Appendix B
Service Area Policies

APPENDIX B: SERVICE AREA POLICIES

SUPPLY POLICIES

QUALITY PROTECTION

- Aquifer protection is one of Tumwater's highest priorities.
- Tumwater will further aquifer protection by continuing to refine its Wellhead Protection Program for its wellfield capture zones and by developing an Aquifer Protection Program for those areas outside of the Wellhead Protection Program.
- The goal of Tumwater is to maintain water quality at a level that meets or exceeds the water quality in its natural state, as well as state and federal standards, limiting chemical treatments to the extent practical.
- Tumwater will pursue and maintain an active role in protecting the regional environment by participating in regional studies to identify and protect critical areas as defined in the Growth Management Act (GMA).
- To protect public health and reduce the risk of bacteriologic contamination, Tumwater will disinfect the water system using 12.5% sodium hypochlorite.

QUANTITY

- Tumwater will comply with all laws and regulations relating to use of authorized quantities of water.
- Tumwater will pursue the acquisition of water rights to meet or exceed saturation development conditions.
- Tumwater will pursue the capability to produce maximum instantaneous withdrawal rates as designated on relevant water rights through infrastructure design and improvements.
- Tumwater will strive to mitigate for all known impacts of new water rights to the extent practical for the preservation of habitat, instream flows and senior water right holders.

CONSERVATION

- Tumwater will promote the efficient and responsible use of water and will conserve during a water shortage.
- Tumwater will implement and maintain a conservation plan based on Water Use Efficiency Law regulations.

- Water supplied for irrigation purposes is considered interruptible during emergencies or other periods requiring implementation of the Water Shortage Response Plan.
- Tumwater will coordinate with regional partners to promote water use efficiency to the greatest extent practical.
- To maximize beneficial uses of potable water, Tumwater will promote the use of reclaimed water through the development of policies and standards as reclaimed water becomes available for use.
- To minimize water theft, Tumwater shall provide access to automated or card-operated bulk water fill stations and consider placement of hydrant locks which guarantee regional access for emergency services.
- Water system losses greater than 10% of total production require prompt assessment of loss and the development and implementation of a leakage/loss control plan, as necessary based on the assessment.
- Concurrent with the water system planning process, the City shall evaluate and adopt water use efficiency goals addressing production, distribution and demand.

REGIONAL POLICIES

- Tumwater will participate in regional supply activities, including reclaimed water use, as good stewards of resources, within the constraints of cost, reliability, quantity and water quality.
- Tumwater will supply all customers within its identified service area, which includes the Urban Growth Area (UGA), in accordance with the Coordinated Water System Plan (CWSP) and other City policies and standards.
- In the context of coordinated water system planning, Tumwater will work with other regional water service providers to set standards for priority of service and construction or fees in lieu of construction for new water systems in the UGA.

CUSTOMER SERVICE POLICES

ANNEXATIONS

- Tumwater will continue to be the priority service provider for properties annexed into the City of Tumwater without existing municipal supply.
- Annexations do not affect the Priority of Service determination outlined in the CWSP as these outlying areas are already incorporated into Tumwater's designated water utility service area, as defined by the CWSP.

- Existing water service providers in areas annexed into Tumwater shall be approached by the City of Tumwater regarding acquisition or the possibility of a satellite water system arrangement, as staffing and financial resources permit.
- City water will not be mixed with water supplied by other systems unless under emergency conditions and if the water supplied by others meets or exceeds federal and state and local water quality standards.

SATELLITE MANAGEMENT

- Tumwater will implement, as feasible, the satellite system management strategy presented in the Comprehensive Water System Plan.
- Tumwater is the priority service provider within its service boundary as designated by the 1986 CWSP, updated 1996 or most current version.
- As priority service provider, Tumwater accepts responsibility for providing water service within its service area in the future in accordance with the CWSP.
- Upon request, Tumwater may assist water systems within its service area by operating them as satellite systems provided they meet conditions for satellite service imposed by the City. The City's preference for satellite management is to acquire the system and operate it as a distinct utility until such time as the system can be connected to the City's main distribution network.
- Tumwater will operate satellite systems by taking one or more of the following actions: assume ownership, perform operations and maintenance under a contract, or provide a variety of technical assistance activities.

TEMPORARY SERVICES

- Compliance with standards may be deferred for temporary water use, so long as the temporary use does not negatively impact the health and safety of Tumwater customers or the environment.
- Temporary uses are interruptible in the event of a water emergency.
- Temporary services do not include hydrant meters or services for construction activities.

EMERGENCY SERVICE

- Compliance with standards may be deferred for emergency water use.
- Policy criteria may be waived for emergency service.

- The Public Works Director shall determine the need for an emergency water declaration and implement measures outlined in the Water Shortage Response Plan (WSRP) as needed. The Mayor shall confirm and declare a water emergency in accordance with the WSRP.

FINANCIAL POLICIES

- Tumwater will use a rate-setting process which considers the standards established by the American Water Works Association (AWWA) and the Environmental Protection Agency (EPA).
- Considerations for rates and charges established by Tumwater will include:
    - Cost-based rates which recover current, historic, and future costs associated with Tumwater's water system and services.
    - Use-based rates to promote conservation of the resources and limit water waste.
    - Residential rates shall be charged using an inverted block structure to promote water use efficiency.
    - Equitable charges to recover costs from utility customers commensurate with the benefits they receive.
    - Adequate and stable source of funds to cover the current and future annual cash needs of the water utility; and
    - Easy for the customer to understand.
- Tumwater's current customers will pay the direct and indirect costs of operating and maintaining the facilities through user rates. In addition, the user rates will include debt service incurred to finance the capital assets of the utility attributable to existing customers.
- New customers seeking to connect to the water system will be required to pay a utility connection fee for an equitable share of the historical cost of the system's capital improvement plan. Connection fee revenue will be used to augment the Capital Improvement Program.
- New and current customers will be charged for extra services through a separate ancillary charge based on the cost to provide the service. Ancillary charges can increase equitability and increase operating efficiency by discouraging unnecessary demand for services by the customers. Revenue from ancillary charges will be used to finance annual operations and maintenance.
- Tumwater will maintain information systems which provide sufficient financial and statistical information to ensure conformance with local, state and federal requirements and which help support rate-setting policies and objectives.

- There are two widely used, generally accepted methods for determining the total revenue requirements of a water utility: the cash basis and the utility basis. The water rates may be developed using the cash basis, which is a method commonly used by publicly owned utilities.
- The user charges must be sufficient to provide cash for the expenses of operation and maintenance of the Water Utility, including infrastructure replacement.
- A Working Capital Reserve will be maintained to cover unanticipated emergencies, bad debts, and fluctuations in cash flow. The total reserve shall be no less than $100,000.
- Customers shall be classified as single-family, multifamily, commercial/industrial, institutional (governmental agencies, including City of Tumwater), and irrigation.
- The criteria used to project demand and size facilities will be based on population and employment projections developed by the Thurston Regional Planning Council.
- For customers residing outside the city limits, surcharges will be applied. Customers outside of the City limits may eliminate rate surcharges by providing the City of Tumwater with a Power of Attorney agreement to petition in favor of annexation.
- Tumwater shall employ a conservation-based rate structure that escalates based on quantity of water used to encourage the efficient use water resources.
- Tumwater provides fire protection services in addition to water services. A separate cost allocation for services and infrastructure relating to fire protection services shall be established.
- Tumwater's standard fees and charges shall be calculated for the service area as a whole. Service location will not cause the rate to vary. Special rates may apply to areas managed independent of the City's primary system, such as but not limited to satellite management areas or other temporary services not connected to the City's main distribution network.
- Tumwater will charge customers for extra service through a separate ancillary charge based on the cost to provide the service. The charges should be reviewed regularly and updated regularly based on increases in the Consumer Price Index for the Tumwater area.
- The term "connection fees" refers to the one-time fee paid by a property owner when initially connecting to the water system. This fee, as established by Chapter 13.04 of the Tumwater Municipal Code, was developed in order for new customers to bear an equitable share of the historical cost of the system, including but not limited to, infrastructure development, distribution and treatment and water rights acquisition.
- Tumwater will charge for the actual cost of services and equipment required to make a new connection (hookup fee, drop-in fee and/or meter charge).

FACILITY POLICIES

This section details the planning criteria used to establish an optimum performance level and a standard of quality and quantity for the water system.

PRESSURE

- A minimum of 40 pounds per square inch (psi) at customer meters shall be provided during normal demand conditions and 30 psi during peak hour demand, not including a fire or emergency.
- A maximum distribution system pressure of 130 psi will be provided during normal demand conditions, not including pressure surges. Customers receiving service pressures over 80 psi should follow the provisions of the Universal Plumbing Code (UPC) for pressure reduction with individual pressure reducing valves (PRVs).
- During fire conditions, the minimum pressure at the fire location is 20 psi in the water main (also ISO criteria).
- Pressure ratings for pipe and appurtenances, generally 200 psi, will be taken into consideration when designing new facilities and upgrades to existing facilities.

VELOCITIES

- Under normal conditions, the velocity of water in a transmission main should be less than 5 feet per second (fps).
- Under emergency conditions, such as a fire, the velocity of water in the water mains shall be less than 8 fps.

SOURCE OF SUPPLY

- It is Tumwater's policy to supply all customers within the service area from the City's supply sources, through system acquisition or new source development.
- The City shall consider saturation planning for supply sources so that future water resource limitations can be handled effectively and the impacts of system limitations can be minimized.
- The capacity of the source of supply, including wells, booster stations, and transmission mains, shall be sufficient to meet maximum day demand and to replenish storage used during a fire within 72 hours after a fire. The supply system should be capable of meeting this criterion with the largest supply source out of service.

- All production sources shall be appropriately secured to minimize trespassing and vandalism to the extent practical.
- Primary sources shall have automatic power back-ups to minimize service interruptions and source losses in the event of an emergency.

STORAGE

- Storage within the distribution system must be of sufficient capacity to supplement transmission supply when peaking demands are greater than the maximum day demand rate (equalizing storage) and still maintain sufficient storage for a fire or other emergency condition.
- Equalizing storage must be stored above the elevation which yields a 30 psi service pressure to the highest service in the zone.
- Fire flow storage must be stored above the elevation which yields a 20 psi service pressure to the highest service in the zone.
- Standby storage established by DOH will be provided. The quantity of standby storage provided will comply with these requirements as closely as possible, considering economic factors and other design criteria.
- Sufficient fire suppression storage will be provided so that should a fire occur, the supply capacity from the reservoirs will be sufficient to fight the fire while meeting the peak rate of the maximum day demand.
- Sufficient storage for a fire condition is the product of the fire protection water demand and the required duration.
- Location of storage facilities will satisfy the following requirements:
    - Minimize fluctuations in system pressure during normal demands.
    - Maximize use of the storage facilities during fires and peak demands.
    - Improve the reliability of the supply for the water system.
- All storage locations shall be appropriately secured to minimize trespassing and vandalism to the extent practical.

TRANSMISSION AND DISTRIBUTION

- Where practical, transmission and distribution mains shall be looped to increase reliability, decrease head losses, and protect water quality.
- All mains shall comply with the generally recognized design criteria from the AWWA as follows:

- In residential areas, the grid of distribution mains should consist of mains at least 8 inches in diameter. Where the layout of the streets and the topography are not well adapted to the above arrangements, or where dead-ends and poor looping are unavoidable, 10-inch will be the minimum main size.
- In non-residential areas (primarily commercial and industrial areas) minimum water main sizes shall be 12 inch.
- Looping requirements and spacing of facilities will be recommended by the Public Works Department and established by the Development Services Department.
- Additional considerations may be necessary for on a case-by-case basis dependent upon projected water demand and fire flows for the proposed development.

- All new construction shall be in accordance with Tumwater standards for additions to the water system.
- Distribution system design assumes that only adequately sized service lines will be used. All residential service lines will be as required by the City's Development Guide.
- Valve installations shall satisfy the following criteria:
  - Zone valves shall be located at all pressure zone interfaces to allow future pressure zone realignment without the need for additional pipe construction.
  - Isolation valves shall be located wherever necessary to allow individual pipelines to be shut down for repair or installing services. In general, a minimum of four valves shall be provided per cross, and three valves per tee.
  - Air/vacuum release valves shall be placed at all high points or "crowns" in all pipelines.
- Cross Connection Control shall conform to WAC 246-290-490 and to Tumwater's Cross Connection Control Plan.
- Distribution lines shall be replaced on a routine schedule prioritized on infrastructure age. Infrastructure in exceedence of estimated life spans shall receive the highest priority for replacement.

BOOSTER PUMP STATIONS

- All existing and future booster stations should be modified/constructed to comply with the following minimum standards:
  - All structures should be non-combustible, where practical.
  - All buildings should have adequate heating, cooling, ventilation, insulation, lighting, and work spaces necessary for on-site operation and repair.

    - Underground vaults and confined spaces should be avoided where possible due to the increased potential of flooding, electrocution, and other hazards.
    - Booster Pump sites shall be appropriately secured to minimize trespassing and vandalism to the extent practical.
    - Each station shall be equipped with a flow meter, inlet and outlet pressure recording and all necessary instrumentation connected to the City's SCADA system to assist personnel in operating and troubleshooting.
    - Emergency power capability shall be provided to at least one booster pump station supplying each booster zone.
- Booster stations may be considered where necessary to fulfill the following criteria:
    - Provide supply redundancy to a pressure zone.
    - Improve the hydraulic characteristics of a pressure zone.
    - Improve water quality (i.e., increased circulation).
    - Increase fire flow.

PRESSURE REDUCING STATIONS

- The City utilizes a standard design, as found in the City's Development Guide, which should be followed for pressure reducing stations. The standard design reduces design costs and minimizes confusion.
- All mainline Pressure Reducing Valves (PRVs) should be placed in vaults that are large enough to provide ample work space for field inspection and repair of the valves. Vaults should be tall enough to allow operating personnel to stand erect.
- Vaults should drain to daylight or be equipped with sump pumps to prevent vault flooding.
- Pressure relief valves should be provided on the low pressure side of the PRV to prevent system over-pressuring in case of a valve failure.
- PRVs installed for individual services shall be placed behind the service meter. Maintenance and/or replacement of these individual PRVs is the responsibility of the property owner.

CONTROL

- The City shall utilize a Supervisory Control and Data Acquisition (SCADA) system to remotely monitor and control the normal operations of the water utility. Manual controls shall also be maintained at each production, treatment and booster site.

- SCADA must be capable of remotely optimizing the operation of the water system's components in response to reservoir levels, disinfection requirements, system pressures, abnormal system conditions, electrical power rate structure, and water costs.

MAINTENANCE

- Equipment breakdown is given highest maintenance priority, and repairs should be made even if overtime labor is involved.
- Equipment should be replaced when it becomes obsolete.
- Worn parts should be repaired, replaced, or rebuilt before they represent a high failure probability.
- Equipment that is out of service should be returned to service as soon as possible.
- A preventative maintenance schedule shall be established for all facilities, equipment and processes.
- Spare parts shall be stocked for all equipment items whose failure will impact the ability to meet other policy standards.
- Tools shall be obtained and maintained to repair all items whose failure will impact the ability to meet other policy standards.
- Dry, heated shop space shall be available to all maintenance personnel to maintain facilities.
- All maintenance personnel shall be trained in the procedures and techniques necessary to efficiently perform their job descriptions.
- Maintenance shall be performed by the water maintenance staff and supervised by the Operations Manager.
- Hard copy written and/or computerized records and reports will be maintained on each facility and item of equipment showing operation and maintenance history.
- Service meters shall be maintained to promote an accuracy of +/- 3%.

RELIABILITY

- Supply to the service area will be pursued to meet maximum day demand during a reasonable "worst case" supply system failure.
- Supply to each pressure zone will be provided to meet maximum day demand during a reasonable "worst case" supply system failure.

- Supply spanning vulnerable areas (i.e., rivers, creeks, bridges) shall have redundant facilities to minimize loss of service, fire flow, etc., in the event an emergency would isolate the service area from the production source.

JOINT USE

- All joint use facilities must comply with Tumwater's policy and design standards.
- Joint use facilities will be pursued only in those areas where such facilities would improve reliability or operating costs.

ORGANIZATIONAL POLICIES

STRUCTURE

- The water utility shall be operated as an enterprise utility (financially self-supporting).
- The water utility shall consist of the following divisions:
    - Engineering
    - Operations and Maintenance
- Water utility management is accomplished by the Director of Public Works with the assistance of the Operations Manager and the Water Resources Program Manager.
- The water utility shall operate to administer only the municipal water system. Stormwater, wastewater, and other utilities are not administered in the water utility.

STAFFING

- The water utility staff level is established by the City Council based on the financial resources of Tumwater and need as identified by utility management.
- Personnel certification will comply with state standards. The Operations Manager shall be certified Water Distribution Manager III.

RESPONSIBILITIES

- The water utility has the responsibility for potable water system operation. As reclaimed water becomes available, distribution and management of the associated facilities will also be the responsibility of the water utility.

- Planning, design, operations and maintenance, construction and customer service relating to system operations will be accomplished by the water utility.
- Financing, customer billing, record management, and customer service relating to billings are not performed by the water utility.

RELATIONSHIP WITH OTHER DEPARTMENTS

- The Finance department is responsible for customer billing, payment collection, project cost accounting, and fund activity reporting.
- The Human Resources Department is responsible for employee records, union labor negotiations, and salary schedules.
- The Fire Department uses water utility facilities for fire protection and establishes fire flow requirements.
- The water utility is responsible for violations of city water ordinances.
- The Fire Department is responsible for hydrant fire flow testing and reporting un-metered water use by the Fire Department for tracking by the water utility, as required by state law. Water use tracking shall not interfere with emergency operations.
- Fire hydrant testing is performed jointly by the Fire Department and the water utility.
- All Departments shall report to the water utility when violations of City water ordinances, including wellhead protection ordinances, occur, for follow-up by the water utility.