



**Environmental Technical Advisory Committee Regular Meeting
Wednesday, August 26, 2026**

Council Chambers
280 Madison Ave N
Bainbridge Island, WA

and

Remote Meeting on Zoom
<https://bainbridgewa.zoom.us/j/83873910116>
or Telephone: US: +1 253 215 8782
Webinar ID: 838 7391 0116

Agenda

- 1. Call to Order / Roll Call / Land Acknowledgement - 4:00 PM**
- 2. Approval of Agenda / Conflict of Interest Disclosure**
- 3. Public Comment**

In person public comment is accepted at this time on any topic of public interest. Each commenter will have three minutes, or such amount as the meeting chair determines, to speak. Public comment is not taken on individual agenda items during the meeting. Public comment is simply received by the Committee, with no response, and the Committee cannot deliberate on items that are not on the agenda. The lack of comment is not an endorsement or a denial of the comment. Please refer to guidelines and instructions for public comment, including orderly behavior and civility in remarks, posted on the agenda page. Remote public comment is allowed with advance notice by noon on the business day before the meeting by emailing cityadmin@bainbridgewa.gov, provided that all remote commenters shall be required to display their true name and to keep their camera turned on to show their true uncovered face while delivering their comments.

4. Regular Business

- A. Approve meeting minutes - 7/29/26
- B. Review and approve ETAC code of conduct
- C. Liaison reports (Council and staff)
- D. Receive presentation on Bainbridge Island water usage data related to conservation efforts from resident Chris Frey
- E. Discuss noxious weed control

F. Review, discuss and approve ETAC 2026-2027 workplan

G. Items for September meeting

5. Good of the Order

6. Adjournment

The City of Bainbridge Island's meetings are wheelchair accessible. The City also provides auxiliary aids and services for effective communication such as assistive listening devices, closed captioning, and print materials in digital format. For other reasonable accommodations and/or modification to programs, services, or activities, please contact the ADA Coordinator at cityadmin@bainbridgewa.gov or 206-842-2545 as soon as possible, preferably at least 2 business days prior to the meeting.

Environmental Technical Advisory Committee (ETAC)

Draft Meeting Minutes

July 29, 2026

Attendees:

Clarence Moriwaki, Mayor, City of Bainbridge Island (COBI), ETAC liaison

Henry Hash, Interim Public Works Director

Paul Nylund, COBI Engineering Manager, staff liaison

Ben Harrison*

Tracy Collier*

Kelly Leo*

Malcolm Gander*

(*ETAC Member)

Christopher Frey, COBI Resident and Visitor

Absences:

David Fuller was travelling and excused

1. Call to Order – The meeting was called to order at 4pm

2. The meeting agenda was approved as presented by a vote of **4-0**. Members present declared no conflicts of interest.

3. Public Comment:

COBI Resident Chris Frey explained his recent compilation of KPUD drinking water data; his Public Records Requests for COBI drinking water data; and his request to present his findings on the distribution of water use by KPUD customers on Bainbridge Island (BI), particularly at the south end. It was agreed that ETAC would be interested in hearing his findings at a future meeting.

4. Regular Business

A. Confirm volunteer requirements are complete – Paul confirmed all appointed members have completed onboarding.

B. Discuss and select Committee Chair through June 2027 (**Ben, 4-0**)

C. Discuss and select Committee Notetaker through June 2027 (**Malcom, 4-0**)

Committee members gave a round of professional introductions prior to discussion of the officer positions. Ben shared past roles and responsibilities of the ETAC chair and volunteered to serve in the role. Ben was confirmed as chair by a 4-0 vote. After a discussion of the notetaker responsibilities, Malcolm volunteered to serve and was confirmed 4-0, with Kelly offering to informally serve as backup at need.

D. Pledge of Allegiance to be recited at each meeting (No, 4-0)

E. Land Acknowledgment to be recited at each meeting (Yes, 4-0)

Ben shared background experience on Land Acknowledgments from tribal staff perspective. Tracy supported reading, asking for confirmation that the statement had been prepared directly by the Suquamish Tribe for this purpose. Clarence shared experience of having the Acknowledgment rotate speakers (with local high schools for city council meetings). The committee voted 4-0 to read the acknowledgment at meetings with rotating speakers, with a request that Paul confirm the history of the statement being prepared by Suquamish.

F. Create a Code of Conduct (draft for approval at subsequent meeting, 4-0)

Committee discussed the lack of a Code in previous ETAC work and the practices of other advisory committees, noting some redundancy with the COBI Volunteer Handbook. Paul read a basic draft code that met with general approval. The committee voted 4-0 for the draft Code be prepared in a complete form to be shared and evaluated at a future meeting.

G. Consider regular meeting schedule (4th Wednesday at 4pm, 4-0)

H. Discuss and consider recruitment for ETAC positions 6 and 7. (recruit on regular schedule, 4-0)

After a discussion on the need and process for accommodating future and/or additional members, it was decided that ETAC will follow the annual schedule of COBI sending out an advertisement for members in ~ April in 2027, and more/different members may be selected by CC in June 2027. Future applicants may include those who previously applied but missed the applicant deadline.

I. Consider and develop Committee workplan for 2026-2027 (subcommittee of Ben & Malcolm assigned, 4-0)

Interim public works director Hash made a brief statement on considering COBI's noxious weeds removal activities in the context of discussing collaboration with Kitsap at council. The committee was supportive of providing feedback, while noting that clear work directives should come from council. A subcommittee was assigned to use past ETAC workplans, the Groundwater Management Plan, and other select topics to put together a draft workplan for review at a subsequent meeting. Other potential topics included:

- Comprehensive Plan (Comp Plan) review (likely from an informational standpoint [as noted by Ben]) because as Clarence pointed out, the Comp Plan is essentially completed;
- Comments on Supplemental EIS or Draft Final EIS (i.e., this would be a follow-on to the July 2024 Draft EIS pertaining to the Comp Plan Update and Winslow Subarea Plan;
- Anticipated Shoreline Management Plan / Master Program updates

J. Agenda items for next meeting

It was noted that Chris Frey's presentation, review of the draft workplan, and review of the draft code of conduct would be carried forward from this meeting, and that Paul and Ben would touch base on the agenda.

5. The meeting was adjourned at 5:45pm.



Environmental Technical Advisory Committee

Code of Conduct

- Treat fellow members, staff, and members of the public with courtesy, dignity, and respect at all times.
- Help foster a positive, collegial, and productive meeting environment; avoid abusive, threatening, harassing, or intimidating language or behavior.
- Allow others sufficient opportunity to present their views and avoid dominating discussion or interrupting others.
- Be respectful of diverse opinions and recognize that advisory committees are intended to represent a range of community perspectives.
- Uphold the prestige of the office and avoid impropriety and the appearance of impropriety in all committee-related activities.



South Bainbridge Water System

Understanding Consumption Patterns

Prepared for: KPUD - South Bainbridge Water System

April 2026

Chris Frey

South Bainbridge Water Customer

Page 7 of 33

Presentation Outline

- 01 Executive Summary & Data Sources**
Data notes, key metrics and highlights
- 02 Customer Base & Volume**
Connection types breakdown
- 03 Seasonal Usage Patterns**
Bi-monthly trends
- 04 Residential Analysis**
Quintile, top 10% & GPD
- 05 Estimating Outdoor Use**
Indoor vs. outdoor consumption

- 06 Billing by Connection Type**
Revenue and rate analysis
 - 07 Use Modeling**
Conservation scenario analysis
 - 08 Appendix**
Analysis source & workbook reference
-

21 Slides | 8 Sections

Executive Summary

1,601

Connections

20.3M cu ft
152.0M gal

Annual Usage (1 cu ft = 7.48 gal)

\$1.74M

Annual Est. Billing (Monthly Basic +
Volume Charges only)



Residential dominates: 97.4% of connections, 92.7% of volume



Strong seasonality: 75.8% of usage occurs May–October



Usage Slanted: Top 10% of residential connections consume 32.9% of residential water, top 20% consume 50.3%



High outdoor usage: estimated at approaching 50% of all home consumption

SECTION 1

Data Source and Notes

KPUD Provided 2025 Bi-Monthly Billing Data

1,601 connections • 4 types • 6 bi-monthly periods

Units & Calculations

Water consumption in **cu ft** (1 cu ft = 7.48 gal)
61 days/period, 365 days/year for GPD calculations

Privacy & Identification

Anonymous, unique lotID per connection
No personal or location information

Connection Types

R Residential **C** Commercial **IRRIG** Irrigation **M** Multi-Family
Note: LotID 29194 re-classified R→C due to 2" meter & large 218,900 cu ft/yr use

Billing/Revenue

Calculations are monthly fixed plus consumption only from 2026 KPUD rates against 2025 volumes for analysis and modeling purposes (other fees & taxes not incl)

Billing → Usage Period Conversion

Jan bill period = Nov/Dec consumption, etc.

AS BILLED

lotID	Nov	Sept	July	May	Mar	Jan
29120	4,500	4,200	2,800	1,200	500	800



USAGE PERIODS

lotID	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec
29120	500	1,200	2,800	4,200	4,500	800

Analysis with Excel workbook
SoBIWaterUseAnalysis.xlsx

SECTION 2

Customer Base & Volume by Connection Type

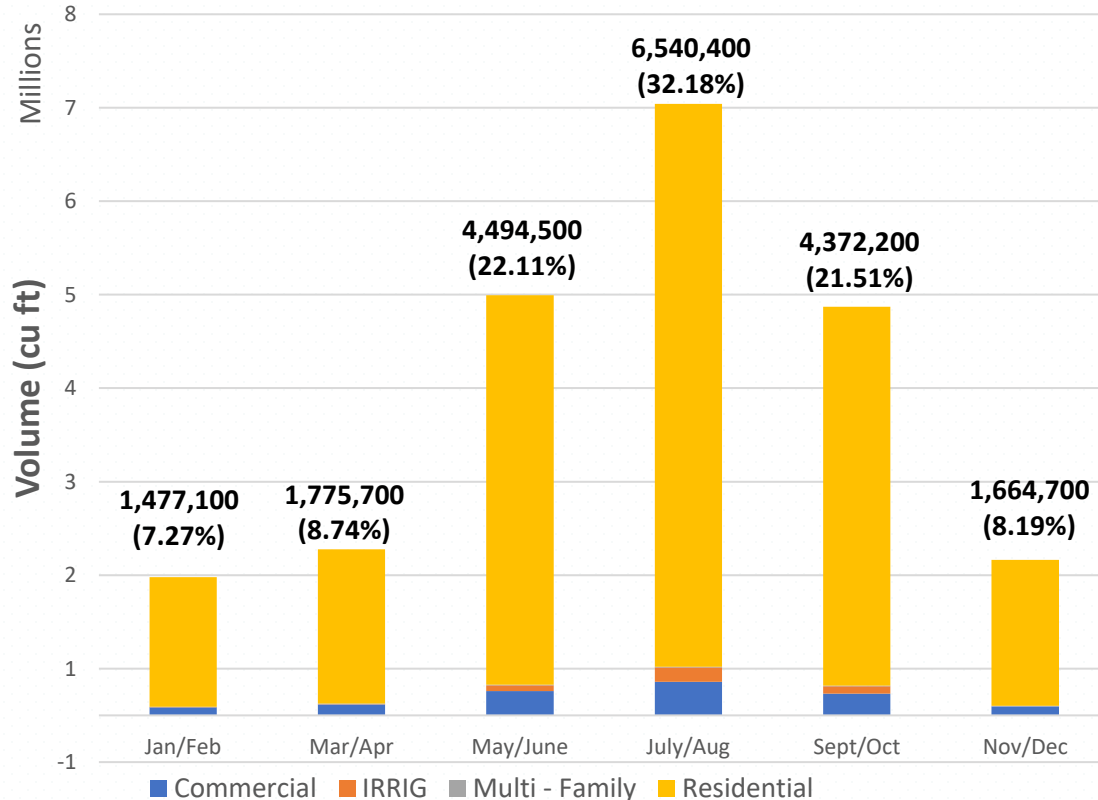
Connection Type	Connections	% of Base	Annual Volume (cu ft / gal)	% of Volume	Avg per Connection (cu ft / gal)
Residential (R)	1,559	97.4%	18,836,100 <i>140,894,028</i>	92.7%	12,082 <i>90,375</i>
Commercial (C)	34	2.1%	1,149,200 <i>8,596,016</i>	5.7%	33,800 <i>252,824</i>
Irrigation (IRRIG)	4	0.2%	300,400 <i>2,246,992</i>	1.5%	75,100 <i>561,748</i>
Multi-Family (M)	4	0.2%	38,900 <i>290,972</i>	0.2%	9,725 <i>72,743</i>
Total	1,601	100%	20,324,600 <i>152,028,008</i>	100%	12,695 <i>94,958</i>

Key Insight: Residential connections represent 97.4% of the customer base and consume 92.7% of total volume. Commercial and Irrigation connections, while only 2.4% of the base, account for 7.1% of volume — consuming 2.8x to 6.2x more water per connection than residential.

Note: Commercial includes one connection re-classified from type (R) to (C) due to a 2" size and 218,900 cu ft of annual volume

Seasonal Usage Patterns

Bi-Monthly Water Usage (cu ft) & % of Annual Total



Key Insights

75.8% of all water usage occurs **May–October**, with Jul/Aug alone accounting for nearly one-third of annual volume

Residential is the great majority of usage

Seasonal Swing

Residential usage shows a **4.3x swing** from Jan/Feb to Jul/Aug

SECTION 4

Focus on Residential Use

Residential connections represent the overwhelming majority of this water system. Understanding their consumption patterns is essential to any conservation or rate strategy.

97.4% of all connections are residential

92.7% of total water volume consumed by residential

4.3X seasonal swing in residential usage

50% of residential consumption is outdoor use

What This Section Covers

Quintile Distribution — How water volume is distributed across residential connections, from highest to lowest consumers

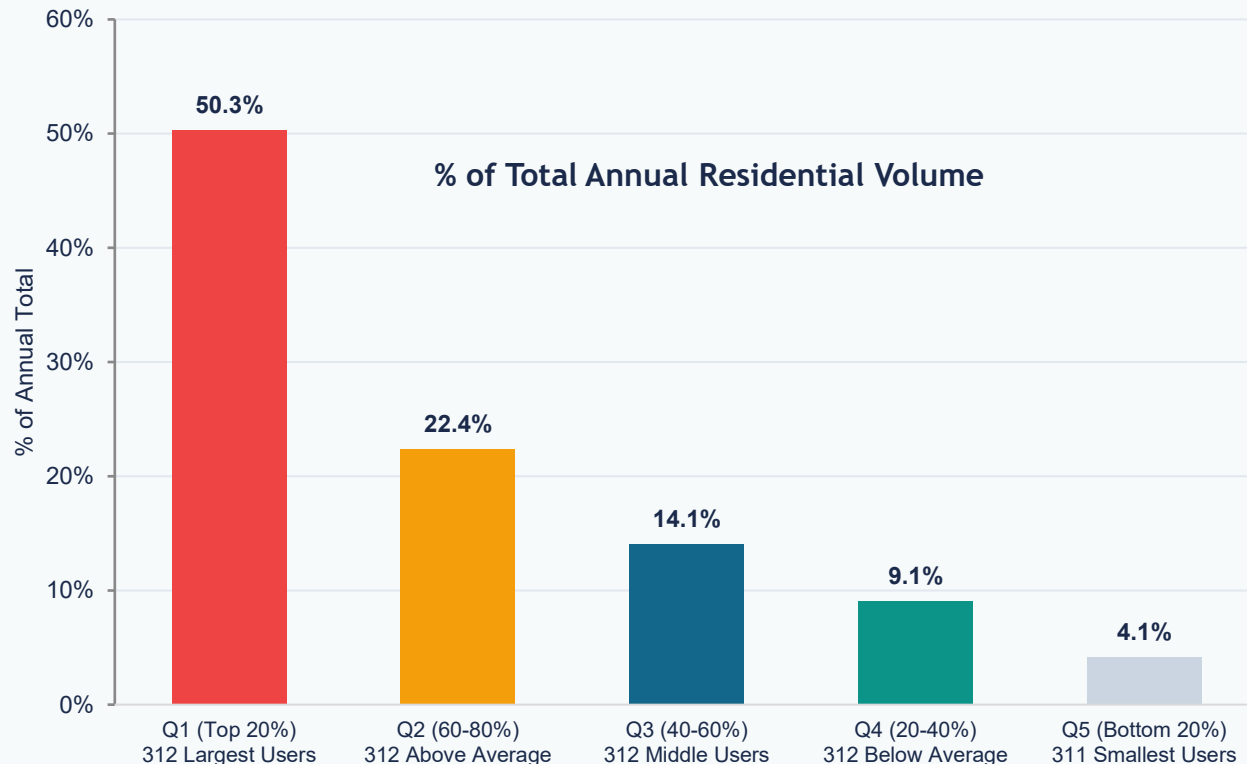
Top 10% Deep Dive — A closer look at the 156 highest-volume connections and their outsized share of consumption

Seasonal Patterns by Quintile — How daily usage rates shift across bi-monthly periods, revealing where seasonal demand is concentrated

SECTION 4

Residential Quintile Analysis

Five equal number groups sorted by annual use



50.3%

Top 20% (312 of 1,559) Share of Volume

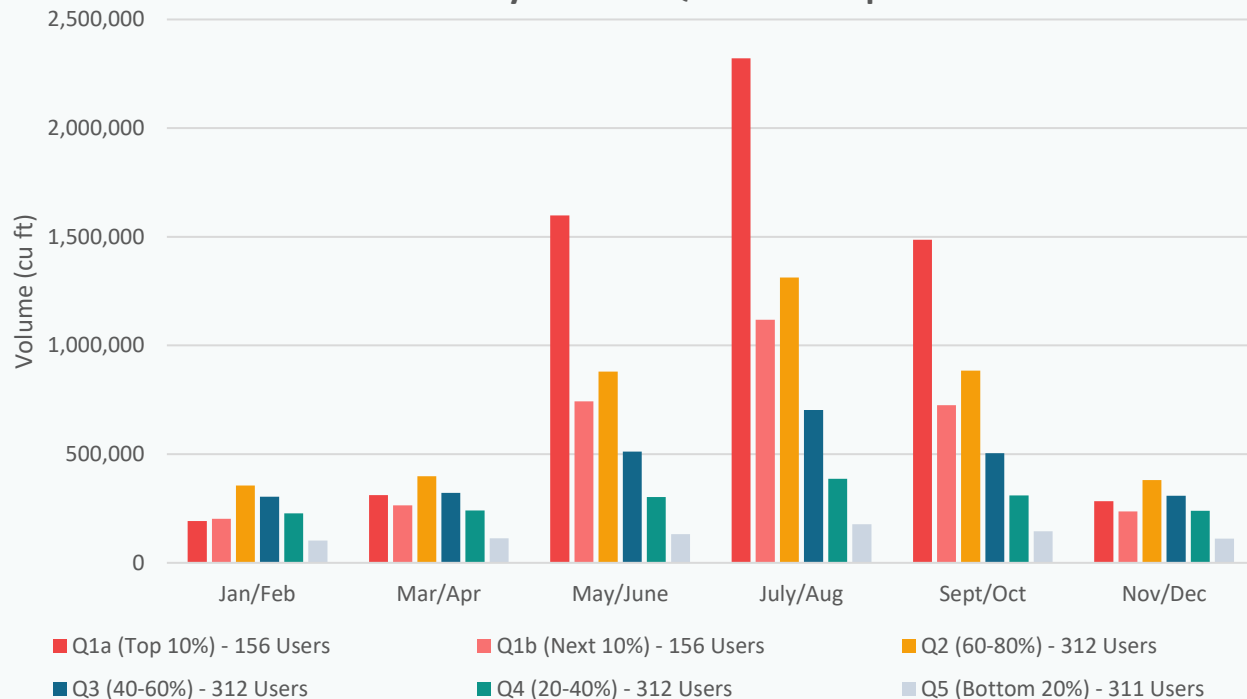
72.7%

Top 40% (624 Users) Share of Volume

Deeper Dive –

Q1 divided into top 10 and next 10 % of users

Total Volume by Period - Quintile Comparison



38.6%

Of Peak Summer Volume from Top 10%
(156 out of 1,559 users)

Top 10% Avg July/Aug Usage Comparison:

7x vs Q3 (Middle Users)

12x vs Q4 (Below Average)

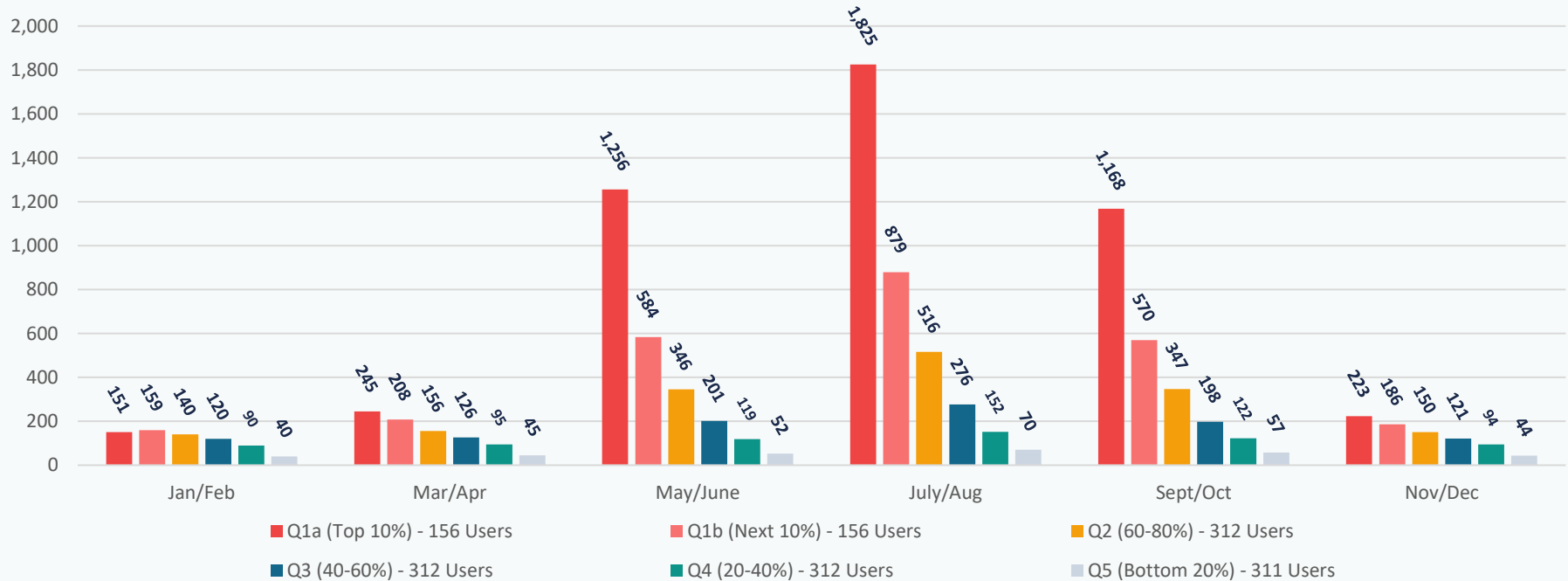
26x vs Q5 (Smallest Users)

Note: Similarity of use in Mar/Apr and Nov/Dec shoulder periods

Gallons Per Day by Quintile

Bi-Monthly Avg. GPD per User by Quintile

Note: less gpd variation across quintiles 1 through 4 in Mar/Apr & Nov/Dec periods



Residential Quintile Analysis – The Detail

Bi-Monthly Usage - Residential Total by Quintile								
Quintile	# of Users	Jan/Feb	Mar/Apr	May/June	July/Aug	Sept/Oct	Nov/Dec	Total (cu ft)
Top 10%	156	192,300	311,800	1,597,900	2,321,500	1,486,200	283,200	6,192,900
Next 10%	156	202,200	264,000	742,500	1,117,700	724,600	237,100	3,288,100
Q2 (60-80%)	312	356,000	398,000	880,300	1,313,200	883,800	380,400	4,211,700
Q3 (40-60%)	312	304,100	321,300	511,300	703,200	504,100	309,100	2,653,100
Q4 (20-40%)	312	228,400	240,600	302,800	386,300	310,700	240,000	1,708,800
Q5 (Bottom 20%)	311	102,600	113,300	132,300	177,600	144,500	111,200	781,500
Grand Total	1,559	1,385,600	1,649,000	4,167,100	6,019,500	4,053,900	1,561,000	18,836,100
Bi-Monthly Avg. GPD per user - Residential Quintiles								
Quintile	# of Users	Jan/Feb	Mar/Apr	May/June	July/Aug	Sept/Oct	Nov/Dec	Annual
Top 10%	156	151	245	1,256	1,825	1,168	223	814
Next 10%	156	159	208	584	879	570	186	432
Q2 (60-80%)	312	140	156	346	516	347	150	277
Q3 (40-60%)	312	120	126	201	276	198	121	174
Q4 (20-40%)	312	90	95	119	152	122	94	112
Q5 (Bottom 20%)	311	40	45	52	70	57	44	51
Grand Total	1,559	109	130	328	473	319	123	248

Estimating Residential Outdoor Water Use

How do we separate outdoor use from indoor use?

Indoor use quintile baselines: estimated from average of the two shoulder-season periods (Mar/Apr and Nov/Dec). **Calculated for each of quintiles 1 through 4 only**

Outdoor use: high-season consumption periods of May/Jun, Jul/Aug & Sept/Oct in each quintile 1 through 4 minus baseline

Excluded data:

Jan/Feb Excluded

110 of 376 billing periods without use (29%) fall in Jan/Feb — the most of any period. Using it as a baseline would undercount indoor use and overstate outdoor estimates.

Quintile 5 Excluded

31.5% of Q5 connections have billing periods without use, (256 of 1,866 records). With gaps in every period including high-season, indoor/outdoor separation is unreliable.

Estimated Outdoor Use

Out of 140.9M gal of annual residential use

49.4%

Outdoor Water

69.6M gal

50.6%

Indoor Water

71.2M gal

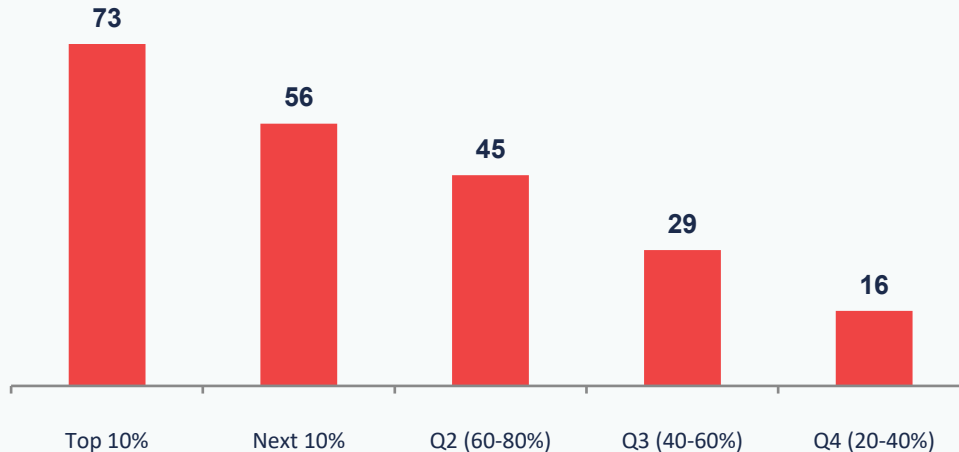
High Season water use of May-Oct of quintiles 1 -4 minus their baseline average use in Mar/Apr and Nov/Dec

SECTION 5

Outdoor Use Estimates by Quintile

Method: Low-season baseline vs. high-season comparison

% of Annual Usage That Is Outdoor



Note: Q5 (Bottom 20%) excluded due to data quality — see methodology slide

Top 10% of residential connections devote 73% of their consumption to outdoor use.

Top 10% of residences outdoor use:

4.51M cu ft / 33.7M gal

48% of all outdoor use

Estimating Residential Outdoor Use – The Detail

Outdoor Use Estimating (excl. Jan/Feb and Quintile 5 data)		Low Season (excl. Jan/Feb)		- - - High Season - - -				
Quintile	# of Users	Mar/Apr	Nov/Dec	May/June	July/Aug	Sept/Oct	Total Estimated Outdoor Use (cu ft)	% of Est Outdoor Use to Quintile's Total Use
Top 10%	156	311,800	283,200	1,597,900	2,321,500	1,486,200		
Low season periods avg use		297,500						
Outdoor use estimate by subtracting avg low season use from high season periods				1,300,400	2,024,000	1,188,700	4,513,100	73%
Next 10%	156	264,000	237,100	742,500	1,117,700	724,600		
Low season periods avg use		250,550						
Outdoor use estimate by subtracting avg low season use from high season periods				491,950	867,150	474,050	1,833,150	56%
Q2 (60-80%)	312	398,000	380,400	880,300	1,313,200	883,800		
Low season periods avg use		389,200						
Outdoor use estimate by subtracting avg low season use from high season periods				491,100	924,000	494,600	1,909,700	45%
Q3 (40-60%)	312	321,300	309,100	511,300	703,200	504,100		
Low season periods avg use		315,200						
Outdoor use estimate by subtracting avg low season use from high season periods				196,100	388,000	188,900	773,000	29%
Q4 (20-40%)	312	240,600	240,000	302,800	386,300	310,700		
Low season periods avg use		240,300						
Outdoor use estimate by subtracting avg low season use from high season periods				62,500	146,000	70,400	278,900	16%
Grand Total Estimated Outdoor Use							9,307,850	
Grand Total Annual Type R Use							18,836,100	
Percent Outdoor Use Estimate							49.41%	

Billing by Connection Type

\$1.74M*

Total Annual Billing

\$1.60M

Residential (92%)

\$0.14M

Other Types (8%)

Connection Type	# Connections	Total (cu ft)	% of Usage	Annual Charges	% of Charges	Avg \$/100 cu ft*
Residential (R)	1,559	18,836,100	92.68%	\$1,601,157	92.15%	\$8.50
Commercial (C)	34	1,149,200	5.65%	\$99,943	5.75%	\$8.70
Irrigation (IRRIG)	4	300,400	1.48%	\$26,781	1.54%	\$8.92
Multi-Family (M)	4	38,900	0.19%	\$9,613	0.55%	\$24.71
Total	1,601	20,324,600	100%	\$1,737,494	100%	\$8.55

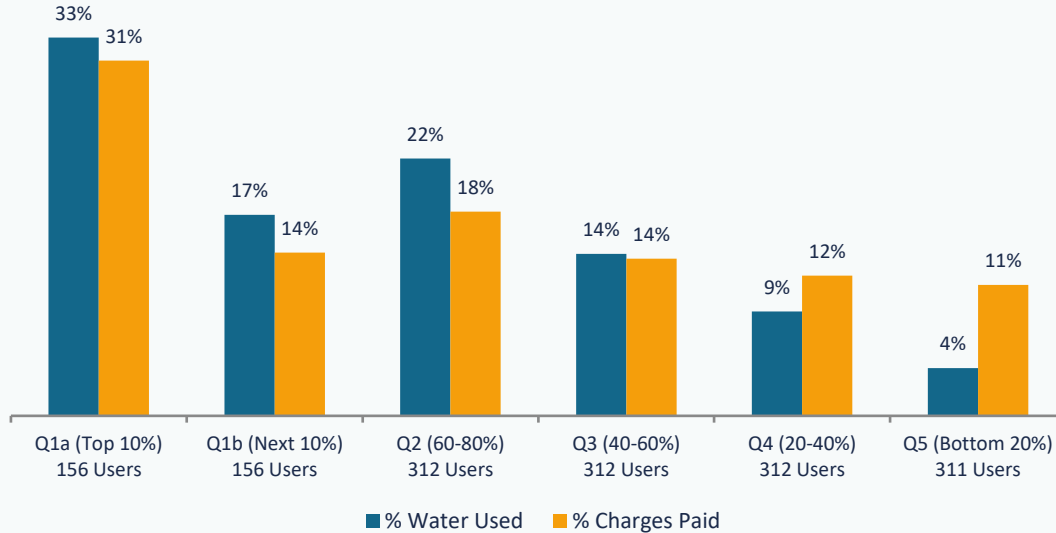
***Notes:**

Billing is derived – 2025 volumes using current 2026 KPUD rates and only the fixed monthly and consumption charges (not incl. hookups, taxes and other fees)

Avg \$/100 cu ft is blended — total billing (monthly basic charge + volume charges) ÷ total volume. Multi-family is distorted from large meter fixed charges spread over relatively lower consumption volumes

SECTION 6

Residential Use vs Billing by Quintile



Top 20% (Q1)

50.3% of usage

45.1% of total charges
312 connections — 9.5M cu ft annually

Bottom 20% (Q5)*

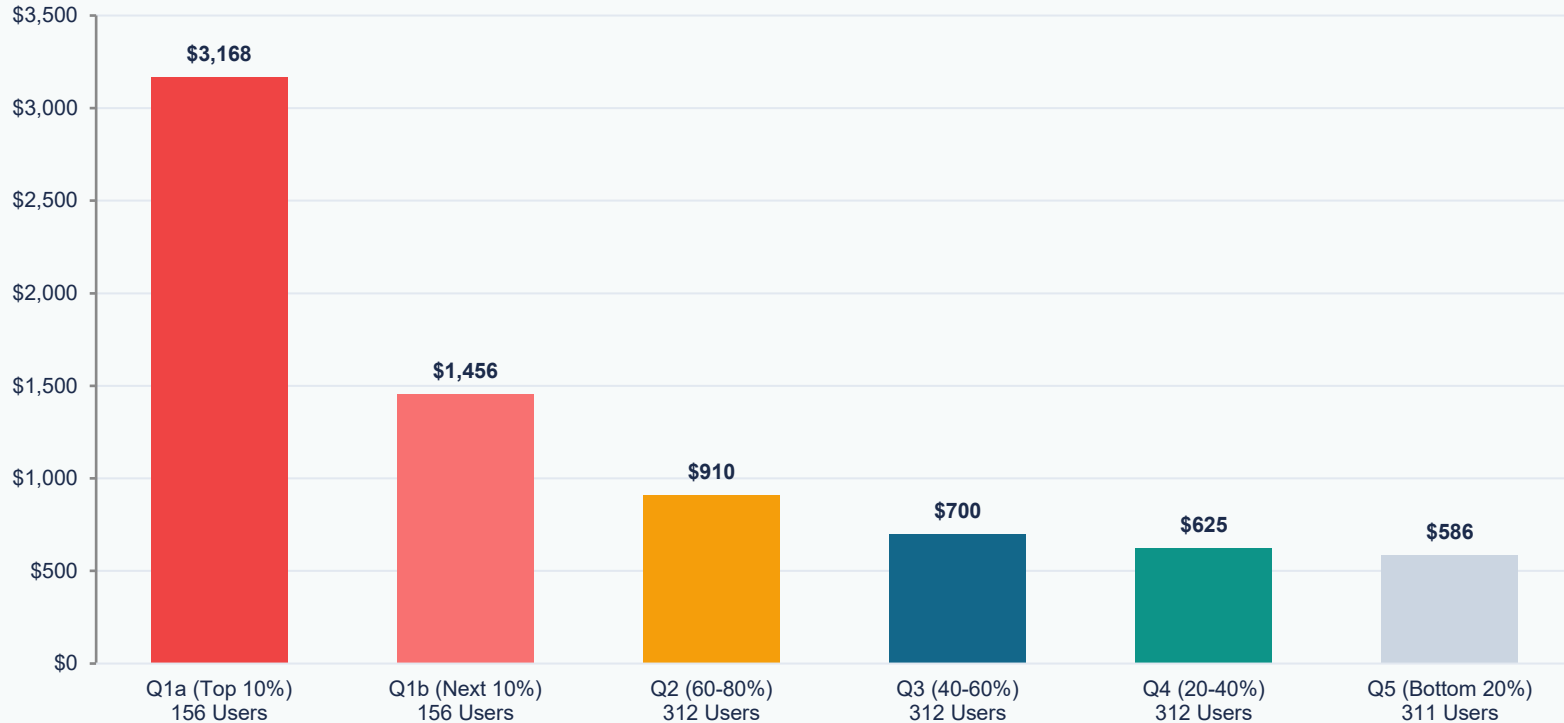
4.2% of usage

yet 11.4% of total charges
311 connections — 782K cu ft annually

*Note

Q5 has 31% of billing periods w/o use; large fixed charge impact

Average Annual Water Expense by Quintile



SECTION 6

Use & Billing Calculation Detail – Rate Table and Sample lotID's

Rate Table																		
Size	Monthly Fixed Rate	Bi-Monthly Usage Rates per 100 cu ft																
5/8		0 to 1400	1401 to 2400	2401 to 4000	> 4000													
	\$86.28	\$1.61	\$2.47	\$3.82	\$9.42													
1		0 to 2200	2201 to 3800	3801 to 6400	> 6400													
	\$180.44	\$1.61	\$2.47	\$3.82	\$9.42													
1.5		0 to 3600	3601 to 6200	6201 to 10400	> 10400													
	\$332.10	\$1.61	\$2.47	\$3.82	\$9.42													
2		0 to 5000	5001 to 8600	8601 - 14400	> 14400													
	\$501.50	\$1.61	\$2.47	\$3.82	\$9.42													
3		0 to 10000	10001 to 16800	16801 to 28000	> 28000													
	\$991.76	\$1.61	\$2.47	\$3.82	\$9.42													
Residential Quintile	lotID	type	size	Jan/Feb	Jan/Feb Bill	Mar/Apr	Mar/Apr Bill	May/June	May/June Bill	July/Aug	July/Aug Bill	Sept/Oct	Sept/Oct Bill	Nov/Dec	Nov/Dec Bill	Total (cu ft)	Annual Charges	Total (gal)
	29194 C		2	28,800	\$2,248.96	22,600	\$1,664.92	29,800	\$2,343.16	81,400	\$7,203.88	30,200	\$2,380.84	26,100	\$1,994.62	218,900	\$17,836.38	1,637,372
Q1a (Top 10%)	29826 R		5/8	900	\$100.77	1,800	\$118.70	21,500	\$1,843.14	61,500	\$5,611.14	29,200	\$2,568.48	900	\$100.77	115,800	\$10,343.00	866,184
Q1a (Top 10%)	29148 R		5/8	700	\$97.55	3,000	\$156.44	36,200	\$3,227.88	39,500	\$3,538.74	31,100	\$2,747.46	1,600	\$113.76	112,100	\$9,881.83	838,508
Q1a (Top 10%)	29155 R		1	500	\$188.49	500	\$188.49	40,300	\$3,548.08	36,700	\$3,208.96	22,200	\$1,843.06	300	\$185.27	100,500	\$9,162.35	751,740

Use / Revenue Modeling

The volume and billing data with the rate table (slide 20) enables modeling of water use scenarios.

Below: a 20% volume reduction of high season only use (May/Jun, Jul/Aug, Sep/Oct) among the top 40%:

2.2M

cubic feet saved annually

16.6M gallons
10.9% of total system volume

-\$163,513

annual revenue

9.4% of system revenue

260

equivalent # of households

*Annual use of middle quintile (40% - 60%)
users*

The Trade-Off: Volume drops 10.9% but revenue drops only 9.4% — because the highest-tier consumption ($\geq \$9.42/100$ cu ft) is cut first.

Per-quintile: Q1a -1.08M cu ft / -\$89.9K · Q1b -517K cu ft / -\$39.1K · Q2 -615K cu ft / -\$34.5K

Appendix: Analysis Source

SoBIWaterUseAnalysis.xlsx

1,601 accounts across 4 user types (R, C, M, IRRIG) | 6 bi-monthly billing periods | 14 analysis worksheets

WORKSHEET INDEX

- 1. Original File** — Raw source data as received (1,602 lot records)
- 2. Period Re Label** — Corrected chronological bi-monthly labels
- 3. Sorted by Type by Total Usage** — Accounts ranked by type & consumption
- 4. Vol & GPD by Type** — Volume & gallons/day by user type (w/chart)
- 5. Seasonal % of Total** — Seasonal usage patterns (w/chart)
- 6. Seasonal Vol_%_Type Chart** — Combined volume/type stacked visual
- 7. Type R Data** — Residential detail, missing data & meter size analysis
- 8. Quintile Analysis** — Residential usage in 20% groupings (w/chart)
- 9. Quintiles w/Q1 Split** — Top 10% vs Next 10% deep dive (w/chart)
- 10. Monthly GPD by Quintile** — Gallons/day by tier & period (w/chart)
- 11. Irrigation Estimating** — Outdoor vs indoor use methodology
- 12. ID Billing Sort by Type & Vol** — Account-level billing with quintile assignments
- 13. Volume vs Billing** — Consumption vs revenue comparison (w/chart)
- 14. Modeling** — Rate structure & scenario analysis workspace

KEY METRICS

20.3M cu ft annual usage (152M gal) **92.7%** residential **75.8%** peak season (May–Oct) **Top 20%** = 50.3% of residential use

NOXIOUS WEED CONTROL

Chapter 16.30 Least-Toxic Products List — Proposed Update

THE PROPOSAL

Public Works is bringing forward a proposed update to Chapter 16.30: **adding a small set of non-restricted, low-toxicity herbicides** to the least-toxic products list for targeted use on designated noxious weeds on city property. This memo walks through what we're proposing, why, and what safeguards are built in.

WHY WE'RE BRINGING THIS FORWARD NOW

- **Kitsap County no longer removes noxious weeds for cities.** Their program restarted in 2024 in a coordinator role only, so removal now falls entirely to the city.
- **Public complaints are climbing.** SeeClickFix logged 15 reports in 2024, 6 in 2025, and 12 through July 2026 — already 80% of 2024's total, halfway through the year. Actual demand is higher; phone calls, direct emails, and miscategorized SeeClickFix entries aren't counted.
- **Licensed applicators are declining to bid on city work** because the current 16.30 list doesn't include an effective herbicide for the weeds we need to control.
- **Chapter 16.30 constrains only the city.** WSDOT, Kitsap County, and private property owners around the island already spray these same products without restriction.

WHAT WE'RE PROPOSING — FIVE PRODUCTS

We're proposing five products, all rated EPA Toxicity Class III — the lowest toxicity category — and all classified as non-restricted-use and practically non-toxic to mammals. Four of the five carry EPA aquatic labels, meaning they're approved for use on shorelines and wetlands under a Washington Ecology permit.

- **AquaNeat** (glyphosate) — aquatic-approved; targets knotweed, reed canarygrass, and Himalayan blackberry.
- **Alligare Imazapyr 4 SL** — aquatic-approved; targets phragmites, knotweed, gorse, and tree-of-heaven.
- **Garlon 3A** (triclopyr amine) — aquatic-approved; targets blackberry, Scotch broom, English ivy, and poison hemlock.
- **Reward** (diquat dibromide) — aquatic-approved; targets floating and submerged weeds like watermilfoil and watermeal.
- **Escort XP and Telar XP** (metsulfuron and chlorsulfuron) — upland use only; target perennial pepperweed, tansy ragwort, and thistle.

THIS IS HOW CHAPTER 16.30 IS DESIGNED TO WORK

Chapter 16.30 was written to be updated. The Council has amended the list before, through the same public process now available for this proposal.

- In **2003**, the Council adopted Chapter 16.30 and its initial least-toxic products list.
- In **2006**, the Council added glyphosate (Roundup) specifically for Japanese knotweed — using the same amendment process available today.
- In **2007**, the Council added imazapyr to allow aquatic knotweed treatments.
- In **2023**, the Council reviewed the list again and made no changes at that time.

SAFEGUARDS BUILT INTO THE PROPOSAL

Expanding the list doesn't mean expanding how it's used. The proposal keeps every existing 16.30 protection in place and adds several more:

- Use is **restricted to designated noxious weeds only** — not general grounds maintenance or aesthetic vegetation control.
- All applications would be performed by **licensed applicators** under the pending Kitsap County Interlocal Agreement.
- The city would **post public notice at every treatment site** and provide the Council with an **annual report** on products used, quantities, and locations.
- The list remains subject to Council review and public comment per Chapter 16.30, so any future changes come back through this same process.

NEXT

Tonight, we are briefing this Committee on the proposal so you are aware of it before it goes to Council.

Public Works plans to introduce this to Council at the September 15th Study Session.

- Groundwater Management Plan analysis and support
 - GWMP Modeling Results and Uncertainties
 - ETAC will provide further analysis of the ranges of uncertainty in climate and recharge estimates and how those uncertainties propagate into recommended management actions.
 - Goal: ensure the Council and public understand not just point estimates but the confidence bounds behind them, particularly where uncertainty could affect land use or permitting decisions.
 - Managed Aquifer Recharge (MAR) Siting Review
 - Review island areas favorable for managed aquifer recharge, using existing hydrogeologic mapping, the GWMP's recharge zone characterization, and the Anchor QEA beneficial reuse assessment as a starting point.
 - Goal: identify candidate areas and surface any data gaps.
 - Appendix A Matrix of Management Actions
 - Review the matrix of management actions from Appendix A and its prioritization of actions by feasibility, cost, and hydrologic benefit.
 - Provide ETAC's technical assessment to Council on which actions merit near-term implementation versus further study.
 - Stream, Well, and Production Monitoring
 - Discuss the current state of stream, well, and production monitoring networks on the island — coverage, gaps, and data quality.
 - Coordinate with COBI staff (and Kitsap Public Utility District or other relevant monitoring bodies, as appropriate) on opportunities to expand or improve monitoring in support of GWMP implementation.
 - Goal: ensure monitoring is adequate to detect trends and validate the GWMP's modeling assumptions over time.
 - Outreach and education
 - Participate in education and outreach events with the public concerning the Groundwater Management Plan when requested by city staff.

- Noxious Weed Management
 - Study current noxious weed management practices on Bainbridge Island and in Kitsap County generally, including coordination with the Kitsap County Noxious Weed Control Board.
 - Provide technical information to Council on noxious weed impacts to habitat and critical areas (as requested).

- Shoreline Management Program (SMP) — Periodic Update and Rulemaking
 - Review city shoreline management in light of the upcoming shoreline rulemaking and the periodic update cycle.
 - Provide ETAC's technical review and comments on draft SMP amendments (as requested by Council or COBI staff).

- Technical Environmental Support for Council-Requested Projects
 - Provide technical environmental support for any projects as requested by Council.
 - Study environmental topics that may become relevant or a concern of council as deemed appropriate by staff and ETAC.

August 14, 2026

I took an action at the last ETAC meeting to present some type of summary of priority items in the Final Groundwater Management Plan (GWMP). I noted in the meeting that these priority items are primarily listed as Management Strategies.

The following presents the GWMP Executive Summary and highlights the GWMP's interpretation of high priority management strategies.

In brief, these are:

- implementation of a water conservation plan;
- stormwater upgrades and enhancing surface water management;
- spreading out production wells, evaluating interties or consolidation between large systems and increasing public water storage;
- Consolidating smaller water systems and users with larger public systems;
- Evaluating and implementing Managed Aquifer Recharge, including following through on the Manzanita Stormwater Recharge Park project, which is currently grant-funded.

(Note: The State of Washington is no longer offering this funding of ~ \$800,000 because the City failed to submit their Final Comprehensive Plan by the June 30, 2026 deadline. This ~ \$1.1M project (all funds would come from the City General Fund) is currently listed as a line item in the Draft Capital Improvements Projects (Stormwater).

Also pasted in is a table of possible stormwater upgrades (this is from a Draft Capital Improvements Projects (Stormwater) Table obtained from the City website, July 5, 2026) that are under consideration in City Council's budget development process.

Executive Summary

The purpose of the Groundwater Management Plan (GWMP) is to protect the Island's Sole Source Aquifer system. Without a plan, the City of Bainbridge Island (City) runs the risk of overdrawing from groundwater sources, which could lead to dry and unrecoverable drinking water wells, seawater intrusion, and a host of negative impacts on critical aquatic environments and related species.

The GWMP is based on historical evaluation and monitoring stretching back over 20 years, including updated modeling and analysis performed in 2025 and 2026. The critical findings from this work include the following:

- All models show that impacts of reduced recharge are significantly larger than impacts from increased pumping. In addition, recharge rates have a roughly 1:1 impact on changes in streamflow. Septic return flow contributes to groundwater recharge and reduces the net consumptive use of groundwater pumping.
- In modeling scenarios that reflect anticipated future conditions, groundwater levels remained above sea level in the aquifer system for those scenarios with pumping that was less than 1.5 times current rates. Groundwater levels fell below sea level in some aquifers for scenarios with pumping that was greater than 2.0 times current rates. Groundwater levels that remain below sea level will eventually result in saltwater intrusion.
- A rough estimate of sustainable yield for the aquifer system is in the range of 1,200-3,000 acre-feet/year (AFY). Current consumptive use is estimated to be in the range of 1,000-1,800 AFY (pumping: 2,000-3,000 AFY, minus return flow of 40-50%). This current usage could be sustainable or unsustainable, depending on what the actual values are for sustainable yield and current

use. Because these actual values cannot be known with certainty, it is not possible to say definitively if the current usage is sustainable or unsustainable.

- If all allowable water from permitted water rights and ~1,700 private well allowances was put to use, then usage would almost certainly exceed sustainable yield.

It is important to interpret these findings in light of the subjectivity associated with definitions of sustainability. Alley et al. (1999) defined groundwater sustainability as “the development and use of ground water in a manner that can be maintained for an indefinite time without causing unacceptable environmental, economic, or social consequences.” Ultimately “unacceptable” must be collectively defined, and systems must be measured and monitored to ensure unacceptable thresholds are not crossed.

Given the findings, the GWMP prioritizes management actions that will help the City create a robust measurement and monitoring system, and contribute to the sustainable and responsible use of water resources (see Appendix A for a comprehensive list), including:

- Promoting water conservation, including developing conservation goals, piloting conservation strategies, and evaluating results.
- Enhancing storm and surface water management, including implementing a stormwater source control program and considering rebates for stormwater retrofits.
- Spreading out production wells, evaluating interties or consolidation between large systems and increasing public water storage. These three actions each have independent benefits but are likely to be pursued together as part of a coordinated effort with KPUD.
- Consolidating smaller water systems and users with larger public systems, which will reduce reliance on shallow aquifers, and ultimately allow more regulation regarding the use of water resources.
- Evaluating and implementing Managed Aquifer Recharge, including following through on the Manzanita Stormwater Recharge Park project, which is currently grant-funded.

Ultimately, the findings from the GWMP indicate that the City is not currently in a groundwater crisis. If managed responsibly, the Island's water supply for human consumption is secure for the 20-year planning horizon given steady population growth combined with changes in climate. Increased water conservation and managed aquifer recharge actions are necessary to mitigate future, and restore historic, impacts on wetlands and streams, and to provide resiliency for human consumption in the 50-year horizon and beyond. Implementing these actions will require significant resources and productive partnerships with other authorities to ensure success and achieve wholistic sustainability.

City of Bainbridge Island
Stormwater CIP (2025- 2030)
2025 - 2026 Adopted Budget

Project / Location	Tax Supported	Wtr Component	Swr Component	SSWM Comp	Prior Years	2025	2026	2027	2028	2029	2030	Total
STORMWATER PROJECTS - 6-YEAR CIP (1000s)												
Eagle Hrbr. Dr. @ McDonald Creek Culvert <i>Eagle Harbor Dr</i>				Y	376	800	400	-	-	-	-	1,576
Fletcher Bay Road Culvert Replacement <i>High School Rd & Fletcher</i>				Y	1,560	(320)	-	-	-	-	-	1,240
Springbrook Fish Passage <i>Fletcher Bay Rd</i>	Y			Y	1,325	15	5,812		-	-	-	7,152
Eagle Harbor Drive Cooper Creek Fish Passage <i>Head of Bay</i>				Y	1,608	320	-	-	-	-	-	1,928
New Sweden Culvert Replacement				Y	-	-	100	-	300	-	-	400
Issei Creek Culvert Replacement				Y	-	-	-	250	-	850	-	1,100
Manzanita Stormwater Recharge Park at BINFF					-	185	-	975	-	-	-	1,160
City Hall Parking Lot Retrofit <i>City Hall</i>				Y	257	-	-	-	-	-	-	257
City Funding					4,284	1,000	275	250	300	850	-	6,959
Grant Totals					842	-	6,037	975	-	-	-	7,854
TOTAL					5,126	1,000	6,312	1,225	300	850	-	14,813