

***Appendix Q***  
***Correspondence***

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**RH2 ENGINEERING  
Tacoma**

1201 Pacific, Suite 1750  
Tacoma, WA 98402  
1.800.720.8052 / rh2.com

**February 3, 2020**

Ms. Jennifer Kropack  
Regional Planner  
Northwest Drinking Water  
Department of Health  
20425 72nd Ave S, Suite 310  
Kent WA 98032-2388

*Sent via: Email and US Mail*

**Subject: City of Bonney Lake, System ID No. 07650  
Pierce County  
Water System Plan – 2020  
Submittal No. 19-0714**

Dear Jennifer Kropack:

Thank you for reviewing the Water System Plan (WSP) for the City of Bonney Lake (City). Below are the responses to your review letter dated January 29, 2020. RH2 Engineering, Inc., (RH2) has addressed each comment and has included additional supporting documentation and pages that have been updated from the previously submitted plan.

### **System Description and Basic Planning Data**

1. Per MWL, the “duty to serve” requires a process with a timeline for new applicants requesting service, to appeal the City’s decision. Describe this in more detail. [City has provided updated language which is now included in Chapter 5 – Policies and Design Criteria \(starting on page 5-8\).](#)
2. The water facilities inventory (WFI) lists over 300 non-residential connections and zero non-residential population. Provide an updated WFI with an estimate of non-residential users including employees, students, visitors, and the like who live outside of the City’s service area yet have access to City water in workplaces, schools, entertainment venues, etc. This may have an impact on the number of coliform samples required per month. [The City has updated the WFI to reflect “temporary and transient users” and “regular non-residential users” \(updated WFI included in Appendix O\).](#)

#### **WASHINGTON LOCATIONS**

Bellingham  
Bothell (Corporate)  
East Wenatchee  
Issaquah  
Richland  
Tacoma

#### **OREGON LOCATIONS**

Medford  
Portland

3. Provide signed local government consistency statements from Pierce County Planning and your City planner prior to DOH approval. [Consistency statements have been sent to local governments. Responses and copies of the statements are now included in Appendix P.](#)

### System Analysis and Design Standards

4. Table 4-16. Do the MDDs in the table, given as gpm, reflect the required source capacity needed using an 18-hour or 24-hour pumping day? [No](#). An 18-hour pumping day is recommended for reliability purposes. [Acknowledged](#). The same comment applies to the reliable capacity values given in Table 6-3. Is the City comfortable in assuming a 24-hour reliability standard for the springs and TPU intertie? [Yes](#). [The City has a long history of operating its sources reliably at this rate and has invested in emergency power and equipment redundancy. For the spring sources, the reliable flow numbers reflect the 10-year average of the historical low flows, which are 75% of normal flow for Grainger springs and 95% of normal flows for Victor Falls. In addition to the fully redundant pump configuration at the City's wholesale intertie Prairie Ridge pump station, the City has three emergency interties with Tacoma Water that could be used in the event of a major failure at the Prairie Ridge station. The City would also argue that the very large volume of stand-by storage in the system is meant to address this type of issue. Reducing all sources by 25% to reflect an 18-hour pumping day would require approximately 1,385 gpm of additional supply. Using current wholesale rates from Tacoma Water, this amount of supply would cost \\$5.8 million in GFC's.](#)
5. Table 7-12. The table shows a significant existing storage deficiency of 1.2 million gallons in the Bonney Lake (748) pressure zone. In order to complete the ST2 project on schedule, the City needs to adopt the rate increases shown in Table 10-4. [This project is funded and under design.](#)
6. Appendix D. A typical utility crossing detail is included (Dwg. No. W3). Include details for sanitary sewer crossings. [City Design Standards and DOH Standards are referenced in Note: 2 on the Detail W3. Detail W3 has been updated.](#)
7. Appendix D. Add fine mesh screening to the beehive strainer in the Air and Vacuum release details (Dwg. No. W14). [Noted. Detail W14 has been updated to reflect this request.](#)
8. Appendix D, J, and the WSP Figures. [These figures are now included in Appendix J.](#)
  - a. Include a single distribution system pressure diagram for the 2015 PHD scenario.
  - b. Include diagrams for the 2019, 2028, and 2038 PHD scenarios.
  - c. Are there useable maps showing available fire flows by geographical distribution to submit?
  - d. Will the ongoing Coordinated Water System Plan discussions on required fire flows result in future fire flow deficiencies? [Recent discussion between](#)

purveyors and Fire officials indicate the initial concerns over higher fire flows may be lessening.

## Operations & Maintenance

9. Page 6-28. The text states that the free chlorine residual should be 0.2 mg/L or greater in less than 95 percent of monthly samples. This appears to be a misprint. [Agreed, this should read "0.2 mg/L or greater in at least 95 percent of monthly samples."](#) Page 6-28 has been updated.
10. Page 8-10. The reporting procedures for coliform issues do not reflect the current requirements for the Revised Total Coliform Rule (RTCR) and need to be revised. Treatment Technique Triggers (TTTs) and Level 1 and 2 assessment definitions and procedures should be included in the (RTCR) discussion on page 6-18. [Part of this is discussed on Page 6-18 in the Revised Total Coliform Rule section. This section will be appended with the following: "A Level 1 assessment is required if coliform is present in more than 5 percent of routine and repeat samples. A Level 2 assessment is required if there is an E. coli violation or if a water system incurs a second treatment technique trigger in a rolling 12-month period. Only a state-qualified person can perform a Level 2 assessment. There are three parts of each assessment: evaluation, where sanitary defects are identified; discussion, where corrective action is identified to fix the sanitary defect; and corrective action, which involves recording the steps taken to fix the sanitary defect. A water system will receive a treatment technical violation if it: fails to conduct a Level 1 or Level 2 assessment within 30 days of a trigger or fails to correct all sanitary defects form a Level 1 or Level 2 Assessment within 30 days of a trigger or within the state-approved timeframe."](#) Chapter 8 has been updated similarly to reflect the RTCR, treatment technique triggers and required level 1 or level 2 assessments. This has been updated in current Coliform Monitoring Plan (CMP).
11. Page 8-15. Please include the health advisory procedures that are used by the operators in the event of localized pressure outages. [Templates are in current CMP.](#)
12. DBP monitoring plan needs to be included in your plan. [Now added as Appendix V.](#)
13. Appendix F.
  - e. The coliform monitoring plan (CMP) notes that the City sells groundwater to Tacoma. Tacoma does not list Bonney Lake as one of their sources. [The City does occasionally supply emergency water to TPU when they are performing maintenance on pipelines or when they have treatment issues through interties at Falling Waters and on Connell's Prairie. Since these are emergency interties, we can remove this language from the CMP if so desired by DOH.](#)
  - f. City of Tacoma's Groundwater Rule (GWR) Triggered Source Monitoring plan indicates that it is possible for Bonney Lake to get groundwater via the City's intertie with Tacoma. Given this, the City needs to contact Tacoma whenever the City has an unsatisfactory routine sample; Tacoma will then determine if one of their groundwater sources was in use on the day that the City had collected

the routine sample. *Noted, the CMP (Following a Positive Coliform Sample section) has been updated with instructions to contact Tacoma when an unsatisfactory routine sample is collected.*

- g. If one of the City's wholesale customers has an unsatisfactory routine sample, the customer needs to contact the City. In accordance with the GWR, within 24 hours of learning about that customer's unsatisfactory sample the City must sample each of the City's groundwater sources that was in use on the day that the customer had collected their routine sample. *Noted, the CMP (Following a Positive Coliform Sample section) has been updated with instructions for the City to collect samples at each of the City's groundwater sources within 24 hours if one of the City's wholesale customers has an unsatisfactory routine sample. Only the specific groundwater sources that were in operation when the unsatisfactory routine sample was collected will need to be tested.*
- h. At least one routine sample site is expected to be present in each pressure zone with 100 or more connections; please confirm if the City meets this expectation. Ideally, there would be at least one routine sample site in every pressure zone. *Noted. The City identified one pressure zone (Pinnacle Estates) that did not meet this requirement and has updated the CMP to reflect this issue.*
- i. It is excellent that the coliform monitoring plan (CMP) includes examples of completed lab slips. Note that Water Management Lab's slip now has GWR listed as a standard choice for Type of Sample. *Noted, this has been updated with a more recent lab slip example. Updated lab slip is now in the current CMP.*
- j. It is an excellent practice that the City's standard is to sample all active reservoirs following an unsatisfactory routine sample. If the intent for these samples is for the City's information only rather than for compliance purposes, consider including this detail in the "Following a Positive Coliform Sample" list of steps. *Noted, this has been revised to "Perform Investigative sampling for all active reservoirs for City information only, not to be reported to DOH." This has been updated in current CMP.*

## Water Use Efficiency (WUE), Water Resources, and Source Protection

- 14. Page ES-6 and Page 4-16. It appears there is lots of progress with decreasing distribution system leakage bringing the quantity down from 3,655 ERU's in 2009 to 1,641 in 2018. How does the cost of fixing leakage compare to looking at new source of supply costs? *It is estimated that approximately 700 gpm of water loss was eliminated to provide for the increase of 2,014 ERUs. Using Tacoma Water's current wholesale commodity and GFC rates as an example of how much this additional supply would cost, the cost of buying the water in lieu of fixing the leaks would be: GFC = \$2.5 million and annual commodity rate = \$470,000, for an 8-year total of \$6.2 million. In comparison, the City has spent approximately 6.2 million on leak reduction projects over the last 8 years.*
- 15. Pages ES-3, ES-6, 9-3 and 9-9. The City identifies the need to protect its spring sources, already known for seasonal fluctuations, from contamination and decreases in capacity

due to losses in the natural recharge areas. However, the City has not updated its source protection plan for a decade. DOH's concern is that the project costs continue to be deferred, so spending money on fixes previously identified by study is our recommendation. **Noted, the Source Protection Program update is scheduled in the CIP for 2026. In the meantime, O&M staff is trying to get a camera setup on the southern collection box at Victor Falls this year. The other collection boxes are a real challenge and getting additional security measures beyond fencing will not be easy.**

The CIP schedule says the City will get to a source water protection plan and fix watershed safety issues at Victor Falls, CIP F-9, in 2026. This is a long time to wait for the watershed fencing improvements as the spring sources provide 53% percent of your supply. **Noted, this was indirectly set and approved by Council and could be revisited with them to alert them to the risks of waiting on these CIP projects.**

- a. Describe the priority for spending money for better public health protection. Consumers and businesses recently affected by the boil water notices in North Bend and Snohomish prefer money "to have already been spent on protection and surveillance", so it appears this increase cost and level of service just needs clear up-front communication and financial commitment. Residential customers are investing in security more than utilities have realized and tend to expect it for their vulnerable drinking water sources. **The City will continue to look for funding and opportunities to address this issue. The City recently converted to the Cyberkey system for all water facilities which is a significant upgrade of the traditional lock system that had been in use previously.**
- b. Is the current plan to fix in 2026 really the level of service your City customers want? **Yes – set by council, but staff will continue to look for opportunities to complete these projects sooner.**
- c. Is the City able to move up the CIP F-9 project to an earlier year based upon recent knowledge gained from the recent incidents? **The City will continue to look for funding and opportunities to address this issue.**

## Financial Capacity and Capital Improvement Plan (CIP)

16. ES 6, Chapter 8, Pages 8-20, 21, 22 and Chapter 10, Pages 10-8 and 10-12. Clarify how the City's rates will keep up with the needs of this planning document for the 10-year planning period. **A current adopted rate schedule is now included in Appendix S. Ordinance No. 1066 calls for 8.5% per year for five years (2019 – 2023), and after 2023, rates will be adjusted, at a minimum, per the current year's CPI rate.**
  - a. Any drinking water rates averaging below \$40/month are of concern to regulators. The state and federal "affordability" index ranges between 1.5 - 2.5% for drinking water. Page 10-12 states that the MHI for Bonney Lake is \$90,580 in 2017 dollars which means the current water rate is 0.37%. This means there is room to create a more sustainable rate structure which funds the important investments, both project and staff, and the reinvestment projects in your plan. **Noted. City staff provided input on the relative urgency for completing projects**



in the CIP, and FCS Group developed a rate strategy for the City to fund those projects. *Chapter 10 – Financial Analysis*, has been completely updated and is attached.

- b. The American Society of Civil Engineers' recent report gives drinking water infrastructure a "D Grade." This fact may provide some support as the Council adopts the rate increases for the planning period. *Noted.*
  - c. Describing rate increases in terms of percent is not recommended. Rather identifying what the rate increase in dollars will do for the safe and reliable delivery of water, gets much better customer buy-in. Many utilities are adding a capital project surcharge to their rate structures and showing it on the bill so customers understand that it takes both annual O & M expenses, as well as some replacement funding, to keep a water system financially viable. It is good practice to educate customers in good economic times that aging infrastructure is a huge capital expense, and this expense will continue into the future since water rates in the past have not been funded for the full cost of water service.
    - i. Does the City have a capital replacement surcharge identified on customer bills in order to help communicate the cost and value of drinking water? *No, but in the presentation materials to the Council, graphics were included to conceptually illustrate the relative shares of the annual revenue requirement that are attributable to O&M, debt service, and system reinvestment.*
16. In 2018, DOH implemented a more in-depth asset management discussion in water system plans. Be advised in your next plan update, DOH will be looking for critical components to be identified in a table with age, life expectancy, condition rating, useful life left, replacement cost, and criticality. The DWSRF loan program currently provides bonus points for providing this information with an application. *Noted. This City has implemented a program to help track work orders and is collecting data that will help populate with data future asset management efforts.* Important information to consider is in a natural disaster, according to utilities who have made recent claims, FEMA will not compensate aged-out pipes in the ground. The City will need to prove through documentation that the asset has not reached its end of useful life. *Noted.*

## Other Documentation

17. Provide the following documentation:
- k. Adjacent utility correspondence, if any. *Included in Appendix P.*
  - l. Consumer meeting for the 2019 WSP update and WUE goal-setting (for planning period). *Included in Appendix Q.*
  - m. SEPA Threshold Determination and filing date on SEPA register. *Included in Appendix A.*
  - n. Elected Governing Body approval of the plan. *Included in Appendix Q.*





If you have any questions regarding this resubmittal, please call me at (253) 327-1522 or via email at [gdillard@rh2.com](mailto:gdillard@rh2.com). Thank you for the opportunity to assist you with this project.

Sincerely,

**Geoffrey G. Dillard**

Director

GGD/Proofer/vl

Enclosures or Attachments:

**INSERT STAMP(S) IF  
NEEDED**

DRAFT



P.O. Box 7380 • Bonney Lake, WA 98391  
(253) 862-8602

January 18, 2019

Jennifer Kropack, Regional Planner - NW Regional Office  
Department of Health  
Office of Drinking Water  
20435 72<sup>nd</sup> Ave South, Suite 200  
Kent, WA 98032-2358

Dear Ms. Kropack,

In response to your February 14, 2017 letter and based on conversation between DOH and City staff, the City requests additional time to update its Water System Plan (WSP). As you know, the Bonney Lake City Council finally adopted a new water rate structure and the City is now ready to move forward on finalizing its WSP update. Since the last plan was based on 2014 data, the City would like to submit a newly updated WSP based on 2018 data. This plan will be a fully revised plan addressing the comments included in the February 14, 2017 letter. We are committed to having a draft version of the updated WSP to you by the end of May 2019 for review.

Sincerely,

Ryan Johnstone P.E.  
Superintendent of Public Works  
City of Bonney Lake

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