

South Tacoma Groundwater Protection District – Consideration of a Moratorium

City of Tacoma | Planning and Development Services

City Council Study Session

February 14, 2023



●●● Presentation Overview

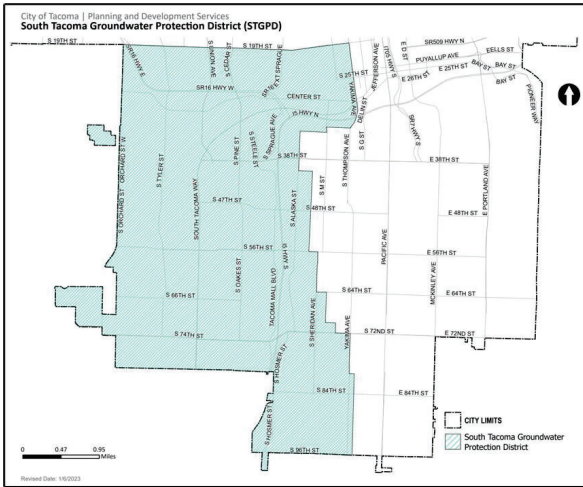


Purpose of the Meeting: Review public comment and testimony; provide information responding to comments; identify potential amendments for further consideration.

Outline:

- Background
- Summary of Testimony
- Water Supply, Recharge, and PFAS
- Next Steps + Related Plan and Code Updates

● ● ● Groundwater Protection District



- Created in 1988 as an overlay zone in Title 13 of the Tacoma Municipal Code.
- Encompasses the South Tacoma aquifer recharge area.
- Created to protect aquifer drinking water from contamination.
- Applies to businesses/commercial uses.
- Prohibits incompatible land uses.
- Establishes standards for hazardous substance storage, stormwater infiltration, spill prevention, and inspections.
- Subject to periodic review and update.

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● ● ● Initiation



2022 Annual Amendment to the Comprehensive Plan and Land Use Regulatory Code:

- Amended Substitute Resolution No. 40985, approving the “Work Plan for South Tacoma Groundwater Protection District Code Amendments”, adopted on June 28, 2022
- City Council Direction: The Planning Commission will conduct a public process to develop findings of fact and recommendations as to **whether a moratorium on heavy industrial uses and storage of hazardous materials within the South Tacoma Groundwater Protection District is warranted**, and if so, to recommend the scope, applicability, and duration for City Council consideration within 60 days of the effective date of this resolution.

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● ● ● Public Hearing – Proposal



Moratorium Proposal for Public Hearing:

- Uses Temporarily Prohibited:
 - Underground Storage Tanks
 - Metal recycling/auto wrecking
- Existing Uses:
 - Prohibit expansion of existing facilities
 - Allow normal maintenance, repair, replacement activities, and existing operations
 - Allow site and facility improvements to comply with building code, stormwater, and environmental standards
- Duration of Moratorium: Up to 1 year
- Work Plan: Incorporate into the STGPD Code Amendments

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● ● ● Public Notice and Engagement



City Council Public Hearing

- 14 commenters
- 9 written comments submitted
- 25,000 notices issues to taxpayers and occupants
- Email distribution to interested parties, community organizations
- Informational meeting on February 2, 2023
 - 11 attendees

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●●● Public Comments



1. **Support + strengthen**
2. **Climate change and effects on water supply**
3. **Concerns regarding aquifer recharge**
 - Request to implement impervious surface limits
4. **Concerns regarding PFAS**
5. **Concerns over permitting of metal recycling facility**

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●●● Recharge and Impervious Surfaces



How did the Commission consider these issues?

- Primary focus was on water quality associated with heavy industrial uses and hazardous substances
- Considered comments and information related to recharge:
 - Recharge area and past/current water volumes
 - Available land supply for industrial development
 - Existing uses and zoning
 - Equity and impacts of broad moratorium
 - Known soil contamination and remediation sites
- Did not conclude that a moratorium on new impervious surfaces was warranted
 - Recommended broader coordination with Pierce County on Aquifer Recharge
 - Recommended evaluating barriers and opportunities to expedite remediation
 - Recommended evaluation of climate impacts on water supply

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Water Supply



Howard Hanson Dam operated by
US Army Corps of Engineers

The Green River is Tacoma's Primary Water Source:

- 95% of our water in recent years

Groundwater is secondary:

- Seasonal or for convenience, but invaluable when needed
- Typically, 5% of our water annually
- Stressed years, up to 40-50% of summer demand
- Critical after an earthquake

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Integrated Resource Plan (IRP)



Water Supply Indicator



- Created the Water Yield Supply & Demand Model (WYSDM), both short term and long term, incorporates current climate change predictions.
- IRP is a communication tool (along with the Water Supply Indicator and other tools) allowing transparency of Tacoma Water's supplies, including groundwater.
- The IRP is also a document that will assist and guide water source and resource investments in the years to come.
- Wells Master Plan is an example of a document that came from IRP planning. This document is used to determine which of our wells require upgrading and when.

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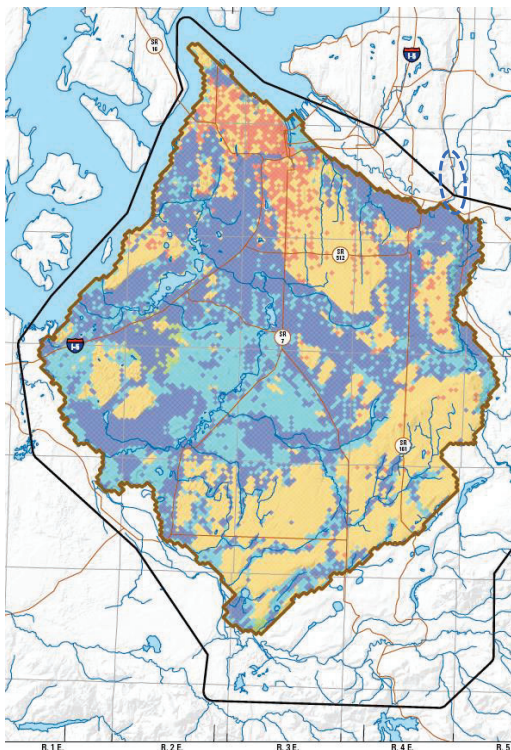
Water Supply



Tacoma has the ability to pump up to 40 millions of gallons per day (MGD) at any given time. A majority of this capacity is located in aquifers under South Tacoma:

- 13 wells along South Tacoma Way – highly productive
- Wells range in capacity from 0.6 MGD to 10.5 MGD
- Wells discharge to the Wells Pipeline
- The Wells Pipeline carries the water to two treatment facilities
- South Tacoma wells can produce over 33 MGD, also have several other wells that produce an additional 7 MGD

MGD = Millions of gallons per day



SOUTH TACOMA GROUNDWATER RECHARGE

3 Aquifers combined capacity 33,000 acre-feet (recharge 25,000 acre-feet)

- Shallow
 - 115,000 acres of recharge area
 - Recharges Sea Level aquifer
- Sea Level
 - Recharges Deep aquifer
- Deep

Studies:

- 1995 Multi-Agency Groundwater System
- 2007 Water Supply Portfolio
- 2010 USGS Hydrogeologic Framework
- **2023 Anticipated** USGS Model & Report

● ● ● Per- and Polyfluoroalkyl Substances (PFAS)

- These are a large family (thousands) of human-made chemicals in use since the 1940's to make a wide variety of stain-resistant, water-resistant, and non-stick consumer products
- Used in certain types of firefighting foams utilized by the US military, local fire departments, and airports
- PFAS are widespread, do not break down easily in the environment, and are found in people, wildlife, and fish all over the world
- Scientific studies have shown that exposure to some PFAS in the environment may be linked to harmful health effects
- **The are many, many unknowns related to PFAS**

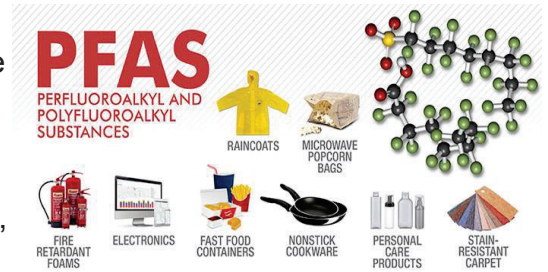


Image from wateronline.com

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● ● ● Tacoma Water PFAS Sampling

1. **In 2015** Tacoma Water sampled for 6 PFAS chemicals as part of the Third Unregulated Contaminant Monitoring Rule (UCMR3) – **NO DETECTIONS, but**
 - Samples were blends of multiple sources collected entering the system
 - Laboratory Minimum Reporting Levels (MRLs) higher than current
2. **In 2018** Tacoma Water proactively sampled all sources for 14 PFAS chemicals at lower lab reporting limits
 - Two South Tacoma wells with levels near EPA's 2016 Health Advisory Level (HAL) of 70 parts per trillion (ppt) were removed from service
 - All other detections were below new 2021 State Action Levels (SALs)
3. **In 2023** Tacoma Water plans to conduct another comprehensive round of PFAS sampling of all sources

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●●● Long-term Planning Regarding PFAS

Tacoma Water's proactive steps to prepare for PFAS regulation:

- Incorporate PFAS treatment design into ongoing capital improvement project at the Gravity Pipeline Wells
- Prepare overall PFAS management strategy for South Tacoma Wellfield (Based on EPA proposal for PFAS regulation)
- Consider need for treatment for other sources (Based on EPA proposal for PFAS regulation)

PFAS treatment options are available, but limited:

- Tacoma Water's current treatment processes not capable of removing PFAS
- Three primary treatment methods commonly used for PFAS removal



Granular activated carbon (most likely for Tacoma Water groundwater)
 Ion exchange
 Reverse osmosis

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●●● Conclusions

- Plentiful groundwater capacity available to back up primary Green River supply
- Groundwater supply is protected by the South Tacoma Groundwater Protection District and regularly monitored for contaminants
- Many unknowns related to PFAS, but Tacoma Water is engaged on regulatory development and is preparing to respond to upcoming regulations
- PFAS content available on Tacoma Water website: [Testing for PFAS - Tacoma Public Utilities \(mytpu.org/pfas\)](https://mytpu.org/pfas)

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●● Upcoming Planning and Regulatory Updates



1. 2023-2024: Groundwater Protection District Standards – Update
2. 2023: Home in Tacoma – Zoning and Development Standards
3. 2023: Anticipated USGS Model & Report
4. 2023: Stormwater Basin Planning
5. 2023-2024: Tacoma Water Integrated Resource Plan
6. 2023-2024: Comprehensive Plan Update, includes Best Available Science Review and Critical Areas Regulations
 - Coordination with Pierce County and other jurisdictions
7. TBD: Economic Green Zone – Seeking funding opportunities

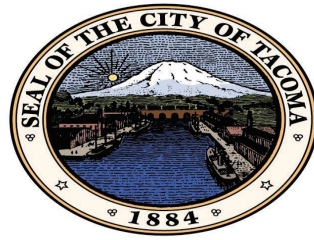
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●● Next Steps



2023 Dates (tentative)	Actions
February 14	City Council – Study Session
February 21	Ordinance (First Reading)
February 28	Ordinance (Final Reading)
Late Winter/ Spring	Update Work Plan for Groundwater District Code Review and Initiate Process

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