

## **Parkdale Sanitary District Meeting Summary** **(February 19, 2024)**

- Parkdale Sanitary District Board and Staff Present: Julie Routson (Secretary), Patricio Ramos (Plant Operator), Alisa Fellows (Board Member), and Terry Stanley (Board Member).
- County Staff Present: Chair Euwer, Commissioner Babitz, Allison Williams, and Eric Walker.
- Attendees from the Public: Judie Zimmerman, Ayesha Batra, and Jana Castanares.
- The discussion commenced with a summary of the Parkdale Unincorporated Community Plan project.
- District members explained that the amount of capacity built into the upgraded wastewater treatment plant was based on a 0.02% growth rate for Parkdale over the next 30 years: essentially, the lifespan of the new facility.
- The District is aware that they are operating under stricter effluent limits than normal based on the size of Trout Creek, which is the outflow for the treated waste. They understood that they could possibly negotiate with DEQ for potentially less effluent limits but that would involve a long, involved process.
- When the District put in their upgraded wastewater treatment plant (WWTP), they ended up having to eliminate some things to get the overall cost of the project down, including an old pump station near the USFS property on the east side of the community. That project is a current priority for them although they have no funds to complete the work. We offered to talk with John Grim and see if he has any ideas about possibly funding sources for them.
- Overall, the District seemed content with their overall system. They have a relatively new Facility Plan and a new WWTP that is functioning in compliance with DEQ standards and is capable of accommodating anticipated growth over the next 25-30 years. They did not seem to see any compelling reason to upgrade their facility now to accommodate growth that may or may not come (*or even be desired by many*), especially when they have other more important needs, such as a new pump station. Plus, such an upgrade may not even be fundable by DEQ or USDA, or financially feasible to the residents within the District.
- Based on the outcome of the meeting, it seems more appropriate to have a conversation with DLCD staff and see what flexibility they might be willing to provide or creative options that might be available to allow opportunities for more affordable housing types given the capacity limitations of the Parkdale Sanitary District.

**DLCD Meeting Summary**  
**(February 29, 2024)**

- DLCD and County Staff Present: Jon Jinings (DLCD), Angie Brewer (DLCD), Nick Kraemer, and Eric Walker. (Virtual meeting)
- County staff provided an update concerning the Parkdale Community Plan, including discussions about the capacity limits of the Parkdale Sanitary District and the implications of that on the County providing any reasonable development options as part of the draft zoning code. We also shared the Board's desire to provide opportunities for less expensive housing within the County's unincorporated communities, including within Parkdale and Odell.
- DLCD staff were unable to provide any "silver bullets," but were able to provide a bit more insight into the Administrative Rule. They did not feel that the Rule had to be interpreted so narrowly as to only allow development options that would not exceed the Sanitary District's stated capacity as long as the Plan was thoughtful and had reasonable backstops built into the zoning code to prevent a public health hazard and to ensure that existing or prospective landowners are aware that the development of property is subject to available public facilities, including sanitary sewer, at that time.
- They understood that identifying sanitary sewer capacity limits is not an exact science and there are many variables.
- They also agreed that there are built-in protections to ensure that development is not allowed to the point of creating a public health hazard, including the ability of the Sanitary District to place a moratorium on new development by avoiding signing a building permit.
- They generally supported the idea of maintaining the current 2-acre minimum lot size in Parkdale but providing options for ADUs and duplexes in the R-1 zone (and maybe even small multi-family dwellings).
- They offered to provide some examples of findings from other jurisdictions that could possibly be used to justify such allowances and consistency with the Rule.

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# Memo

**To:** Eric Walker, Hood River County - Planning Director  
**From:** John Grim P.E., John Grim & Associates  
**CC:** Parkdale Sanitary District via email  
**Date:** April 15<sup>th</sup>, 2024  
**Re:** Parkdale Wastewater Treatment Plant (WWTP) – Options to Increase Capacity

## Project Background

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This Memorandum documents the results of discussions with DEQ regarding capacity limitations in the Parkdale Wastewater Treatment Plant (WWTP) NPDES permit. Hood River County is developing a Community Plan for Parkdale in compliance with Oregon Statewide Goal 14. A capacity assessment was done to facilitate the completion of the Parkdale Community Plan. Based on the capacity assessment it was concluded that there is very limited capacity for growth in the current WWTP facility (about 38 new homes). See the Memorandum prepared by JGA and dated August 16<sup>th</sup>, 2023.

The County's representative is Eric Walker, Planning Director. John Grim P.E. conducted the capacity assessment and follow up discussions with DEQ. Patricio Ramos, operator for the Parkdale WWTP, attended the meeting.

The County's goal in its discussions with DEQ is to determine if greater capacity on paper (the NPDES permit) could be attained without the need for physical improvements to the treatment plant. Any work in this regard must be authorized by the Parkdale Sanitary District (PSD).

## DEQ Meeting Conclusions

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On April 9<sup>th</sup>, 2024 Eric Walker, Patricio Ramos and John Grim met with Jeff Navarro, permit manager for DEQ. Based on this meeting we concluded there are two options for increasing capacity on paper. These are:



1. TSS/BOD Load Evaluation. Evaluate the actual performance of the treatment plant based on Daily Monitoring Report (DMR) loading data. This evaluation will determine the actual loading of TSS and BOD to Trout Creek. If the loading is significantly below permit limits, then theoretically, a higher flow volume could be achieved without exceeding the permitted loads.
  - a. Option No. 1 would not require any change to the NPDES permit.
  - b. This option presents some possible risk to the Parkdale Sanitary District. Higher flows could result in compliance violations if the treatment plant cannot comply with permit limits.
2. Increase the load limits in the NPDES permit. By increasing the load limits in the permit, further capacity can be achieved. This alternative will require preparation of an anti-degradation study in conformance with OAR 340-041-0004. See:  
<https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=276576>

Refer to the IMD document: *Antidegradation Policy Implementation, Internal Management Directive (IMD) for NPDES Permits and Section 401 Water Quality Certifications March 2001.*

- a. Option No. 2 will require an update/amendment to the permit and public comment.
- b. The anti-degradation study is significant work. Before embarking on this option, the District should thoroughly evaluate the feasibility of success.

The purpose of both options is to propose a new and greater Average Dry Weather flow.

### **Temperature TMDL**

The Western Hood subbasin has a temperature TMDL which governs, in part, the temperature limit in the NPDES permit. The impact on Trout Creek temperature must be evaluated if a greater flow is proposed in either Option 1 or 2.

### **Physical Improvements**

There was some discussion of changes to the outfall to create greater capacity. Options discussed included discharging into the Hood River, re-use and land application. These are all significant projects that will need further evaluation to determine feasibility and cost. Jeff's opinion was that approval of a new discharge to the Hood River would be very unlikely. Because the PSD recently completed major improvements to the WWTP; it's very unlikely that the District will be willing to embark on another improvement project in the near future.



# Memo

**To:** CJ Doxsee, Project Manager - MIG  
**From:** John Grim P.E.  
**CC:** Eric Walker, Hood River County - Planning Director  
**Date:** August 16<sup>th</sup>, 2023  
**Re:** Parkdale Wastewater Treatment Plant (WWTP) Capacity Assessment

## Project Background

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This Technical Memorandum (TM) documents the results of a capacity assessment of the Parkdale Wastewater Treatment Plant (WWTP) owned and operated by the Parkdale Sanitary District (District). Hood River County is developing a Community Plan for Parkdale in compliance with Oregon Statewide Goal 14. This capacity assessment is being done to facilitate the completion of the Parkdale Community Plan. The Plan is being done by MIG Inc. for Hood River County's Planning Department. The project manager for MIG is CJ Doxsee. The owner's representative is Eric Walker, Planning Director. JGA conducted the capacity assessment as a subconsultant to MIG.

The County's goal is to identify zoning density in the community of Parkdale that is consistent with the capacity of the sanitary sewer system. To be consistent, the County must ensure the infrastructure serving the community has the capacity to serve the proposed zoning density or can reasonably be expanded to serve the proposed zoning density.

## Project Approach

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Several engineering and permit documents were reviewed to identify the design criteria used in permitting, planning and design of the recently upgraded WWTP. These documents are comprised of:

- The 2014 WWTP Facilities Plan – Murray Smith & Assoc. This document formed the basis for subsequent NPDES permit and design engineering work.



- The 2015 Preliminary Engineering Report (PER) – Murray Smith & Assoc. The PER revisited design criteria presented in the Facilities Plan and formed the basis for the sizing of the 2018 WWTP improvement project.
- 2018 WWTP Design Drawings – Murray Smith & Assoc. and Cloacina. The drawings itemize design criteria used to design the improvements. The criteria used are consistent with previous planning documents. The improvements were completed in 2020.
- The 2023 NPDES Permit (DEQ) – Adopted on July 1<sup>st</sup>, 2023. This permit and fact sheet set the regulated WWTP discharge limits based on the as-constructed 2020 WWTP improvements. This permit is consistent with the design drawings and previous planning documents.

Design parameters and criteria from these documents were summarized in spreadsheet format and compared to identify the basis for sizing of the current improvements. Generally, the design parameters and criteria were consistent throughout all documents.

The approach to calculating the available capacity in terms of level of service (Equivalent Dwelling Units – EDUs) is based on identifying the current flow and maximum flow capacity and, using the estimated flow per EDU, calculating the available capacity in EDUs. The most current level of service data that is available is in the 2015 Preliminary Engineering Report (PER). The PER level of service data therefore formed the basis for the estimate of available capacity in EDUs. This is a reasonable approach because the data, although 8 years old, still closely represents the 2023 level of service.

## Capacity Assessment

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### Summary

Calculating the capacity of a WWTP in terms of EDUs must be carefully qualified due to the numerous variables that affect treatment plant capacity. In summary, this capacity analysis is based on the compliance limits as specified in the NPDES permit – See Worksheet No. 1. Specifically, the compliance limits are designated in Schedule A of the 2023 NPDES permit. Generally, the maximum flow is limited by the TSS and BOD total daily load limit in pounds per day. The maximum flow allowed, based on these limits, is approximately 70,000 gpd. **This limits the available capacity of the current treatment plant, as constructed and operated, to 38 new homes.**



However, it's important to emphasize that the capacity of this WWTP is subject to change due to unanticipated events such as new regulations, improvements to the plant, changes in wastewater quality, etc. It may be possible to significantly increase the treatment plant capacity in the future if there is a demonstrated need and adequate resources.

### Capacity Variables

The maximum daily flow of 70,000 gpd is based on the treatment plant operating as designed. It's important to emphasize the WWTP capacity can be significantly lower if it's not operating efficiently; e.g., if the percent removal is the minimum required by permit – that being 85 percent - then the flow capacity is less than 70,000 gpd. The flow capacity as determined by the permit requires the treatment plant perform at removal efficiencies higher than 85 percent.

Other factors may also affect the treatment plant efficiency and capacity in the future; such as regulated limits on effluent temperature, minimum dilution ratio, ammonia, pH, increases in the BOD/TSS loadings, problems with infiltration and inflow, etc. These water quality parameters may change and result in reduced capacity.

### NPDES Permit Constraint

The NPDES permit was recently issued on July 1, 2023. Permit limits are described in Schedule A of the permit and supported by the NPDES Fact Sheet. The relevant permit limits used in this assessment are shown in Worksheet No. 1.

Anti-backsliding rules have resulted in stricter permit limits during the winter than are typically required in Oregon. Anti-backsliding ultimately constrains the total flow capacity of the treatment plant until the District can successfully propose there will be no degradation in receiving water quality if the limits are increased. If Trout Creek will remain the receiving water, this evaluation will be necessary to expand the capacity of the treatment plant.

The permit fact sheet suggests that expansion of the treatment plant capacity beyond its current limits may be difficult unless the District proposes a new discharge location. New discharge locations could include; the Hood River, subsurface discharge, recycled wastewater, etc. An evaluation of alternative discharge locations will require significant analysis and expense. Its possible none of these options will be feasible.

Ultimately, an increase in the NPDES permit limits and the treatment plant capacity will probably require an update to the Facilities Plan. The primary objective of the Facilities Plan



update is to evaluate alternatives to expand the treatment plant capacity including alternative discharge locations. Following approval of the Facilities Plan by DEQ, the District must construct the preferred improvements and apply for an update to its NPDES permit. This is a long process (5 to 10 years) which will require significant grant funding.

### As-Constructed Treatment Plant Constraint

Worksheet No. 2 shows the criteria and calculations used to identify the flow capacity constraint based on the planning and design criteria used to design and construct the treatment plant improvements as completed in 2020. This worksheet demonstrates that the treatment plant design loading in BOD and TSS exceeds that forecasted at the design flow. Therefore, the treatment plant is designed to remove more BOD and TSS than forecasted to occur at the design level of service in 2035. For this reason, the design/permitted flow will not result in BOD/TSS exceedances. This evaluation confirms the design is consistent with the Facilities Plan and the NPDES permit.

### Capacity Calculation

The calculation of the peak level of service that can be served by the WWTP is shown in Worksheet No. 3. The first step was to calculate the design flow criterion in gpd/EDU. This criterion is based on the known flow in gpd and the number of EDUs in 2015 as documented in the PER. The design criterion is 260 gpd/EDU. This is the flow contribution from each equivalent dwelling unit at the maximum month dry weather flow<sup>1</sup> design period. The flow criterion is used to project the number of EDUs that can be served at the maximum capacity of the WWTP. The estimated level of service at the treatment plant capacity is 269 EDUs. The existing level of service is 231 EDUs, resulting in an available capacity today of about 38 EDUs. This is based on the assumption there have been no new connections since 2015.

In summary, about 38 new homes can connect to the treatment plant before it reaches its permitted capacity. Any industrial or commercial development should be evaluated to identify the projected number of EDUs to ensure the available level of service in EDUs is not exceeded.

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<sup>1</sup> The maximum month dry weather flow was used by DEQ to set the waste discharge limits in the NPDES permit.





Worksheet No. 1

**Design Flow Capacity Calculation based on Permit**

Capacity Analysis Formula to Estimate Max. Avg. Monthly Flow	Criteria and Capacity Items	Value	Description
BOD or TSS in lbs/day = Q (mgd) x Conc (mg/l) x 8.34	Max. TSS/BOD load (lbs/day) effluent =	6.1	NPDES Standard (summer - avg. monthly)
or Q (mgd) = BOD or TSS in lbs/day/(conc (mg/l) x 8.34)	Max. TSS/BOD concentration (mg/l) effluent =	10	NPDES Standard (summer - avg. monthly)
	Min. Avg. Monthly % Removal =	85%	NPDES Standard
	Max. Avg. Monthly TSS/BOD influent (lbs/day) =	40.7	Calculated at 85% removal
	Max. Avg. Monthly TSS/BOD influent (mg/l) =	66.7	Calculated at 85% removal
	Max. Avg. Daily Flow (mgd) =	0.073	Calculated
	<b>Max. Flow (gpd) =</b>	<b>73,141</b>	Calculated

The design flow was calculated based on the permit limits to confirm the criterion used in the treatment plant design are consistent with the Facilities Plan, the PER and the Design Dwg.

Worksheet No. 2

**Summary of Design Criteria from All Sources**

Design Criterion Item	Value	Source	Comments
Average Daily Flow (mgd) =	0.073	Table 5-9 WWTP FP, 2035 projected flow. <sup>1</sup>	Design flow criterion is the same from all sources. Plant designed for year 2035 projected flows per FP.
	0.073	Calculated avg. monthly flow from permit. See above	
	0.073	Design criterion, sheet 1, design drawings.	
BOD Loading (lbs/day) =	217	Table 5-9 WWTP FP, 2035 projected loading.	The design loading exceeds the projected loading.
BOD Loading (lbs/day) =	244	Calculated based on design dwg criterion below.	Therefore there is excess capacity for BOD loading at the design flow.
BOD Loading (mg/l) =	400	Design criterion (avg.), sheet 1, design drawings (300 to 500)	
TSS Loading (lbs/day) =	255	Table 5-9 WWTP FP, 2035 projected loading.	The design loading exceeds the projected loading.
TSS Loading (lbs/day) =	304	Calculated based on design dwg criterion below.	Therefore there is excess capacity for TSS loading at the design flow.
TSS Loading (mg/l) =	500	Design criterion (avg.), sheet 1, design drawings (400 to 600)	

<sup>1</sup> The projected MMWWF in 2035 is 117,000 gpd and the PDF in 2035 is 195,000 gpd (see Facilities Plan- Table 5-9) which coincides with the design criterion for the MBR per Sheet 1 of the design drawings and with the NPDES permit. These comparisons demonstrate that the treatment plant was sized based on the 2014 Facilities Plan. BOD and TSS loadings were checked to ensure the treatment plant was designed to remove loads in excess of those predicted.

Worksheet No. 3

**Calculation of Treatment Plant Capacity in EDUs**

Design Criterion Item	Value	Source	Comments
Year 2015 Level of Service (EDUs) =	230.5	2015 PER	<i>In Jan of 2015 the PER estimated a total of 230.5 EDUs which included 137.5 residential, 92 commercial and 1 industrial.</i>
Year 2015 MMDWF (gpd) =	60,000	Table 5-9 Facilities Plan.	
Population Forecasting Flow Criterion (gpd/EDU) =	260.3	Calculated based on above data	
Maximum Level of Service (EDUs) =	268.9	Calculated based on ADWF in year 2035	<i>Dry weather flow criterion is used to forecast capacity in EDUs. New homes do not contribute 1/1.</i>
Year 2035 MMDWF (gpd) =	70,000	Table 5-9 Facilities Plan.	
<b>Available Capacity (EDUs) =</b>	<b>38.4</b>	One home = One EDU	<i>The District should estimate and track the number of EDUs for non-residential development proposals.</i>

*The treatment plant is flow limited because the design loading (lbs/day) exceeds the estimated load in 2035. Actual capacity is governed by treatment plant performance. This analysis is based on the assumptions that the treatment plant performance conforms to the design criteria and permit conditions. The capacity analysis does not consider the temperature water quality limit or the required dilution factor. In addition it is independant of hydraulic constraints such as pipe and pump station capacity. The treatment plant was improved in 2020 and is permitted based on the current improvements.*