table 1). Projects are identified and scored by a group of managers, engineers, planners and finance staff using criteria designed to reflect all aspects of the triple bottom line – people, the planet, and financial sustainability.

Project scoring is used to help prioritize projects, with work identified as critical/near-term, mid-term, or long-term. Each project is evaluated using all nine criteria and priorities emerge that take into account all aspects of the proposed work. Projects are placed on a projected schedule, and potential cash flow requirements are identified. A number of scenarios are examined to determine the most appropriate CIP package for the upcoming budget and six-year CIP.

Criteria	Ranking Considerations
1 Project Criticality	Mandated projects (e.g. external commitments to partners) time sensitive, ongoing projects
2 Customers Served	Service to critical customers such as hospitals & industries, projects that affect large portions of customer base
3 Growth/Future Demands	Expansion of services and facilities to meet anticipated growth/water demand
4 Water Quality	Current and anticipated water quality regulatory requirements
5 Aging Infrastructure	Replacement of aging infrastructure including known deficiencies, and the installation of pipelines with improved soil corrosion control protection
6 Reliability	Seismic resiliency, reliability of service, redundancy in water system distribution operations
7 Safety & Security	Public and private fire protection, facility security enhancements, worker safety (e.g. confined spaces)
8 Cost Effectiveness	Improvements to distribution system to reduce pumping requirements, horizontal directional drilling to reduce surface street repair and repaving, etc.
9 Environment	Consideration of impacts to natural environment, mitigation of construction impacts to public, incorporation of environmentally preferable sustainability elements into projects

Table 1. CIP Project Evaluation Criteria

FULL COST ACCOUNTING PROCEDURES

To the extent practical, the District utilizes life-cycle costing analysis and the triple bottom line when evaluating capital projects and equipment purchases. Recent examples include:

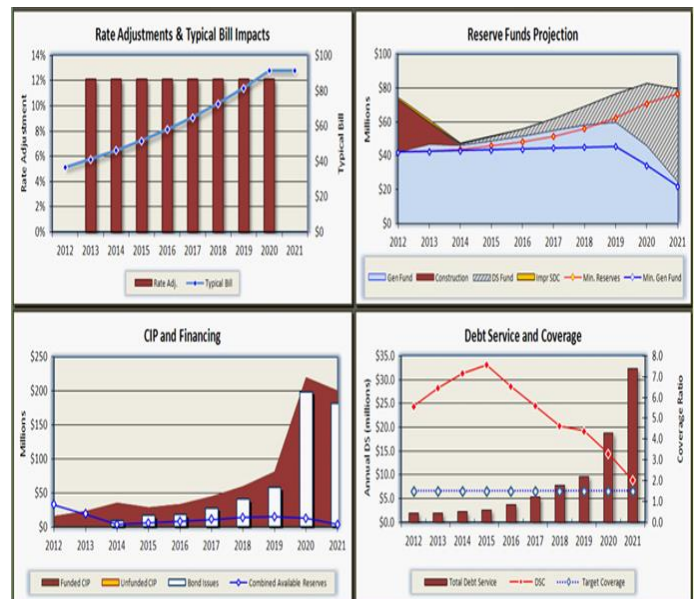
- Purchase of alternatively fueled vehicles, including all-electric vehicles for water meter reading and the potential use of compressed natural gas for heavier fleet vehicles
- Present value analysis of capital cost versus operating costs for sizing and configuration of proposed improvements (e.g., pipe size versus pumping cost of Thompson Rd. transmission mains)
- Analysis of CIP projects for environmental considerations through the Envision™ rating system

Additionally, the District periodically evaluates and updates the costs of its services related to miscellaneous fees and charges, such as meter installation fees and turn-on/turn-off charges, to achieve full cost recovery for those activities.

FINANCIAL FORECASTING

The centerpiece to long-term financial sustainability is the District’s 30-year financial forecasting model, which analyzes revenues, reserves, operating costs, capital costs and debt financing. This long-term timeframe is necessary because the forecast is used to model and plan for the financial effects of a wide range of factors including:

- Multi-year budget and/or contract obligations
- Capital Improvement Plan priorities
- 20-year water conservation (demand management) considerations
- 25-year bonded debt requirements
- 50-year master plan and population growth estimates
- 50-year water supply plans



TVWD personnel update the District’s financial forecast annually to estimate revenue requirements for the upcoming year, and into the future, for rate setting. The forecast is also used to begin the biennial budget development and six-year CIP development process by providing a “big picture” view for the Citizen Budget Committee and Board.

ASSET MANAGEMENT

Asset Management is a key component of moving TVWD toward fiscal, environmental, and social sustainability. In 2009, District staff set out to develop an Asset Management Program (AMP) and immediately realized the need to acquire a data collection system or Computerized Maintenance Management System (CMMS). That system has been obtained and is now being utilized. As it accumulates sufficient data, an AMP will be thoroughly developed as a tool to help make well-informed asset-related decisions. Four elements of the AMP are already in place, as detailed below.

1. COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS)

The District’s new CMMS, in planning for several years, is now online. This software tool enhances TVWD’s asset sustainability and resilience by providing a systematic approach to maintenance planning, budgeting, and workflow, leading to more production and less waste from unnecessary vehicle use, machinery use, fuel and staff time. It also helps organize and analyze data on asset inventory, condition and maintenance activities, optimizing use of District time and materials.

2. LEVEL OF SERVICE GOALS

Recently, staff developed a draft set of level of service (LOS) goals (Table 2). These LOS goals specify service quantity, quality, or duration during normal operations, events that adversely affect District operations significantly, and catastrophic events. A goal such as “Provide sufficient supply and pressure to meet customer demand in all areas of the District”, for example, may require some existing pipelines be replaced with larger ones in order to meet the goal. These goals were developed during a series of collaborative workshops with representatives from all District departments followed by a public meeting with the Board and are used to help guide improvements to the water system.

Reliability and Resiliency	
Normal Operations	Provide sufficient supply and pressure to meet customer demand throughout all areas of the District
Significant Event	Meet most customer demands, including fire suppression requirements, while maintaining a minimum of 20 psi in the distribution system
Catastrophic Event	Meet Oregon Resilience Plan goals (fully by 2064)
Water Quality	
Normal Operations	Meet all current regulatory requirements
Significant Event	Meet all current regulatory requirements
Catastrophic Event	Meet all current regulatory requirements at key water distribution locations
Sustainability and Stewardship	
Normal Operations	Optimize useful life of all District assets Design, construct, and operate system improvements in accordance with District’s Sustainability and Safety Policies Limit system leakage to no more than 10% of water purchases
Significant Event	Optimize useful life of all District assets. Limit system leakage to the extent practical
Catastrophic Event	Provide access to water meeting critical needs of the community Limit system leakage to the extent practical Facilitate recovery of the community over time

Table 2. Level of Service Goals

3. CONDITION ASSESSMENT

By regularly monitoring and recording the condition of reservoirs, pump stations, pipelines, and other assets, staff is able to discover and mitigate possible issues before they result in service outages. This monitoring allows engineering and finance managers to proactively plan for the replacement of key assets.

4. PIPELINE CORROSION CONTROL

Preserving valuable District assets is an essential aspect of sustainability. The District's distribution system includes nearly 800 miles of pipeline with an estimated replacement value of about \$800 million. In 2010, the District embarked on a pipeline corrosion control initiative to address premature failure of ductile iron pipe, which comprises about 75% of the distribution system network. Recent experience has included ductile iron pipe failures due to external corrosion in as little as 30 years, which is far from sustainable.

To better understand the factors contributing to the failure of its pipelines due to external soil corrosion, TVWD staff researched alternative installation materials and industry standards, and conducted a unique pilot study involving installation of various alternative pipeline materials and coatings. The pipe pilot study included installation of five types of pipes and corrosion protection in an area of the system that historically had a high incidence of leaks and highly corrosive soils. The District tracked installation cost and ease of construction and has begun tracking overall effectiveness against corrosion. The District's design and construction standards will be revised to reflect the desired alternatives resulting from this pilot study to cost-effectively extend the life of these vital assets.

OPERATIONAL SAVINGS

It is essential that the water distribution system – at the core of District operations – is planned, designed, constructed and operated in a way that is economically, environmentally and socially sound. Distribution and Engineering staff minimize pumping energy by conducting quarterly energy monitoring reviews, investigating anomalies, and using triple bottom line methodology to design major CIP projects. Employees also contribute to operational savings through cost-effective maintenance of facilities, utilization of sustainable purchasing guidelines, and identification of other ways to reduce expenses by thinking ahead – for instance, minimizing travel, purchasing durable items, and modifying processes.

PURCHASED WATER

Purchased water is TVWD's largest single operating cost and staff continues to refine how water is purchased from the District's sources to reduce purchased water costs. Meticulously optimizing demands on the District's two sources of purchased water has helped decrease TVWD's peaking on the Portland Water Bureau system and resulted in significant savings over the past decade.

BENEFICIAL PARTNERSHIPS

The District provides contracted services to neighboring entities for utility billing, meter reading, and joint fueling operations, as well as management services for a neighboring local water district. These contracts not only improve service quality for customers in common, but also leverage economies of scale and staff expertise for the delivery of these services.

For more than a decade, TVWD has managed and operated the Valley View Water District. At their request, this system of less than 400 service connections is managed through an Intergovernmental Agreement (IGA) so that best practices are utilized and safe, quality water is delivered to these customers in a financially sustainable way.

Contracted services and programs reduce costs to the District's ratepayers and generate other resources to fund District operations. In the current 2013-15 biennium about \$3.1 million will be paid to the District for its contracted services, representing about 5% of TVWD's operating budget.

LEVERAGING RESOURCES

The District makes extensive use of partnerships and contracted services to leverage available resources. For example:

- Partnership with Special Districts Association of Oregon for insurance coverage. TVWD received a longevity credit of \$16,000; savings in workers compensation coverage of more than \$20,000 savings, and injured workers return to work program benefits of more than \$5,000
- Bank rebate from use of procurement cards of \$23,000 per year
- Annual savings in audit preparation of \$21,000 through use of in-house financial statements
- Substantial expense reduction from partnership with local utility to process customer payments

Effective uses of contracting strategies allow the District to take advantage of economies of scale and reduce duplication of effort.

CAPITAL PARTNERSHIPS

TVWD's commitment to sustainability includes long-term partnerships that leverage resources for project savings. These projects, most notably the Ridgewood View Reservoir/Pump Station and the Willamette Water Supply Program (WWSP), are discussed in Sections IV and V.

FINANCIAL PERFORMANCE

Perhaps the best indication of the effectiveness of TVWD's commitment to sustainable financial management is reflected in the District's bond rating. In May 2010, Moody's Investor Service changed the District's bond rating from Aa3 to Aa2 in conjunction with the migration of U.S. public finance ratings to Moody's global rating scale. Standard & Poor's (S&P) upgraded the District's Bond rating in Fiscal Year 2009 from AA- to AA+ and affirmed this rating in 2012.

S&P cited these factors in support of affirming the District's AA+ rating in 2012:

- Very strong debt service coverage (7.11 in FY 2011)
- Strong cash position
- History of raising rates annually

The District's bond ratings are among the highest available to non-tax supported public entities, and reflect the District's strong operational performance and commitment to long-term and sustainable financial planning.

PART IV. ENVIRONMENTAL STEWARDSHIP

TVWD is a nationally recognized leader in environmental stewardship, garnering sustainability-related awards from the City of Portland, Washington County, US Green Building Council, the US Environmental Protection Agency (USEPA), the American Public Works Association (APWA), and others. The District's strong commitment to triple bottom line management has integrated environmental stewardship into District's management of water supply, water quality management, water conservation, energy conservation, recycling, and resilience.

CLIMATE CHANGE AND RESILIENCE

TVWD's water supplies rely on a combination of surface water flows and stored water, with nearly all of the supply during the critical summer season being provided from stored water. TVWD is currently implementing multiple strategies to climate change adaptation.

1. DIVERSIFICATION OF WATER SOURCES

Over the last two decades, TVWD has made over \$50 million in capital investments to complete a supply system that currently consists of three independent sources including the PWB (surface and groundwater sources), JWC (surface water from two storage reservoirs), and an ASR well to help meet peak season demands. Drawing from multiple, independent sources adds to the resilience and reliability of the District's supply system while limiting the consequences of climate change.

Recognizing that surface water supplies in the Pacific Northwest may be especially vulnerable to climate change (longer, drier summers that will increase demand on stored water sources), the TVWD Board has recently decided to secure a new source of water from the Willamette River. This additional diversification of the District's water supplies will be completed in partnership with other water providers in the region by the year 2026 at a total capital cost of over \$800 million. The Willamette source is especially resistant to short-term changes in precipitation due to the abundance of storage afforded through 13 federal storage projects in the Willamette basin.

TVWD's strategy of maintaining a portfolio of (ultimately) four independent supplies (PWB, JWC, Willamette and ASR) will provide TVWD with flexibility in responding to future conditions including anticipated population growth. These improvements also enhance the resilience of the District's supply system and ability to recover from other potential disasters such as earthquakes, landslides and/or contamination events. By partnering with other regional agencies for the planned improvements, the project also increases the overall ability of the region to adapt to climate change.

2. RESILIENCE TO SEISMIC EVENTS

The CEO of TVWD recently co-authored the Water and Wastewater System portion of the Oregon Resilience Plan. This is a landmark report detailing the priorities required to survive and recover from a magnitude 9.0 Cascadia earthquake and tsunami. The plan's goal is to help Oregonians learn what to expect from the state's infrastructure should that disaster strike, and to propose the level of infrastructure reliability that a resilient state should provide. Recommendations highlight ways to close the gap between expected and desired performance. More details may be found at: http://www.oregon.gov/OMD/OEM/ospac/docs/Oregon_Resilience_Plan_Final.pdf. TVWD's CEO and his co-author were honored for this leading-edge work with the AWWA Recognition for Service to the Water Profession award.

TVWD is also creating a multi-faceted plan for seismic resilience that includes not only infrastructure improvements, but also disaster recovery of IT systems, employee preparedness, water supply, and best business practices.

3. DROUGHT PLANNING

The District follows its Water Management and Conservation Plan when responding to drought situations. This document, approved by the Oregon Department of Water Resources, includes a comprehensive inventory of TVWD's existing water rights, conservation plans, and curtailment plans.

4. GREENHOUSE GAS EMISSIONS REDUCTION

An annual inventory of TVWD's greenhouse gas emissions is undertaken using USEPA's Climate Leader protocol to understand the emissions created directly and indirectly from District operations (Figure 2). The District began purchasing Renewable Energy Credits (RECs) to cover a portion of its electricity usage in 2003. Since 2006, TVWD has purchased RECs and carbon offsets for all of its

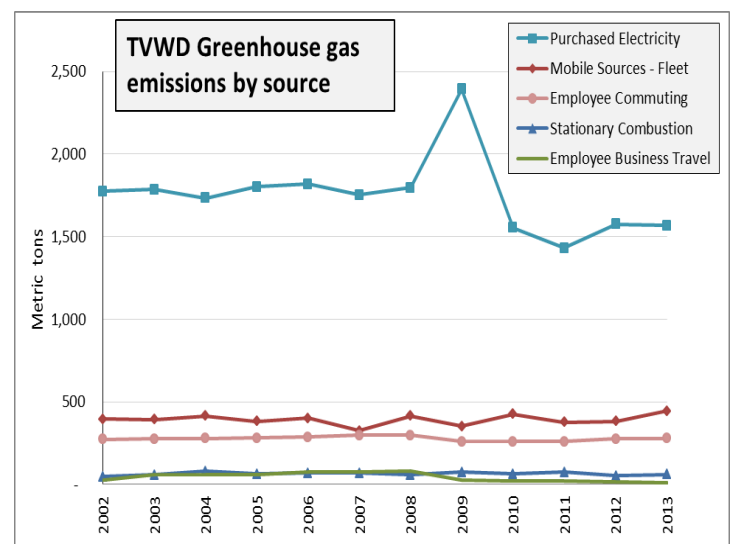


Figure 2. Trend of TVWD Greenhouse Gas Emissions

purchased electricity, Scope I and II greenhouse gas emissions, and some Scope III (optional) emissions – commuting, business travel and the emissions from the biomass portion of the biodiesel (B20) used in virtually all District diesel vehicles. This continued purchase has resulted in the District's inclusion in the USEPA Green Power Partnership's Leadership Club since 2006.

INSTITUTE FOR SUSTAINABLE INFRASTRUCTURE PROJECTS

TVWD is currently utilizing the Institute for Sustainable Infrastructure's (ISI) Envision™ Sustainability Rating System on two major CIP projects. This encourages staff, as well as consultants and partners, to integrate social, environmental and economic considerations into the design and implementation of District infrastructure. This involves interactive partnerships with affected residents, community groups, the local Parks and Recreation District and others.

The District's first major project with ISI, the Ridgewood View Reservoir and Pump Station, is currently seeking Gold Certification. TVWD's stewardship ethic is embodied in this project's commitment to sustainability. The Envision™ Rating System is being used to evaluate project design, construction and management. Options for Ridgewood View were selected after evaluating a full range of alternatives, based on consideration of the existing water system configuration, available property and ownership, site constraints, and different viable tank design and construction methods. In addition to environmental criteria, the process for determining the final alternative considered criteria including cost, neighborhood and community impacts, parks compatibility, and constructability.

The District's future source of supply, the \$800 million dollar Willamette Water Supply Program (WWSP), is a joint effort between TVWD and other key partners. All partners have also agreed to utilize Envision™ on this project to make sure it is sited and designed with an appropriate balance of environmental, social and economic considerations. This is an extremely large regional undertaking and it is a major accomplishment to evaluate this through the Envision™ system. It will involve much discussion with the community and the many additional stakeholders involved, but all parties believe the projects will be improved for having been thoughtfully designed and constructed with attention to the triple bottom line.

WATER SUPPLY

TVWD purchases all of its water from other suppliers and currently has no sources within District boundaries. The District uses master planning and annual tracking to plan for future water sources sufficient for demand growth and a resilient supply system to resist future stresses. TVWD's Board and management, realizing that multiple source options are essential to provide reliable water supplies for customers now and in the future, have approved the pursuit of a third source of water for the District, the Willamette River. This will augment the water received from PWB and JWC.

TVWD also uses Aquifer Storage and Recovery (ASR) wells to help balance demands and thereby minimize financial and environmental impacts. By storing treated water in suitable aquifers during winter months when supply is abundant, and withdrawing it from storage during the summer, TVWD is able to reduce summer demands on its purchased water sources. Initially a great deal of electricity was needed to inject water into the well, but TVWD engineers quickly found a way to inject it strictly through gravity, so no additional energy is required to fill the aquifer, further enhancing the sustainability of the system.

Although TVWD currently purchases all of its water, the District recognizes the importance of protecting watershed viability. Essentially all of the District's service area is within the Tualatin River watershed, so TVWD has maintained an active membership in the Tualatin River Watershed Council (TRWC). The TRWC, which represents 23 stakeholders, links the watershed's land, water and people. The organization brings together all interests in the basin to promote and improve watershed health. This watershed stewardship organization promotes and encourages sustainability and watershed-wise practices throughout the Tualatin River watershed.

TVWD has been an integral part of the TRWC's success, leading or participating in such efforts as the Education and Outreach subcommittee, Native Plant Sales and presentations at Council meetings to educate members regarding

drinking water issues. All of TVWD's time is considered an in-kind donation, which goes toward fulfilling grant requirements and securing additional grant funding for TRWC.

WATER QUALITY MANAGEMENT

The Water Quality program is crucial to the District's important place in its community. Without safe, clean water as a finished product, the District would fail at its mission. Since many water providers play a part in accomplishing this goal, District staff meets regularly with the Joint Water Commission (JWC) and Portland Water Bureau (PWB) Water Quality groups. Source water protection, treatment, and state and federal regulatory requirements compliance are reviewed and discussed during these meetings. In this way the District communicates its needs to its water providers and is able to compare distribution system experiences with other water utilities.

TVWD's Wellhead Protection Plan for the District's ASR wells helps prevent contaminants from reaching drinking water. Key elements include an external spill response protocol for ASR sites (collaborating with key partners, such as Washington County and the local Fire District), an internal framework for wellhead protection (identification and assessment of onsite hazards), and outreach to the community encourage understanding of the importance of protecting these sites.

TVWD has also adopted numerous water quality protection measures in its everyday operations. These measures include: employing an oil and water separator to treat runoff from the fleet's wash rack and fueling station; use of bark bags and sand-filled bicycle tires to direct runoff; dechlorination during hydrant flushing using environmentally friendly ascorbic acid; use of dilute hypochlorine for disinfection instead of more dangerous gaseous chlorine; use of food grade lubricants and cleaners for water system components; use of straw, jute matting and silt fences to control construction erosion; and use of diffusers to prevent soil erosion during pipeline flushing operations.

WATER CONSERVATION PROGRAMS

TVWD has been a leader in the Pacific Northwest in aggressively implementing conservation strategies including public education, rebates for water-efficient appliances, youth education, and participation in other outreach opportunities.

Educating adults and children about the importance of wise water use is an especially important part of being good stewards of natural resources. At the conclusion of the 2013-2014 school year, about 6,100 students in 37 different schools attended one of TVWD's nine educational presentations about water. Staff members also regularly participate in school-sponsored and community events such as science fairs at elementary schools, employee Earth Day events for local businesses like Tektronix and Intel, the annual Children's Clean Water Festival, and workshops hosted in the District's Water Efficient Demonstration Garden and at District headquarters.



The District's annual *Kid's Conservation Calendar* receives hundreds of entries each year. This contest gives students a chance to learn and think about water efficiency and take action through submitting pictures showing water conservation opportunities, twelve of which are published as a community calendar. It is a popular and positive way to share information about TVWD and increase water use awareness among youth.

TVWD is an area leader in rebates to encourage high efficiency fixtures and conservation supportive behaviors. The District has maintained its commitment to effectively promote and measure conservation program results and continues to fund incentives that provide positive payback for both the customer and the District. Toilet retrofits, according to District data, are the single best thing a customer can do to save water indoors. TVWD's focus on toilet retrofits and landscape irrigation improvements has resulted in staff consistently exceeding conservation goals.

A cornerstone of the conservation program is the District's partnership with the Regional Water Providers Consortium (RWPC), which provides media messages in the Portland metropolitan media market and a comprehensive water conservation website (<http://www.conserveh2o.org>). This disperses a general conservation message to a large, diverse group of people, which TVWD personnel can then build upon.

TVWD is an active WaterSense Promotional Partner and regularly promotes the USEPA WaterSense label in outreach material, including the Water Words newsletter distributed with utility bills and the Business Industry and Government (BIG) newsletter that focuses on commercial customers and partners. TVWD conservation staff collaborates with the RWPC and Portland General Electric to present *Water Efficient Landscape* and *Water and Energy* workshops to both residential and commercial/industrial customers.

Conservation is actively promoted both externally and internally. TVWD's water rate structure consists of a fixed charge and a two-tiered inclining block volume charge to encourage efficient water use among all customers. In its own operations, the District has taken steps to reduce water consumption by reducing water levels in tanks prior to tank cleaning, thereby saving water previously wasted to the sewer system. TVWD also has installed an electronic controller for its headquarters irrigation system that uses evapotranspiration information to efficiently water landscape plantings.

ENERGY EFFICIENCY AND ENERGY CONSERVATION

TVWD has worked to reduce its energy use for more than two decades. In 2009 and 2010, District staff participated in a yearlong energy efficiency assessment and improvement program through the Energy Trust of Oregon that resulted in many operational changes and an initial District-wide reduction of 705,000 kWh. These changes (many associated with pumping water to customers) continue to provide cost and energy usage reductions and reinforce staff's awareness of energy management best practices.

Many endeavors, large and small, are undertaken to use energy as efficiently as possible, and they often involve the distribution infrastructure. Programming has been revised to optimize pump management, set points on fan and heater timers have been set to minimize unnecessary usage, pump strategy has been modified to utilize variable frequency drives or verify that pumps operate at the most efficient place on their pump curve as much as possible.

At the operational level, the District engages Planet Footprint, a company that provides 'energy and environmental scorekeeping', which is the process of continuously and independently monitoring and reporting the energy, water and environmental performance of an organization. Their quarterly reports help operational staff and management understand current usage and make informed decisions regarding potential improvements.

In February 2010, TVWD's first solar production was recorded at District headquarters from panels installed on a 7,700 sq. ft. warehouse. Additional panels on a dewatering facility roof came online in April of 2011, and together have resulted in roughly 450,000 kWh of renewable energy production to date. The solar installation provides about 19% of the energy used at the site. The cost per kWh paid for this solar generation is currently about 4 cents less per kWh than energy purchased through TVWD's electric utility, resulting in a 2013 savings of approximately \$4,800, and a total savings since initial installation of \$15,000.



The District also generates hydroelectric energy through its Center Street generating station, producing more than 230,000 kWh in 2013. The facility has been in operation for more than two decades, but improvements in 2013 led to an increase in generation of 250% over the previous five-year average production. Electricity can now be generated at this facility virtually year round.

WASTE REDUCTION AND RECYCLING

In 2006, as a further reflection of TVWD's commitment to preserving the environment, the TVWD Board approved the creation of an innovative Employee Recycling Benefit. Under this program, employees may bring to work any items that they are unable to recycle from their homes and that the District is able to recycle through its usual practices. This provides an efficient way to keep larger amounts of materials out of landfills. Since then, the District has continued to increase the number and variety of items it can recycle. Employees actively participate in this program by recycling:

Commingled recycling of phone books, tin, paper, cardboard, certain plastics, aluminum & milk cartons		
Glass	Plastic bags	Lawnmowers
Block Styrofoam	Electronics & cell phones	Tires off wheels (4 per year)
Packaging peanuts, air bags	Uniforms	Used motor oil
CDs/DVDs/Floppy disks	Pallets	Rigid plastics
Printer & toner cartridges	Batteries (including car batteries)	Meter components
Fluorescent & incandescent lights	Shoes	Metals

Table 3. Summary of TVWD's Employee Recycling Opportunities

In addition to the above, used oil is stored in an onsite tank to be burned for shop heat during the winter. Oil filters are recycled for the remaining oil and metal. Antifreeze is recycled. Because of the many efforts in the fleet/shop areas, in 2007 the District received its first certification from EcoBiz, an Oregon program recognizing businesses that reach high standards in automotive-related environmental protection.

The District also maintains a database of all chemicals used by employees. This database is audited regularly to confirm that the list of chemicals is current. This reduces unnecessary employee exposure and waste accumulation, and provides an opportunity to evaluate whether the chemicals are still in use or need to be disposed of/recycled. Though there are few instances of this, a procedure is in place to review all new chemical substances requested by employees to evaluate any environmental and safety issues of the proposed chemicals and to provide an opportunity to research more sustainable alternatives, if appropriate.

In addition, TVWD staff members participate in a variety of community opportunities such as pharmaceutical take backs, recycling events for specialized items, tree plantings, beach cleanups and myriad educational opportunities.

PART V. SOCIAL RESPONSIBILITY

TVWD provides an undeniably vital product to the community and is committed to further supporting its community by providing this product in a socially responsible manner. With its foundation in the District's sustainability policy, this includes active public involvement, participatory planning in capital projects and partnerships that engage TVWD as an important part of the community.

ORGANIZATIONAL PRINCIPLES

TVWD cultivates a culture of behaving in efficient, responsible, and sustainable ways. Its staff understands that sustainability is key to increased resiliency and reduced risk, as well as to preserving the Earth for future generations. And resiliency – an ability not just to recover from hits but to avoid problems altogether – is vital in guiding the District through future challenges and opportunities.

For the District to serve its community, it must be an integral part of the community. In providing its vital public service, the District is “open for business” 24 hours a day and 7 days a week. This includes after-hours telephone contact, televising all regular board meetings, and participation in community events such as the Washington County Fair, neighborhood association meetings and Neighborhood Watch Night Out.

The District is also a long time member of the Vision Action Network, a private nonprofit organization committed to the promotion and support of collaborative community-based problem solving. In 2008, this involvement led to its founding, with ten other public entities, the Partners for a Sustainable Washington County Community (PSWCC). TVWD staff chaired the group for its first two years, housed the group’s first coordinator for three years, and remains extremely active in PSWCC’s administration and activities.

Aesthetics and livability are improved through noise monitoring and mitigation for new construction, and facilities that are consciously designed to fit well in the area/community. The District’s water-efficient demonstration garden, for instance, has become a community resource for water-wise planning, planting and maintenance.



Since 2001, TVWD’s Customer Emergency Assistance Program has been successful in assisting customers who were in danger of having water service shut off as a result of non-payment. In the last four years alone, more than 650 people have been granted assistance through this program. Board members, employees and customers voluntarily contribute to this fund, in addition to District budgeted funds.

PARTICIPATORY ORGANIZATIONAL CULTURE

The District directly employs 125 people and indirectly employs several hundred more who are involved in the design, construction, rehabilitation, and maintenance of its growing water system.

District staff are developed and trained with a strong knowledge of their jobs and of the District’s operations as a whole. This keeps the District’s work and employees safe, secure, legal and operating within all applicable regulations. This solid foundation of culture, job skills and sustainability enables employees to look to the future and proactively plan for safer, more environmentally sound solutions that lower risk in many areas.

The District is committed to developing a diverse workforce. Recruiting for new employees consistently includes outreach to ethnic communities, emphasis on local hiring, accommodation of disabilities, and use of accessible application materials.

PROMOTING EMPLOYEE INVOLVEMENT IN THE COMMUNITY

Further reflecting TVWD’s cultural values of inclusion and sustainability, District employees are given opportunities to engage in various volunteer and community activities on District time. Examples include the opportunities below.

- Tualatin Valley Water Employees, Inc. (TVWE) is a registered 501(c)3 organization that is committed to supporting its community. Through this organization, employees hold an annual auction to raise funds to support a wide array of community organizations.
- District employee volunteers regularly collect litter and debris from a two-mile stretch in front of District offices.
- District employees regularly participate in neighborhood associations, the “Night Out” program, County Fair and other community events where water-related information can be disseminated.
- TVWD provides employees paid time to participate in the Start Making a Reader Today (SMART) Reading Program at a neighborhood elementary school.

RISK MANAGEMENT

Safety is a cornerstone of the District’s values. TVWD’s full-time Risk Management Coordinator is responsible for continuously enhancing a safe and healthy workplace that is compliant with OR-OSHA and other state and federal rules and regulations. The District has been a leader in application of *Safety Thru Design* principals, including participation in a Water Research Foundation Project which documented some of these practices developed at TVWD.

To assist in the ongoing identification and mitigation of risk, TVWD has established a dedicated position to deal with issues of security and emergency preparedness. TVWD’s emergency response plan is an all-hazard plan – a living document that is periodically updated due to lessons learned and a changing operational environment. The emergency response plan deals in part with communication to the public and is exercised annually with various partners, including suppliers and state and local agencies.

PUBLIC OUTREACH & INVOLVEMENT

TVWD’s commitment to public involvement and outreach includes a wide variety of strategies and efforts.

TVWD is an active member of the International Association for Public Participation (IAP2), an international leader in public participation, and subscribes to IAP2’s Core Values for Public Participation for use in the development and implementation of public participation processes. These values are listed at: <http://c.ymcdn.com/sites/www.iap2.org/resource/resmgr/imported/CoreValues.pdf>. Every District project is tailored to identify specific stakeholders and to consistently build on the District’s commitment to sustainability and social responsibility.

CAPITAL PROJECTS

Many areas of capital planning and project delivery include public involvement by sharing project information with neighborhood residents and businesses, other community stakeholders, and agency partners and soliciting their feedback on facility design concepts.

The goals for public involvement in capital projects include:

- Communicating complete, accurate, understandable and timely information to the public throughout the project
- Reaching out to, and soliciting input from, potentially affected and/or interested individuals, businesses, jurisdictions and organizations
- Understanding current community use of the properties and community concerns regarding construction and future property configuration
- Incorporating public input into final design, decision-making and approvals

This approach is focused on bringing the key stakeholder participants together to develop collaborative solutions to these challenges.

Two of TVWD's ongoing reservoir projects exemplify this strong commitment to public and stakeholder engagement in the planning and design of public improvements. Planning for replacement of the Garden Home Reservoir and the new Ridgewood View Reservoir and Pump Station incorporated an extensive public process.

The Garden Home Reservoir replacement project includes replacing two existing half million gallon steel tanks with one new two million gallon pre-stressed concrete reservoir. The project initially drew strong opposition from the surrounding neighborhood due to concerns about potential aesthetic impacts. This initial opposition could have jeopardized approval of the project's land use permit. Through extensive and active public engagement, including numerous public meetings and meetings with neighborhood associations, opportunities for enhanced coordination, project planning, landscaping, and aesthetic mitigation were identified. The project included routine updates on a project-specific website (<http://gardenhomereservoir.org/>) as well as routine construction updates and neighborhood newsletters. This led to TVWD's ability to empower the neighbors with decision making ability around the selection of the final color of the tank. This highly successful and socially responsible project was put into service in June 2014.



The Ridgewood View Reservoir and Pump Station project replaces an existing five million gallon partially buried reservoir with a new eight million gallon conventionally-reinforced reservoir and addition of a new 11 mgd pump station. This project is located adjacent to an existing Tualatin Hills Park and Recreation District (THPRD) park. TVWD immediately engaged THPRD as well as neighborhood groups to plan park improvements to be developed in coordination with the new reservoir and pump station. After multiple public meetings and publicly-requested refinements, the resulting design was so well received that the design team received a standing ovation from the project neighbors. This project included use of the Envision™ tool (described on page 10) and included a project-specific website (www.ridgewoodviewwater.org). The resulting project includes numerous neighbor-initiated improvements including a rain garden, two tennis courts, walking paths, improved parking, ADA access improvements, vegetative screens (rather than bare concrete walls), and up to \$500,000 in park improvements.

All of the District's new facilities – including reservoirs, pump stations and pipelines – are designed to the highest, most recent seismic standards since they are vital emergency facilities for firefighting, hospitals, and public health. New facilities are designed with long-term operational safety in mind. This long-term vision of system improvements is yet another facet of TVWD's commitment to community resilience.

WATER SUPPLY PROGRAM IMPROVEMENTS

TVWD and the City of Hillsboro are partners in developing the Willamette River at Wilsonville as the District's future supply source. The Willamette Water Supply Program (WWSP) will serve TVWD's projected water supply needs through the year 2064 and beyond. Other water providers in the region are also looking at the possibility of future participation in this program.

As part of the process leading up to the decision to develop this new water source, TVWD conducted an extensive public outreach program that used a variety of tools to provide customers with an opportunity to learn more about the District,

its water supplies and the options under consideration to meet the District's long-term water needs. Outreach to individual customers, organizations and businesses included events and public workshops, direct mailings, presentations at community meetings and public forums, an online video, emails and paid advertising. This created awareness and support for the project, and garnered feedback that will be invaluable to constructing the project in a way that addresses stakeholder concerns to the greatest degree possible.

Implementation of this new regional water supply source will occur over the next decade and will incorporate a wide array of outreach and information strategies. A program website has been established (www.ourreliablewater.org) along with GIS-based tracking of all public contacts, and the formation of a Willamette Water Supply Council, which will include periodic meetings with elected officials from each of the seven agencies participating in the program.

PROVIDING USE OF LAND FOR PARKS AND RECREATION

TVWD has built and maintains a strong partnership with the local parks entity – Tualatin Hills Parks and Recreation District (THPRD). Currently TVWD and THPRD are partners on five combined sites that include recreational facilities. The District works with THPRD to provide areas for recreation, while economizing and making it possible for District facilities to be built on or below park facilities. This relationship leverages community resources by providing the dual benefits of water storage and meeting recreational needs in our community. Additionally, property located next to District headquarters is owned by TVWD, but loaned indefinitely to THPRD for use as ball fields.

SHARING FACILITIES

In addition to sharing of land for construction and park access, facilities (where feasible) have been designed to incorporate multiple uses such as tennis courts or soccer fields atop reservoir structures. TVWD also utilizes rooftop areas for solar panels, which in essence shares the land with power generation utilities.

LOCAL AND REGIONAL COLLABORATION

TVWD is a founding partner in the Regional Water Provider Consortium (RWPC). The need for regional water supply coordination brought RWPC members together in 1997. Today, the group consists of 22 water providers and the regional government, Metro. The group promotes cost-efficient use, wise stewardship, and protection of water resources with the goal of meeting the values of its collective members and the needs of future generations.

RWPC also serves as a “conservation clearinghouse” for water providers in the region through a multi-media marketing campaign. Their website (<http://www.conserveh2o.org/>) includes extensive conservation resources, school assembly programs, community events and partnerships, and public education outreach.

PUBLIC EDUCATION ON WATER ISSUES

TVWD provides many types of information to customers regarding their water system. TVWD distributes the *Water Words* newsletter that contains a variety of information every billing cycle, and an all-encompassing *Water Quality Report* once per year. This report not only provides details about the quality of their water, but also gives them general information about where their water comes from and how TVWD gets that water to them. Business, Industry and Government (BIG) customers receive specialized newsletters three times per year. The *Year in Review* publication summarizes TVWD's accomplishments in the past fiscal year, and the *Kid's Calendar* blends colorful elementary school drawings with water facts and tips. In addition, TVWD offers a variety of brochures, fact sheets and other handouts on a wide variety of water topics, many of them translated to Spanish.

PART VI. CONTACT INFORMATION AND APPLICATION CHECKLIST**Association of Metropolitan Water Agencies*****2014 Sustainable Water Utility Management Award*****Application Checklist****Complete and Return with Application**

Application contact

Name Cheryl Welch

Title Strategic Planning Coordinator

Organization Tualatin Valley Water District

Phone 503-848-3012

E-mail cheryl@tvwd.org

E-mail the completed application in pdf format to peterson@amwa.net.

E-mail a 300-word summary of the main achievements described in the application (in a .doc file) to peterson@amwa.net.

Press contact name Frank Reed

Phone 503-848-3058

E-mail frankr@tvwd.org

E-mail a high-resolution head and shoulders color photograph of the utility executive to be featured with the award, identified with name and title.*

E-mail two or three high-resolution, color photos of activities, personnel or facilities related to the main achievements, with descriptive captions.*

* Please send high-resolution, 300 dpi photos in jpg format to peterson@amwa.net. Please **do not** embed photos in word or pdf files. Contact Carolyn Peterson (202-331-2820, peterson@amwa.net) if you have questions.