

SUNSHINE COAST REGIONAL DISTRICT STAFF REPORT

TO: Committee of the Whole – November 14, 2024

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SUBJECT: **HIGH WATER USERS – CHAPMAN AND SOUTH PENDER WATER SYSTEMS**

RECOMMENDATION(S)

- 1) **THAT the report titled High Water Users – Chapman and South Pender Water Systems be received for information.**
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BACKGROUND

At the June 27, 2024 Regular Board meeting, the Board passed the following motion:

203/24 *High Water Users*

THAT the Chapman and South Pender Harbour Water System High Water Use tables be referred to the next appropriate open Committee of the Whole meeting with the classification of users described by business category or street name only, for the purpose of future policy development.

At the October 10, 2024, Regular Board meeting, the Board passed the following motion:

278/24 **Recommendation No. 4** *Volumetric Billing for High Water Users*

The Committee of the Whole recommended that staff explore the implementation of volumetric billing for high water users as soon as possible.

The purpose of this report is to provide information on high water users and options for implementing volumetric billing for high water users.

DISCUSSION

Supporting fairness among water users, both for costs and access to water supply, is the main benefit for the early transition of high-volume residential water users to volumetric billing. The implementation of volumetric billing for high users on a water system could result in a reduction of water use by those users. However, depending on the values and situation of the users, there is no certainty that doing this will have an impact on the overall

use in 2025. Realizing the demand management impacts through the pricing incentive for water efficiency may take several years to be noticeable.

The legal framework for such a transition can be found in *Water Rates and Regulation Bylaw No. 422*, which outlines the Sunshine Coast Regional District's (SCRD's) authority to bill any property at a metered rate. The authority to make this decision lays with the General Manager of Infrastructure Services.

High water users

As per motion 203/24, the four tables presented in the attachments list the high water users based on Q3 consumption in 2023 for the South Pender and Chapman Water System. For the purpose of this report the following definition of 'high water users' was used: "The high water users are those with the highest metered water use in Q3 of 2023". The delineating criterion of Q3 consumption was selected, instead of annual consumption, to illustrate the 'highest water users' during elevated Water Conservation Stages.

The tables presented in the attachments include both properties identified as having continuous flow (CF), which often indicates potential leaks, and properties with no leaks, based on August 2023 status. A comparison from winter (Q1) to summer (Q3) consumption illustrates seasonal changes.

- Table 1 – Top 50 metered water rate property accounts on the Chapman Water System (generally commercial, industrial, and institutional)
- Table 2 – Top 25 flat rate water use accounts on the Chapman Water System (generally residential)
- Table 3 – Top 25 metered water rate property accounts on the South Pender Water System (generally commercial, industrial, and institutional)
- Table 4 – Top 25 flat rate water use accounts on the South Pender Water System (generally residential)

Data notes

- For the Chapman Water System, 50 users are included to account for system size and capture the range of water used by high users.
- For Table 2, the list of top users may not be complete as the District of Sechelt and the shíshálh Nation Government District were predominately unmetered in 2023.
- Leak data reflects August 2023 meter information, a second column provides updated meter information from September 2024.

- The SCRD has incomplete data on the actual number of dwellings connected to each service connection and the actual water type of usage occurring on a property, e.g., unauthorized dwellings, or unregistered businesses activities.
 - Property classifications are assessed and defined by BC Assessment. They can be used by the SCRD to categorize water use:
 - Class 1, Residential
 - Class 5, Light Industry
 - Class 6, Business and Other
 - Class 8, Recreational Property, Non-profit Organization
 - Class 9, Farm
- *Note, a mixed-use property can have multiple classifications

Analysis

As per motion 278/24, to evaluate the impact of transition of high water users to metered rates, Figures 1 and 2 (below) illustrate the annual average distribution of water users by 100 cubic meters (m3) segments up to 1,000 m3, and all accounts using greater than 1,000 m3 annually.

Analyses for both the South Pender and Chapman Water Systems indicate that on average **less than 5% of accounts use more than 30% of the water supply**. It is important to note that for the Chapman Water System, the analysis is only relevant to metered accounts and does not include the majority of the District of Sechelt and the shíshálh Nation Government District. However, it can be reasonably forecasted based on known jurisdictional patterns, that when all accounts are metered, the distribution patterns of water usage by percentage of accounts will remain consistent.

At this time, analyses were only considered for Chapman and South Pender Water Systems as these supply sources are significantly impacted by seasonal drought.

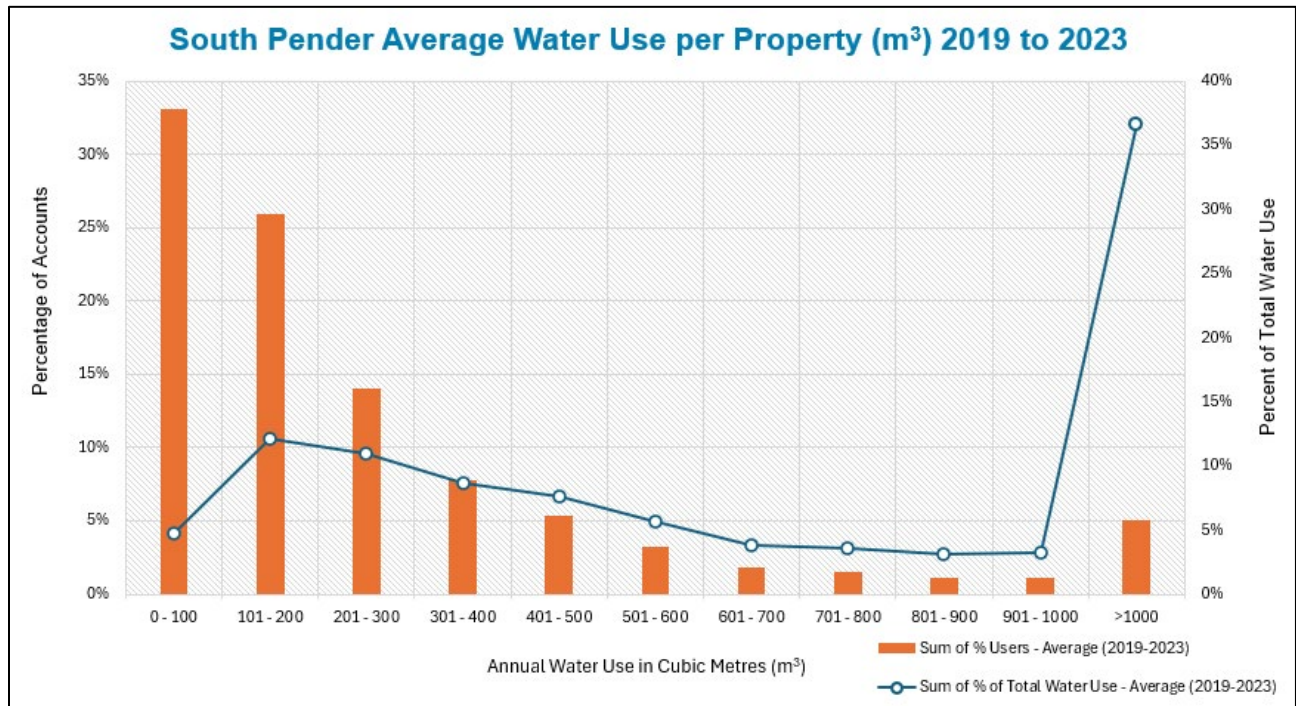


Figure 1 – South Pender Water System distribution of use % of accounts and % of supply.

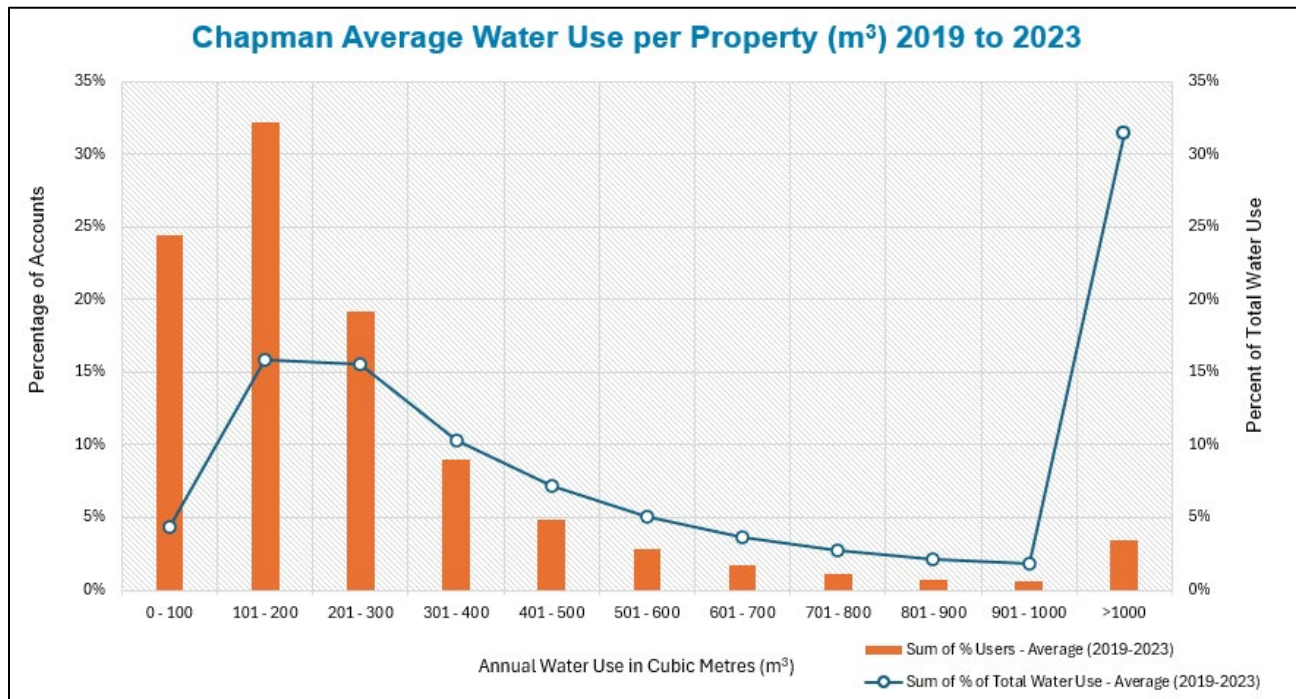


Figure 2 – Chapman Water System distribution of use % of accounts and % of supply.

An expedited transition to a metered rate for the high water users should be considered in the context of the overall implementation schedule for volumetric billing in the SCRD water systems.

The current implementation schedule for volumetric billing is:

Phase 1: In the year before the rate structure changes, mock volumetric bills will be sent out. These "mock bills" will be for educational purposes only. They will give residents and businesses the opportunity to see how they would be billed if they were paying volumetric rates.

Phase 2: The shift to volumetric billing will occur, and properties will be billed at the new volumetric rate. Annual reviews of rates will continue.

Water Service	Year	Approach
North and South Pender Water Service Areas	2025	Phase 1 (mock bills)
North and South Pender Water Service Areas	2026	Phase 2
Regional Water Service Area	2026	Phase 1 (mock bills)
Regional Water Service Area	2027	Phase 2

An expedited transition of high water users on the South Pender Harbour and Chapman water system could be considered as unfair as any high water users in any of the other water systems would be exempt from such transition. This would also be the case for any high water users within the District of Sechelt.

Any transition based on Q3 2023 data will be influenced by the presence and magnitude of potential leaks at the time of data analysis. Many previous leaks have now been resolved as outlined in Tables No. 2 and No. 4; therefore, the expected demand management benefits of transitioning flat-rate residential properties may be limited. Some of these properties might also be under different ownership in 2025 compared to Q3 2023.

Given the volumetric billing implementation schedule and the potential scope of high water users to include in an early transition, staff developed the following three (3) options:

Option 1: Do not prematurely transfer high water users

Under this option, all users would transition to a volumetric billing rate system at the same time, as per the schedule listed above.

There is no need for the Board to consider any recommendation if this option is preferred.

Option 2: Transfer top 1% high water users:

Under this option the top 1% of the high water users would be transferred to a metered rate. Staff suggest the following recommendations wording for this option:

(2) THAT the top 1% of flat rate Class 1 residential properties, based on a three-year average, for the Chapman System be moved to metered rate beginning Q3 (July 1) 2025;

(3) AND FURTHER THAT the top 1% of flat rate Class 1 residential properties, based on a three-year average, for the South Pender Water System be moved to metered rate beginning Q1 (January 1) 2025;

The approximate number of properties transitioned under this option is 40 and under Recommendation (3) is 10.

Option 3: Transfer top 5 % high water users

Under this option the top 5% of the high water users would be transferred to a metered rate. Staff suggest the following recommendations wording for this option:

(4) THAT the top 5% of flat rate Class 1 residential properties, based on a three-year average, for the Chapman System be moved to metered rate beginning Q3 (July 1) 2025;

(5) AND FURTHER THAT the top 5% of flat rate Class 1 residential properties, based on a three-year average, for the South Pender Water System be moved to metered rate beginning Q1 (January 1) 2025;

The approximate number of properties transitioned under option 2 is 225 and under Recommendation (5) is 40.

Organization and Intergovernmental Implications

Early transition of properties from flat to metered rates require a minimum of 2 hours of staff time per property related to account changes and communications. The timing requirement can significantly increase if dispute or issue management is required, including from frontline staff, management and senior management. As comparison, the most recent transition of food producing farm properties (Class 9) to metered rates has resulted in such circumstances and took on average over two hours per property.

Additionally, as customer classification and rate structure decisions related to the Volumetric Billing Project are not yet determined, any accounts transitioned in advance will need another new account created when system-wide volumetric billing is implemented. For property owners this may create confusion after experiencing several account changes in succession.

Importantly, key staff members required to complete the work to transition high users early are the same staff who are working towards the implementation of volumetric billing. Implementing Option 1 (transition of the top 1% of high water users) is estimated to take up to three weeks of fulltime work at a minimum from frontline staff and additional time from (senior) management if a significant increase in dispute or issue management is required. This would impact the already very critical timelines for the implementation of the Volumetric Billing Program as per its current schedule. This delay will most likely result in the current implementation schedule not being met.

An early transition of the top 5% of the high water users (Option 2) would certainly result in a delay in the implementation of the Volumetric Billing Program of one billing cycle (one year).

Staff have considered the possibility to reassign current staff resources to allow for this work to take place and considered this not being feasible without impacting general operations and service delivery.

Financial Implications

An early transition of the high water users to a metered rate would result in a marginal increase in the user-fee revenue for the Regional Water Service and the South Pender Water Service.

Timeline for next steps or estimated completion date

Transitioning high water use properties to a metered rate could be initiated by January 1 and July 1, 2025, for South Pender and Chapman Water Systems, respectively, at the earliest. Staff would undertake the administrative work and communicate with the residents prior to that date.

Communications Strategy

Should any recommendations (2) through (5) be selected, direct communication will take place to impacted property owners by mail prior to the implementation date of this transition to a metered rate. For the South Pender Harbour Water System users that will have to occur within the first weeks of December 2024.

STRATEGIC PLAN AND RELATED POLICIES

This staff report is aligned with the Board’s Service Delivery Focus Area of Water Stewardship: Improve water demand management and increase the efficiency of water use by completing installation of water meters and implementing volumetric billing.

CONCLUSION

Water meter data shows a small number of residential high water users in both the South Pender and Chapman Water Systems using a substantial percent of the total community supply. By 2027, it is anticipated that all SCRD water rate schedules will include a volumetric billing structure.

Under authority of Bylaw No. 422, the SCRD can implement metered rates to any property prior to the implementation date of the Volumetric Billing Program for a specific water system if the Board chooses to expedite transitioning high water users to a metered rate on South Pender and Chapman Water Systems by January 1 and July 1, 2025, respectively.

Staff presented 3 options for an expedited transition of high water users to a metered rate for the Board consideration. For consideration, while early transition may reduce water use by high users and support community conservation, it would also impact the ability to implement the Volumetric Billing Program as per the current schedule and would result in an inequality in billing amongst high water users on SCRD Water system.

Reviewed by:			
Manager		Finance	X – B. Wing
GM		Legislative	
I-CAO	X – T. Perreault	Other	

Attachments:

- Attachment A: Table 1 - Chapman S Chapman System – Top 50 Metered Rate Properties
- Attachment B: Table 2 - Chapman System – Top 25 Flat Rate Properties
- Attachment C: Table 3 - South Pender – Top 25 Metered Rate Properties
- Attachment D: Table 4 - South Pender – Top 25 Flat Rate Properties

Attachment A

TABLE 1 - CHAPMAN SYSTEM – TOP 50 METERED RATE PROPERTIES (Litres/day)							
Class	Q1	Q2	Q3	Q4	Summer (Q3) vs Winter (Q1)	CF Status (Aug 2023)	CF Status (Sept 2024)
6	47,382	71,967	54,319	60,455	6,937	NA	NA
8	909	72,525	44,164	38,740	46,046		
6	30,146	24,856	38,209	30,824	8,063	NA	NA
1,5,6,9	13,172	26,287	37,906	8,804	24,734	CF	CF
6,8	189	75,342	33,943	134	33,754		
1,6	9,196	19,213	29,817	14,191	20,621	CF	CF
1,6,8	16,966	20,444	27,725	24,281	10,759	CF	CF
6	39,439	42,425	26,805	8,118	-12,634	CF	
1,6	110	34,974	21,789	2,895	21,680		
8	1,584	33,438	21,476	4,059	19,892		
6	10,409	16,003	18,330	7,259	7,920	CF	CF
6	14,161	25,830	15,985	31,588	1,824		
8	273	9,378	15,701	774	15,428	CF	CF
6	380	25,205	14,006	3,890	13,626		CF
1,9	1,926	10,008	12,905	2,187	10,979	CF	CF
8	0	31,813	12,546	32	12,546		
1,9	726	6,808	10,449	999	9,722	CF	CF
1,5	645	10,437	10,342	696	9,697		
6,8	12,994	7,139	9,758	3,794	-3,236	CF	CF
6	249	14,869	9,148	232	8,900		
1,6,8	1,512	3,551	9,021	402	7,509	CF	CF
6	4,748	5,680	8,211	8,031	3,463		
6	4,270	7,475	7,628	2,432	3,358		
1,6,8	1,658	3,937	6,981	2,429	5,323		
6,8	1,984	3,239	6,684	5,666	4,700	CF	
1,9	313	2,408	6,519	391	6,206		
1	28,290	12,998	6,477	4,390	-21,813	CF	CF
6	1,503	2,393	6,264	4,758	4,760		
1,6	4,440	5,296	6,229	4,744	1,789	CF	CF
1,9	701	4,901	6,047	426	5,346	CF	CF
8	1,682	5,392	5,899	3,222	4,216	CF	CF
1,9	992	11,346	5,651	220	4,659		
1,9	383	5,451	5,474	382	5,091	CF	

TABLE 1 - CHAPMAN SYSTEM - TOP 50 METERED RATE PROPERTIES (Litres/day)							
Class	Q1	Q2	Q3	Q4	Summer (Q3) vs Winter (Q1)	CF Status (Aug 2023)	CF Status (Sept 2024)
1,6	1,573	4,286	5,456	2,214	3,883	CF	CF
1,9	1,540	11,285	5,390	777	3,850		
1	25	3,889	5,227	2	5,227		
6	5,025	4,492	4,978	6,558	-47	CF	CF
1,9	1,292	4,462	4,928	904	3,636	CF	
5	3,557	5,952	4,802	3,066	1,245	CF	
1,6	658	4,902	4,757	755	4,099		
6	1,079	5,305	4,494	1,576	3,415	CF	CF
1,9	2,433	4,715	4,412	3,423	1,979	CF	CF
1,9	452	3,516	4,297	898	3,845	CF	
5,6,9	1,616	2,167	3,999	1,450	2,383		
8	124	425	3,642	324	3,518		
1,6	305	2,055	3,532	312	3,227		
6,8	369	2,849	3,517	3,813	3,148	CF	
5	3,573	3,598	3,500	3,783	-73		
6	0	13,540	3,474	0	3,474		
6,8	5,724	5,591	3,259	3,285	-2,465	CF	

Table Legend

CF = continuous flow 24 hours a day, for 15 or more days (potential leak)

NA = analog meter (continuous flow/leak detection not possible)

Attachment B

TABLE 2 - CHAPMAN SYSTEM – TOP 25 FLAT RATE PROPERTIES (Litres/day)							
Area	Q1	Q2	Q3	Q4	Summer (Q3) vs Winter (Q1)	CF Status (Aug 2023)	CF Status (Sept 2024)
B	3,733	8,046	30,686	2,624	26,954	CF	
B	7,338	45,648	18,039	1,643	10,700		
D	5,134	7,719	16,559	130	11,425	CF	
E	265	417	15,913	265	15,648	CF	
E	912	11,330	14,988	987	14,075	CF	
E	926	9,334	14,161	1,523	13,235		
DOS	964	6,080	13,787	1,037	12,823	CF	
B	1,189	4,437	12,906	23,520	11,717	CF	CF
E	3,957	6,004	12,502	740	8,545	CF	
B	6,466	5,133	12,349	16,581	5,883	CF	CF
B	141	464	11,811	71	11,670	CF	CF
E	1,092	3,349	11,787	5,352	10,695	CF	
D	185	363	10,592	206	10,408	CF	
D	438	540	9,766	516	9,328	CF	
B	8,728	9,653	9,719	1,006	991	CF	
B	793	7,898	9,574	520	8,780		
B	455	1,548	9,429	247	8,974		CF
B	4,197	7,023	8,791	3,642	4,593	CF	CF
B	4,753	7,146	8,510	9,241	3,757	CF	
E	3,242	11,058	8,015	5,214	4,773	CF	CF
B	4,959	2,824	7,581	1,374	2,622		
B	4,366	5,578	7,469	9,274	3,103	CF	
E	343	2,276	7,428	243	7,085		
D	437	1,559	7,397	496	6,960	CF	
D	1,065	6,183	7,386	1,641	6,321	CF	

Table Legend

CF = continuous flow 24 hours a day, for 15 or more days (potential leak)

NA = analog meter (continuous flow/leak detection not possible)

Attachment C

TABLE 3 - SOUTH PENDER – TOP 25 METERED RATE PROPERTIES (Litres/day)							
Class	Q1	Q2	Q3	Q4	Summer (Q3) vs Winter (Q1)	CF Status (Aug 2023)	CF Status (Sept 2024)
1,6	5,816	9,610	24,680	17,270	18,864		CF
1	1,984	19,347	18,244	7,017	16,260	CF	CF
1,6	5,890	8,533	14,780	3494	8,890		
1,6,8	6621	8895	14,091	7387	7,471	CF	CF
1,6,8	4896	8,207	9,934	8169	5,038	CF	CF
6	297	4,576	6,952	428	6,655		
6	3846	4,170	6,222	3,332	2,376		CF
1	6,895	7,975	5,922	469	-974	CF	
6,8	1,127	3,455	4,360	990	3,233	CF	
1,8	4,122	3,491	4,001	6,204	-121	CF	CF
1	353	5021	3,906	2692	3,554		CF
1	207	5,955	3,767	178	3,559		
1,6	2349	2734	3,329	1825	980		
1,8	640	2127	2,648	591	2,008		CF
1	177	1,914	2,520	1,334	2343		
1,8	1070	1,898	2,346	736	1,276	CF	
6	2645	4,161	2,064	1876	-580		
1,6	1,153	1,232	1,350	1,279	197		
1,6,8	326	2,823	858	516	531		
6,8	727	867	839	782	112		CF
6	554	664	661	490	107		
6	1,517	2,772	551	0	-966		
1,6	242	439	511	356	269		
6	910	1,206	420	1236	-491		
1	240	1,162	384	292	144		

Table Legend

CF = continuous flow 24 hours a day, for 15 or more days (potential leak)

NA = analog meter (continuous flow/leak detection not possible)

Attachment D

TABLE 4 - SOUTH PENDER - TOP 25 FLAT RATE PROPERTIES (Litres/day)							
Electoral Area	Q1	Q2	Q3	Q4	Summer (Q3) vs Winter (Q1)	CF Status (Aug 2023)	CF Status (Sept 2024)
A	9,977	10,529	14,121	14,802	4,144	CF	
A	288	3,805	8,558	460	8,270		
A	1,804	6,213	7,218	1917	5,413		
A	900	4567	6,822	1094	5,922	CF	
A	0	4,947	6,603	235	6,603	CF	
A	66	2,475	6,268	36	6,202		
A	1113	7,420	6,146	1,196	5,033	CF	
A	1,090	2,989	5,728	4,175	4,638		
A	211	3,036	5,669	1016	5,458		
A	801	5,365	5,554	475	4,753		CF
A	501	3533	5,270	881	4,769	CF	
A	995	3,760	5,244	1,421	4,249	CF	
A	1746	1021	5,116	5454	3,370	CF	
A	5254	8369	5,013	1522	-242		
A	2	6,748	4,977	88	4975		
A	42	8,205	4,943	951	4,902	CF	
A	220	3,067	4,943	332	4,723	CF	
A	221	3,433	4,412	628	4,190		
A	487	4,402	4,364	843	3,877		
A	556	4,703	4,169	613	3,613		
A	555	2,875	3,836	625	3,282		
A	13	270	3,828	6,936	3,815	CF	
A	5	840	3,754	11851	3,748	CF	
A	789	3,567	3,649	1052	2,860		
A	101	326	3,586	42	3,485		

Table Legend

CF = continuous flow 24 hours a day, for 15 or more days (potential leak)

NA = analog meter (continuous flow/leak detection not possible)