



PUBLIC HEALTH DIVISION
Center for Health Protection, Drinking Water Services

Tina Kotek, Governor

Oregon
Health
Authority

2080 Laura st.
Springfield, OR 97477
Mobile Phone: 541-231-9077
Phone Duty: 971-673-0405
Fax: 541-465-2914
www.healthoregon.org/dws

July 10, 2024

Jim Hart
City of Oakland
637 NE Locust Street
Oakland, OR 97462

Re: **Master Plan (PR#73-2024)**
WS Name (PWS ID#00581)
Master Plan Not Approved

Dear Jim Hart:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for the Water System Master Plan for the City of Oakland. On July 5th, 2024, DWS received a finalized copy of the City of Oakland, Water Master Plan. A plan review fee of \$825 was also received.

The Master Plan should represent a 20-year comprehensive planning horizon out to the year 2044, based on plan submittal date. The submitted plan included an existing water system description, future demand estimates, engineering evaluation, evaluations of options to meet future demand, financing, and list of recommended projects and cost estimates. A seismic risk assessment and mitigation plan was included. Upon review of the Master Plan, it appears the elements required in Oregon Administrative Rules (OAR) 333-061-0060(5) have not been clearly addressed. Please review the following concerns and comments for a master plan resubmittal:

A summary of the overall plan including:

- Water quality and service goals.
 - Clearly identified existing and future water system goals as put forth by the City management. It's typical to develop water system goals around existing known infrastructure deficiencies or future demand requirements. The suggested master plan section (chapter 5) has been reviewed for these goals.

This section appears to have analysis and suggestions but no clear goals for the next 20-year operation period that City has indicated they are planning to move forward with. It is suggested for City management to review the consultant's chapter analysis and develop clear City goals associated with known current and future water system deficiencies and include that in a revised master plan.

The master plan makes mention of the existing installed UV lamp disinfection and associated water quality fouling. It should be noted that these lamps have not completed the OHA's plan review process and are not currently assigned any disinfection log credit. All the water systems disinfection log credit currently comes through its chlorination system. It should be noted in the master plan what the City's treatment goals are in relation to the current or any future UV lamp disinfection installation.

- *Present and future water system deficiencies.*
 - Clearly identify what is a water system deficiency per the applicable DWS rules (i.e., capacity, construction standards, fire code monitoring, etc.). Use these deficiencies as the basis of the water system goals and associated projects for the next 20-year period. The suggested sections of the submitted master plan were reviewed (pages 22, 28, 32, 35 36, 38).
- *The engineer's recommended alternative for achieving the goals and correcting the deficiencies.*
 - Chapter 7 provides the engineer's recommended alternatives, but it is not clear the goals and deficiency corrections the alternatives are in reference to. Please align these alternatives with clear goals and current or future water system deficiencies.

A description of the existing water system including:

- *The source(s) of supply & water rights.*
 - Based on the submitted plan of the water source (Calapooya Creek), the water source appears to have a seasonally unstable water quantity due to changing environmental and human factors effecting the watershed. The water source appears it can no longer supply all current water right allocations under all seasonal variation. With the City holding senior water rights to the Calapooya Creek, the City needs to develop a long-term water rights supply protocol/plan with the Oregon Water Resource Department (if it has not already done so) and other water source water rights holders to ensure the City can access the full extent of its water rights at all times, if needed. Coordinate with the Oregon Water Resource Department and their regional water master to begin this process if the city has not already done

so. This water rights protocol should be spoken to in the master plan as well as captured in the water system’s operation and maintenance program going forward. The city should consider State and local partnerships to improve the long-term viability (quantity and quality) of the Calapooya Creek Watershed.

- *Estimates of water use:*
 - It appears the water system has a sizable portion of water usage “unaccounted” for. Any unmetered/unaccountable water services should be identified as a water system deficiency and added to the correction goals for resolution. Per page 35 and 36 of the master plan, City park and bulk water services are not metered and are believed to be significant sources of water consumption. How is the known water theft being mitigated and prevented currently and going forward?

- *Operation and maintenance requirements.*
 - Provide a water system operation and maintenance plan of overall facility components in relation to present and future deficiencies. Speak to how existing known deficiencies are currently being mitigated for State public water system compliance and how that mitigation may change with proposed capital improvement goals in the future. Chapters 3, 7 and 8 do not clearly speak to current and future water system specific deficiencies and specifically how the city is currently mitigating the deficiencies from an operation and maintenance compliance perspective.
 - Demonstrate existing City water rates are adequate to make necessary annual capital improvements/repairs and perform the necessary water system operation.

A description of water quality and level of service goals for the water system, considering, as appropriate.

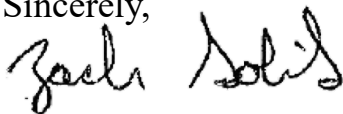
- *Flow and pressure requirements & Capacity needs related to water use and fire flow needs.*
 - Based on the submitted plan, there appears to be both fire flow and pressure deficiencies in the distribution system. The City needs to model its low-pressure areas during worst case scenario(s) and under dynamic flow conditions (i.e., minimum storage, active fire flows, water line ruptures, etc.) in the distribution system and clearly provide those model results and parameters in the master plan. The true condition (old leaking lines) of the distribution pipes should be reflected in the model. The water system must maintain a pressure of at least 20 pounds per square inch (psi) at all service connections at all times per rules. Distribution areas modeled to be under 20 PSI during worst case conditions should be identified as deficiencies and

- added to the goals for resolution. The City’s operation and maintenance program should be regularly checking pressure in those low pressure areas and notifying customer when pressure drops below 20 PSI. Areas of the distribution system where pressure is too high should be identified as deficiencies and added to list of city goals for resolution.
- Areas of the water distribution system that do not meet the current fire code (i.e., lacking necessary fire flow/pressure, hydrants that are inoperable, etc.) need to be clearly identified as deficiencies and built into operation and maintenance mitigation and resolution goals. In example, does local fire jurisdiction know which hydrants work and which don’t and how do they put out a fire in area of City that has no working hydrants.

For context, the City of Oakland’s Master Plan should be viewed as its core water system planning document for at least the next 20-years. All current and future deficiencies and conceivable future water system improvement projects over the next 20-year period should be captured within this master plan. Care should be taken to clearly outline all known and anticipated water system deficiencies that can possibly prevent the water system from being compliant with State of Oregon public water system rules over the next 20 years. The city should utilize its planning and engineering staff to develop water system goals and solutions to resolve water system deficiencies in as timely a manner as possible. When the City of Oakland is ready, revise and resubmit the water system master plan clearly speaking to the above comments and concerns. The revised master plan will be re-reviewed under the same plan review number and submitted fee.

If you have any questions, please feel free to call me at 541-231-9077. I am happy to have a conference call or virtual meeting as needed or desired.

Sincerely,



Zach Golik, PE
Regional Engineer
Drinking Water Services

CC: Julie Wray, DWS Portland