TECHNICAL REPORT OUTLINE

For Public Water Systems Using Groundwater

(Must be accompanied by a Water System Plan)

Please Note: The information contained in the Technical Report and Drinking Water Source Assessment Program (DWSAP) Document can be used to fulfill the Technical section of the TMF Assessment.

1. BRIEF DESCRIPTION OF SYSTEM

- Provide the name and address of the legal responsible owner at their headquarters site. If they have a different site for their field operations, also supply that address.
- Provide a very brief description of the water system. Give number of active standby and inactive sources and any water quality noncompliance; number, type, and total capacity of storage facilities; number and type of treatment facilities and for what constituents.
- Give number of service connections-metered or flat rate.
- Describe population served on a daily and monthly basis
- Number and type of residential, commercial, agricultural, and industrial service connections
- Number of pressure zones
- Interconnection to other water systems

2. AREA SERVED

- Describe existing area (residential, commercial, heavy/light industry, agricultural), including features that may have an impact on the system
- Describe if recycled or gray water is used
- Include a hydraulic profile in an Appendix
- Describe projected growth in the service area, particularly near future (5-10 years).
- Briefly describe climatological and topographical conditions

3. CONSOLIDATION FEASIBILITY

Identify all Public Water System's located within one mile of the proposed water system. Submit written requests for consolidation to all existing water systems. If consolidation is determined to be not feasible, describe justification and copies of the letters to the Amador County Environmental Health Department.

3. SOURCE CAPACITY

- For surface water source, provide documentation of water rights
- For groundwater aquifer, describe gw levels and drawdown patterns
- Demonstrate that the groundwater basin is sufficient

- Estimate maximum daily demand (MDD) and peak hourly demand (PHD) and include the methods, assumptions, and calculations used to determine the estimates. *(see California Waterworks Standards, Title 22, Chapter 26, 64554(b))*
- At all times, the source(s) shall have the capacity to meet the system's maximum daily demand, as well as four hours of peak hourly demand. Provide information demonstrating the proposed source(s) are adequate. Such information includes, but is not limited to well pump tests, calculated sustained well yields, the capacities of all pumping facilities, distribution reservoirs.
- For groundwater sources, demonstrate that a well site control zone with a 50-ft radius around the site can be established for protecting the source from vandalism, tampering, or other threats.

4. WATER SYSTEM COMPONENTS

SOURCE

- Provide copies of all initial water quality results. Do any constituents exceed primary or secondary MCLs? Summarize the results and discuss indicate any treatment that will be required (see below)
- All water supply wells must be constructed in accordance Title 22, Chapter 16, 64560 (California Water Works Standards)
- Depth of sanitary annular seal
- Provide copy of DWR well completion report
- Describe surface features (casing vents, air vacuum release valves, pump to waste discharge site, check valves, meters, sampling taps, pump pedestal, potential for flooding)
- Site security (housed, fenced, locked, etc.)
- Auxiliary power available? What type, automatic or manual, capacity with auxiliary power, fuel storage, coolant cross-connections protection
- Flowmeter (meter quantity of water flow and record total monthly production)
- Existing and planned source pumping capability and distribution storage capacity for system as a whole and for each pressure zone

AUXILIARY SOURCES AND INTERCONNECTIONS

- Describe the number and location of each. Include information on capacity, frequency of use, type of connection and any sanitary features.

TREATMENT

- For chemical constituent removal, chemical addition (fluoridation, chlorination, etc.), corrosion control, softening, taste and odor control
- Provide a section on each process, including dosing and target concentrations
- Each section shall include sources treated. Accompanying water system plans shall include plant layout and flow diagram.
- Each treatment facility shall have operations, maintenance and monitoring plan

- Operator certification requirements
- NSF Approved chemicals and water contact surfaces, including storage tanks filter media and distribution system piping (NSF/ANSI 60 and 61).
- Operations and Maintenance Plan (see below)

DISTRIBUTION SYSTEM

- Water System Plans shall contain details of distribution system construction.
- Each Distribution system shall be operated in a manner to assure that the minimum operating pressure in the water water main at the user service line connection throughout the distribution system is not less than 20 PSI.

STORAGE RESERVOIRS (California Waterworks Standards, Title 22, Chapter 16, 64585)

- For systems with less than 1000 service connections, the system shall have storage capacity equal to maximum daily demand.
- Give number storage units, location, capacity, construction, size, coating, inlet/outlet arrangement and manufacturer's specifications (verify compliance with NSF/ANSI Standard 61)
- Pressure zones
- How drains, vents, and other openings will be protected against entry of birds, insects, rodents and animals.
- Site security protections information
- Overflow shall not be directly connected to sewer
- Sampling tap
- Reservoir shall be equipped with Isolation valves to allow for continued distribution of water when reservoir is removed from service.

HYDROPNEUMATIC TANKS, BOOSTER OR PUMP STATIONS (if applicable)

- Purpose
- Number
- Location
- Capacity
- Standby equipment
- Standby power
- Protection against flooding
- Operational controls
- Condition and sanitary review

DISTRIBUTION LINES

- Describe all existing and proposed water system components including irrigation piping.

- All materials must be NSF/ANSI 61 certified.
- Number of (feet) miles of type, size, construction material, age, condition (evaluate number < 4 inches)
- Operating pressure (>20 psi).
- Water and sewer separation
- Construction criteria when separation criteria not met
- Program and policy for the replacement of undersized, old or inadequate lines.
- Dead ends, number, flush out facilities
- Disinfection practices and monitoring for new repaired lines
- Type, size, location, manufacturer's specifications and proximity to sewer lines and other sources of contamination
- Valves
- Number, size, location
- Backflow prevention devices

5. OPERATION AND MAINTENANCE MANUAL

ORGANIZATION AND PERSONNEL

- Name and address of person responsible for operation and maintenance.
- Description or organization chart. Include number of personnel, certification (water treatment and water distribution certificates)

CROSS CONNECTION PROGRAM (if applicable)

- Include operating rules of service or ordinance
- Describe program – survey of existing, new and reinspection of sites
- Provision for backflow protection at meter and on-site
- Personnel training
- Procedure for testing, notification of sites, procedures for noncompliance
- Annual testing, repairs, replacement of devices
- Maintenance of records
- Attach survey form in an Appendix
- Evaluate compliance with Title 17

DISTRIBUTION RESERVOIRS

- Frequency of Inspection
- Discuss how often the tank will be drained and reservoir sediment removed.

TREATMENT SYSTEM

- What records shall be kept
- How each component is maintained, including inspection frequency

- Monitoring program. How will the treatment system's effectiveness be measured?
- Training requirements for on-site personnel

BACTERIOLOGICAL QUALITY MONITORING & EMERGENCY CHLORINATION PLAN

- Discuss bacteriological sampling requirements (Title 22, Article 3). Reference Bacteriological Sample Siting Plan.
- Submit a written plan for disinfecting wells, water distribution lines, and reservoirs in the event of contamination, repair or inspection, or depressurization. (Reference Title 22, Chapter 16, 64580, 64582, and 64583).
- Include discussion of "repeat", "special", and follow-up "routine" sampling procedures in the event of system depressurization and/or a positive coliform sample result.

OPERATION CONTROLS

- Describe how system is operated
- Describe how the system can be manually operated
- Alarms, controls, location

FLUSHING PROGRAM

- Describe program-frequency, duration
- Dead-end flushing – number with flush outs
- Record maintenance (list what should be included)
- Is their flushing program adequate?

VALVE MAINTENANCE PROGRAM (if applicable)

- Describe program frequency
- Are valve covers raised to grade?
- Adequate maps showing valve location, type and special instructions
- Record maintenance (list what should be included)
- Is their valve maintenance program adequate?

MAIN DISINFECTION PROGRAM (if applicable)

- Describe program (method, contact time, chlorine residual, bacti tests, records)
- Policy for new and repaired lines
- Comply with current AWWA Standards