

A G E N D A
JAMES CITY COUNTY BOARD OF DIRECTORS
RETREAT
JCSA Training Room, 119 Tewning Road, Williamsburg, VA 23188
April 28, 2023
9:00 AM

A. CALL TO ORDER

B. ROLL CALL

C. PRESENTATIONS

D. BOARD DISCUSSIONS / GUIDANCE

1. Proposed Sewer Cap
2. Proposed Revision to Grinder Pump Policy
3. Proposed Revision to Design Standards
4. Proposed Connection of Independent Systems to Central System
5. Update – Enterprise Software
6. Compensation
7. Closed Session: Consultation with legal counsel pertaining to actual or probable litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body, pursuant to Section 2.2-3711 (A)(7) of the Code of Virginia; and Consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel, pursuant to Section 2.2-3711 (A)(8) of the Code of Virginia and pertaining to a proposed policy and fee revision for dedicated fire protection lines.

E. ADJOURNMENT

1. Adjourn until 5 pm on May 9, 2023 for the Regular Meeting

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: M. Douglas Powell, JCSA General Manager
SUBJECT: Proposed Sewer Cap

ATTACHMENTS:

	Description	Type
☐	Memorandum	Cover Memo
☐	Attachment	Exhibit

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:21 AM

MEMORANDUM

DATE: April 28, 2023
TO: The Board of Directors
FROM: M. Douglas Powell, General Manager, James City Service Authority
SUBJECT: Proposed Sewer Cap

The Submeter program has become increasingly difficult to manage, both for the James City Service Authority (JCSA) staff and for the customers. Staff has considered alternatives for improving the program, and asked its rate study consultant, Stantec, to evaluate the concept of a sewer cap. Their report is attached.

A sewer cap would only apply to single-family residential customers. Under a sewer cap, any usage over a certain amount would be assumed to be for irrigation, and likewise any usage under that amount would be assumed to be for domestic use. Sewer would not be billed for any use over the established cap. Establishment of a sewer cap would eliminate the need for a submeter, saving JCSA considerable staff time and simplifying the process for customers who would no longer need to read their submeter and submit their data.

The report evaluated different amounts of usage for the cap, but ultimately recommended that the sewer cap be established at 8,000 gallons. Key points from the study include:

- The current billing structure for submeters is a labor-intensive process for JCSA staff and is confusing for customers. JCSA relies on customers to report submeter water usage leading to a level of uncertainty in the consistency, accuracy, and/or timing of the reporting. This approach is uncommon, and most utility systems read all meters, including submeters.
- The majority of JCSA's residential customers do not have a submeter (only 16% of customers submitted submeter readings during Fiscal Year 2022) and would be unaffected by the elimination of the Submeter program and establishment of a sewer cap.
- A sewer cap of 8,000 gallons would result in a revenue loss of about \$170,000. A cap of 8,000 gallons would result in approximately 89% of bills being unchanged, with bill impacts balanced among the remaining 11% that would increase/decrease. The largest monthly increase over the course of a year would be \$14. A sewer cap of 8,000 gallons also maintains a clear connection to the second tier.

Conclusion:

Would the Board support the implementation of a sewer cap of 8,000 gallons per month? If so, would the Board support an effective date sometime after the current year's irrigation season?

MDP/ap
PpsdSwrCp-mem

Attachment

To: Stephanie Luton, Assistant General Manager From: Benjamin Stewart
Andrew Burnham
Ralph Abernathy IV

Project/File: Date: April 10, 2023

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Alternative

The purpose of this technical memorandum is to outline the analysis conducted by Stantec Consulting Services of potential revenue, billed usage, and customer impacts from the elimination of the residential submeter billing practice and implementation of a “cap” to limit the amount of water use billed sewer charges to individual residential customers of the James City Service Authority (JCSA or the Authority).

1 Background

The Authority requested an analysis be completed to determine the potential impacts of a policy decision affecting residential customers. The Authority would like to understand the level, viability, and impacts of a potential sewer cap to allow JCSA to eliminate the need for submeters for residential customers. The cap would be set at a level based upon typical household and usage characteristics, aiming to be as close to revenue neutral as possible without changing the volumetric rate for sewer service.

Currently, a number of residential accounts have installed submeters to measure and record outdoor water use, primarily for seasonal irrigation demands. The water usage measured on the submeters is recorded by customers and provided to JCSA so that it may be deducted from the total amount of JCSA metered water use to determine the amount of water use that would be billed for sewer service. JCSA currently has approximately 6,500 residential customers with submeters installed out of its more than 23,000 residential accounts. Approximately 4,500 accounts reported submeter readings during fiscal year (FY) 2022. This represents only about 16% of the Authority’s total residential accounts.

Submetering is a practice that utilities use for the purpose of identifying and separating irrigation demands from indoor water usage. As described above, because water used for irrigation does not typically return to the sewer system, this separation of water use is intended to allow customers to be billed for sewer service based solely on indoor water usage which is expected to be returned to the sewer system.

The current billing structure for submeters is a labor-intensive process for JCSA staff and is confusing for customers. The Authority currently relies on customers that own submeters to self-report submeter water usage leading to a level of uncertainty in the consistency, accuracy and/or timing of the reporting. This approach of customers reporting meter reads is uncommon, and most utility systems read all meters (including submeters). The majority of the Authority’s residential customers do not have a submeter and most would be unaffected by the elimination of the submeter billing approach or positively benefit if a sewer cap is implemented.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

2 Analysis

The methodology used to determine a potential sewer cap in lieu of the current submetering practice attempted to maintain approximate revenue neutrality without requiring immediate changes to the sewer volumetric rate billed to customers. Currently, customers without submeters are billed sewer volumetric charges based on their metered water use, whereas sewer usage is calculated for customers with submeters as the net usage after subtracting customer reported submeter usage from the JCSA total metered water use. In contrast, if a sewer cap were implemented, all residential customers metered water use would be billed at the volumetric rate up to the level of the cap, and any water use above the cap would not be charged the volumetric rate recognizing that water use above that level is generally not returning to the sewer system for most residential customers.

The analysis relied on FY 2022 billing data provided by JCSA, which included all sewer bills for the fiscal year. This billing dataset was cleaned to isolate the residential customer class, and calculations were setup to allow for analysis of revenues, billed usage, and bill impacts for every bill and every customer.

2.1 Potential Cap Levels

Various sewer cap levels were evaluated on the basis of revenue generation, bill impacts, relationship to typical usage and household size characteristics, and other factors. The analysis focused on caps in the range of 8,000 – 10,000 gallons based on those considerations and current industry practices. Table 1 shows the revenue impacts of these potential sewer cap levels based on FY 2022 residential billing data.

Table 1 – Rate Revenue Impacts at Caps of 8,000 to 10,000 gallons per Month

	8,000 Gallons	9,000 Gallons	10,000 Gallons
Current Total Sewer Revenue	\$6,000,000	\$6,000,000	\$6,000,000
Current Residential Revenue	\$4,125,000	\$4,125,000	\$4,125,000
Calculated Revenue	\$3,955,000	\$4,036,000	\$4,098,000
Difference	(\$170,000)	(\$89,000)	(\$27,000)
% Difference - Total Sewer Revenue	-2.8%	-1.5%	-0.5%
% Difference - Residential Revenue	-4.1%	-2.2%	-0.7%

As illustrated in Table 1, a cap of 10,000 gallons per month gets very close to a revenue neutral outcome, while a cap of 8,000 gallons per month would yield a total rate revenue loss of \$170,000, or less than three percent. While the cap of 8,000 gallons is estimated to result in a small revenue loss, this cap level seems to be most appropriate for a variety of considerations:

- The modest revenue impact is partially offset by the benefits associated with reducing the burden placed on JCSA staff of administering the program,
- The Sewer enterprise fund has healthy reserve levels, allowing for the small negative revenue impact to be counteracted with modest, gradual rate increases in the future, if needed,

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

- 8,000 gallons would capture the monthly indoor use for the typical household¹ as well as all or a substantial portion of the monthly indoor use of larger households with efficient fixtures,
- The total bill impacts to all customers from a cap at this level are balanced between the number of bills that would increase and bills that would decrease, as well as a moderate level of impacts for both submetered and non-submetered customers, with nearly 90% of customer bills remaining unchanged, and the largest average monthly increases over the course of an entire year of \$14,
- The incentive for conservation is maintained and customers maintain an ability to reduce their sewer bills by using less water as use reductions below 8,000 gallons will yield savings in customers' bills and the majority of residential customers currently use less than 8,000 gallons per month, and
- The sewer cap threshold maintains a clear connection to the second tier water use maximum threshold of JCSA's water rates, which was developed in consideration of indoor use of larger families, thereby enhancing the ease of understanding of rates for customers.

Additionally, while the sewer cap of 10,000 gallons was nearly revenue neutral, a higher cap runs the risk for many residential customers of billing for sewer usage based on a greater share of outdoor water usage that does not in reality flow to the sewer system. The following sections further summarize the analyses of revenue and bill impacts of a residential sewer cap at 8,000 gallons of metered water use per month.

2.2 Revenue and Billed Usage Impacts

In evaluating the billed usage impacts, it was helpful to look at the distribution of total water usage (as opposed to net water usage after submeter deductions) across all residential bills during FY 2022. The total water usage would provide the basis for calculating billed sewer usage relative to the cap under the new approach. Figure 1 shows the FY 2022 bill distribution of total monthly water usage for residential customers with usage below the proposed 8,000 gallon cap shaded orange and above the cap shaded blue.

¹ The typical household size in the JCSA service area is approximately 2.5 people per household based on Table DP04 from the United States Census Bureau American Community Survey for 2020 in James City County.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

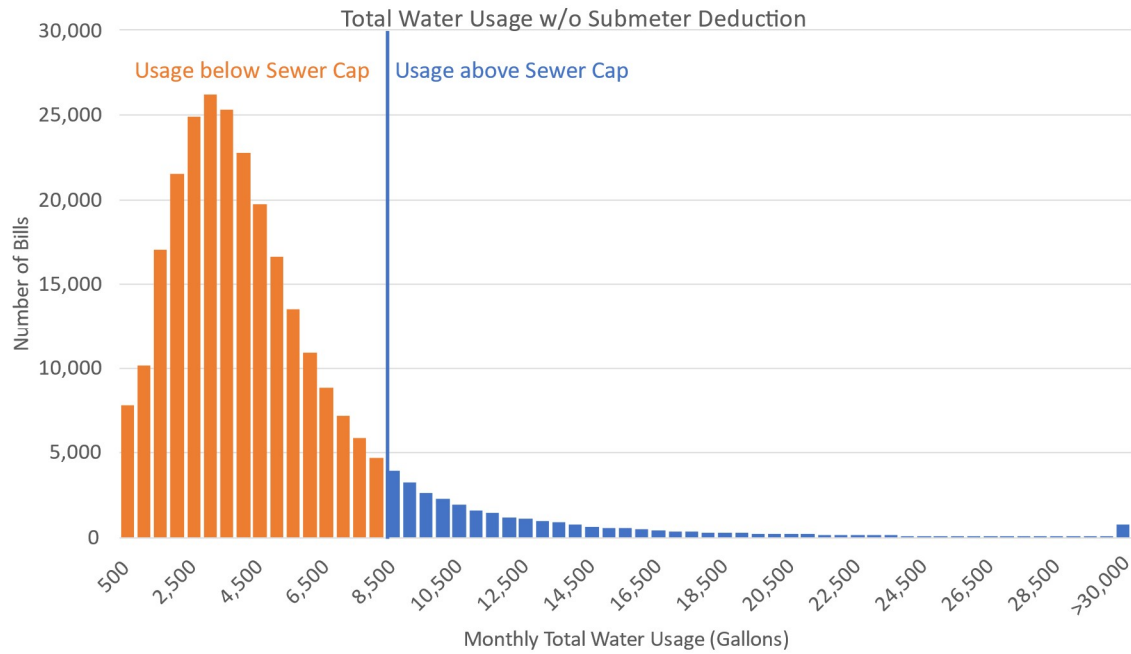


Figure 1 – Distribution of Total Monthly Usage per Bill, Above and Below Proposed Sewer Cap

Figure 1 demonstrates that the vast majority (approximately 90 percent) of monthly billed water usage is below the sewer cap. Figure 2 shows the histogram of net billed usage under the current submeter billing approach looks very similar, with approximately 92 percent of bills falling below the proposed sewer cap.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

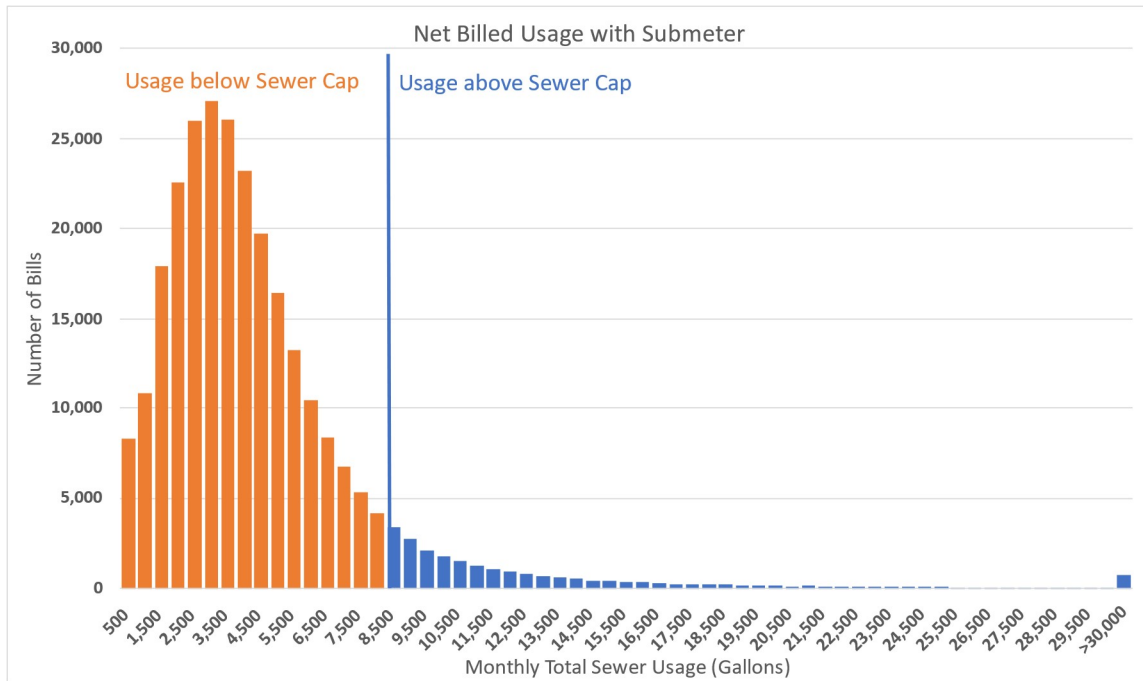


Figure 2 – Distribution of Net Monthly Usage per Bill, Above and Below Proposed Sewer Cap

As outlined in Table 1, above, Figure 3 shows the annual revenue impacts for residential customers of a sewer volumetric rate cap at 8,000 gallons of monthly metered water use.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

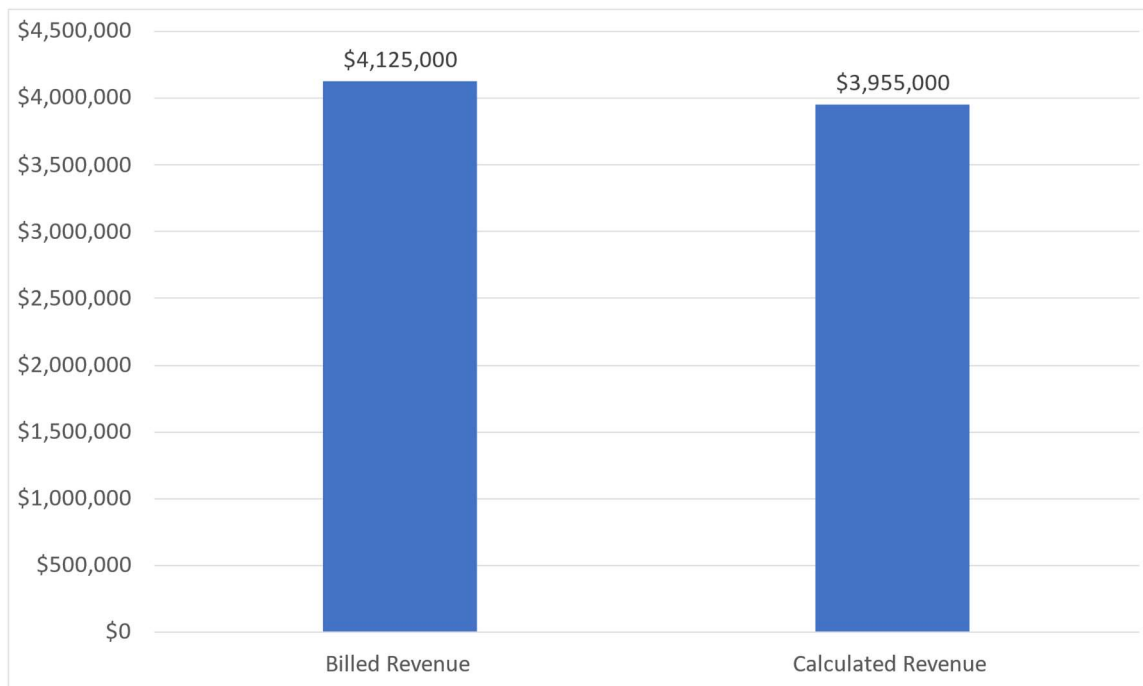


Figure 3 - Revenue Impacts

As illustrated in Figure 3, a sewer cap of 8,000 gallons per month would result in a decrease in revenue from residential customers of approximately \$170,000, or about four percent of residential rate revenue. This \$170,000 represents less than three percent of total sewer rate revenue. While this level of sewer cap is expected to result in revenue loss, it is worth considering the offsetting benefit of eliminating the burdens associated with the submeter program that are placed on JCSA staff. These burdens include, but are not limited to, customer service time spent fielding calls from confused or disgruntled customers. Additionally, ending the use of submeters would also eliminate the burden placed on customers of reading and reporting submeter usage before monthly deadlines. While a direct cost savings may not be realized, eliminating the submeter program would make time otherwise spent managing and administering the submeter system available to staff for other, more productive purposes that could improve operational efficiency and level of service to customers.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

2.3 Bill Impacts

This section shifts the focus from revenue impacts to JCSA to bill impacts to residential customers. The next two subsections will focus on impacts to all residential customers and then will drill more deeply into the impacts to residential customers with submeters who will no longer be billed based on net water usage.

2.3.1 IMPACTS TO ALL RESIDENTIAL CUSTOMERS

Most residential customers do not have a submeter and use less than 8,000 gallons of water per month. Therefore, the majority of residential customers would be unaffected by the elimination of the submeter system. Customers affected by the sewer cap would be those without submeters that have monthly water use above the sewer cap and of course those with submeters.

For a high level overview of the bill impacts to all residential customers, it helps to start with a big-picture look at the share of bills that would increase, decrease, or remain unchanged. Figure 4 shows exactly this, with the percentage of bills that will increase (blue), decrease (orange), or remain unchanged (black) with the implementation of a sewer cap of 8,000 gallons per month.

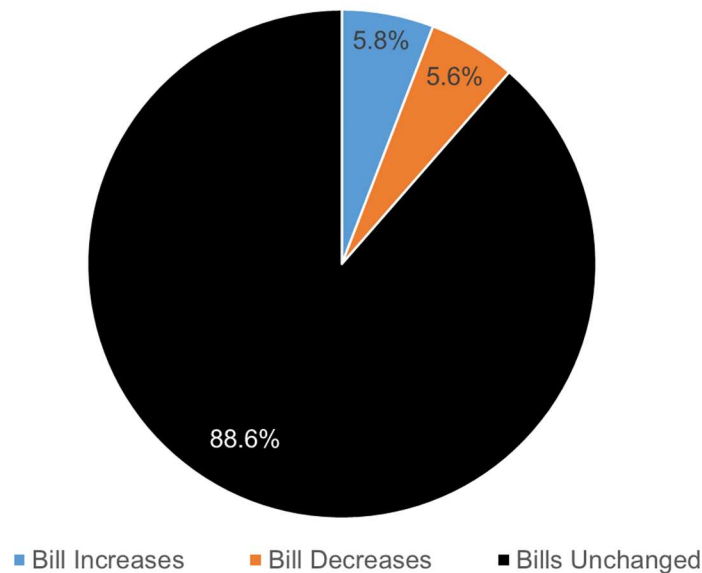


Figure 4 – Percentage of Bills Increasing, Decreasing, and Remaining Unchanged

Approximately 89% of bills would see no impact from the sewer cap, while 5.8% of bills would increase, and 5.6% of bills would decrease. Generally, those customers with submeters whose net water usage was

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

below the cap level would see increases, and those without a submeter and high water usage or those customers with submeters whose net water usage was above the cap level would see reductions.

Given that individual customer reporting on submetering can vary, it is important to look at the average bill impacts over the course of FY 2022. Figure 5 presents the average change in monthly sewer bills at the account level for all residential customers based on FY 2022 billing data.

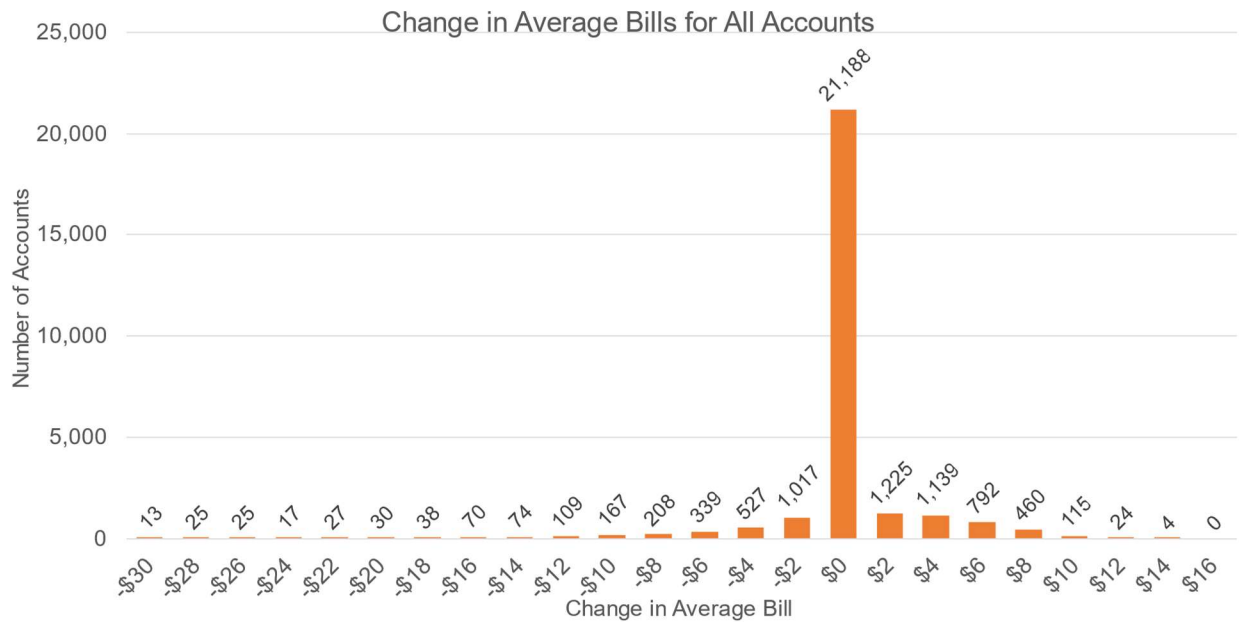


Figure 5 – Histogram of Average Monthly Bill Impacts for All Residential Customers

The sewer cap could yield bill decreases of greater than \$10 for a small number of large users, but approximately 97 percent of customers will see their average bill increase or decrease by less than \$10. Figure 5 also shows that a majority of customers will see little to no change in their bill, with approximately 80 percent of customers seeing their bill change by less than \$2.

This analysis of all residential customers makes it clear that the vast majority of customers will see little impact from the removal of the submeter program and the implementation of a sewer cap at 8,000 gallons of water use per month. This can be explained by the relatively small number of customers with submeters, the fact that submetered customers primarily submit submeter readings only during irrigation season, and the average sewer usage for the majority of residential accounts is less than 8,000 gallons.

2.3.2 IMPACTS TO SUBMETERED RESIDENTIAL CUSTOMERS

With an understanding of the impacts to the residential customers overall, the pairing of the proposed sewer cap implementation with the elimination of the submeter program warrants further investigation of the residential customers with submeters installed to measure irrigation usage.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

Because submeters are used to record water used for irrigation, submeters only impact sewer billing during a portion of the year. Submeter customers submitted an average of four submeter readings per customer over the course of FY 2022. Figure 6 presents a distribution of the number of submeter readings by accounts recording at least one submeter reading during the year.



Figure 6 – Distribution of Submeter Readings by Accounts Recording at least One Submeter Reading

Figure 6 highlights the fact that the number of readings varies widely across participating customers. Additionally, submeter accounts recorded an average total monthly billed water usage of 8,675 gallons and an average submeter usage of 7,650 gallons on bills including a submeter reading. However, because cases where submeter usage is greater than total water usage (i.e., net negative sewer usage) is recorded as zero usage, the average billed sewer usage for these bills was approximately 3,370 gallons.

In further analyzing these submeter accounts and bills with submeter readings, it was discovered that approximately 19 percent of sewer bills with submeter readings recorded a zero or negative net sewer usage. These situations could be a result of human error in reading meters, discrepancies and inconsistencies in the timing of submeter reads (i.e., submeter readings for periods greater than one month), or various other issues in recording submeter usage. To illustrate the prevalence of this issue, Figure 7 shows the relationship between the average total water usage and average submeter usage for each account on all bills registering submeter usage. The black line is placed where total water usage would be equal to submeter usage, resulting in a bill with zero sewer usage charges. All points above the black line are accounts with average submeter usage greater than average total water usage on bills registering submeter usage, ultimately yielding a negative average net sewer usage. The points below the line would result in a positive net sewer usage as submeter usage is less than total metered water usage.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

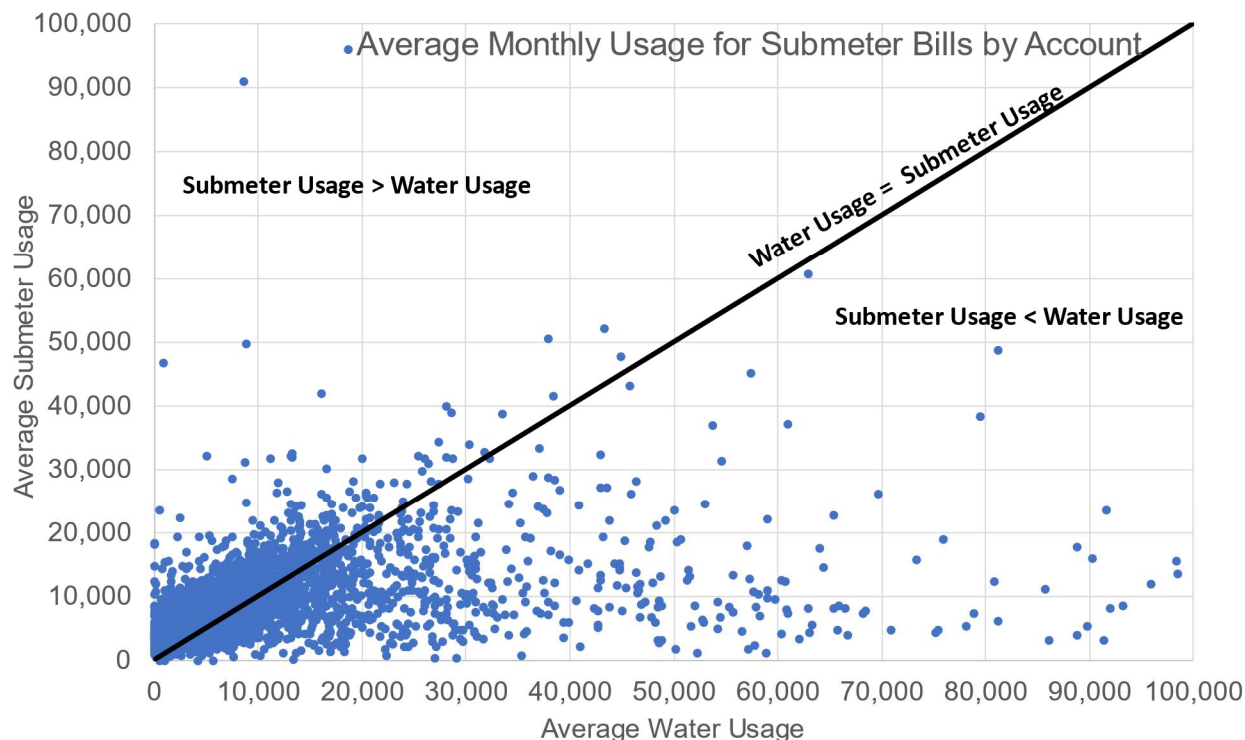


Figure 7 – Average Sewer Usage and Submeter Usage by Account for Bills Registering Submeter Usage

All points landing on or above the black line signify accounts paying for zero sewer usage during the irrigation season. The abundance of points above the black line further illustrates the issues of net zero or negative sewer usage in the current submeter billing approach². The variability in the number of submeter records in the billing data presented in Figure 6 could help partially explain this dynamic as the accounts registering a small number of submeter readings could be capturing more than one month of irrigation usage in a single sewer bill. Whatever the cause, a considerable number of submeter customers were paying no volumetric sewer bill during the irrigation season. As a result, when looking at bill impacts at the individual bill level, it is worth recognizing that many bills with submeter readings are starting from a baseline of zero usage charges on their irrigation season sewer bills.

² If a customer's submeter reading is late and the reading gets applied to the next month's wastewater collection usage charge, the lowest possible bill for the wastewater collection usage charge is \$0; they do not receive a monetary credit on their bill.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

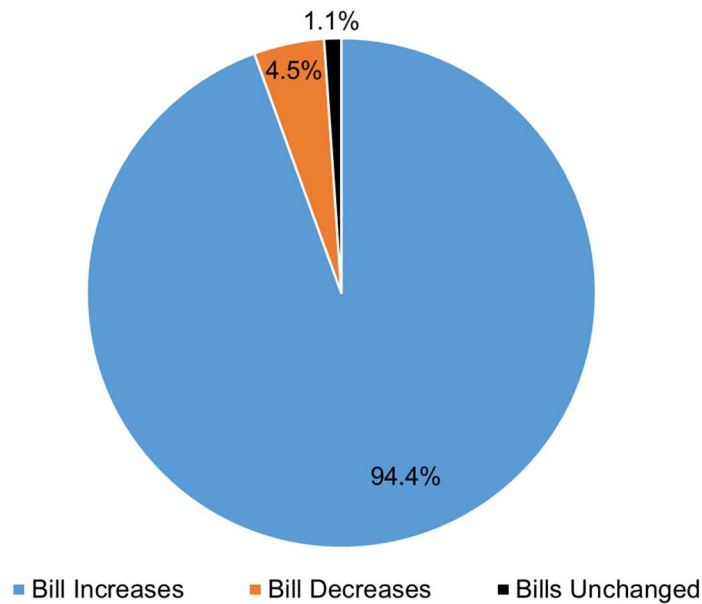


Figure 8 – Percentage of Submeter Bills Increasing, Decreasing, and Remaining Unchanged

Under a sewer cap approach, the majority of bills registering a submeter reading would increase. With a sewer cap set at 8,000 gallons, 94% of submeter bills would increase, with a maximum increase of \$24.88 (8,000 gallon cap multiplied by the volumetric rate of \$3.11 per thousand gallons). Figure 9 shows the distribution of the bill impacts for all bills registering submeter usage.

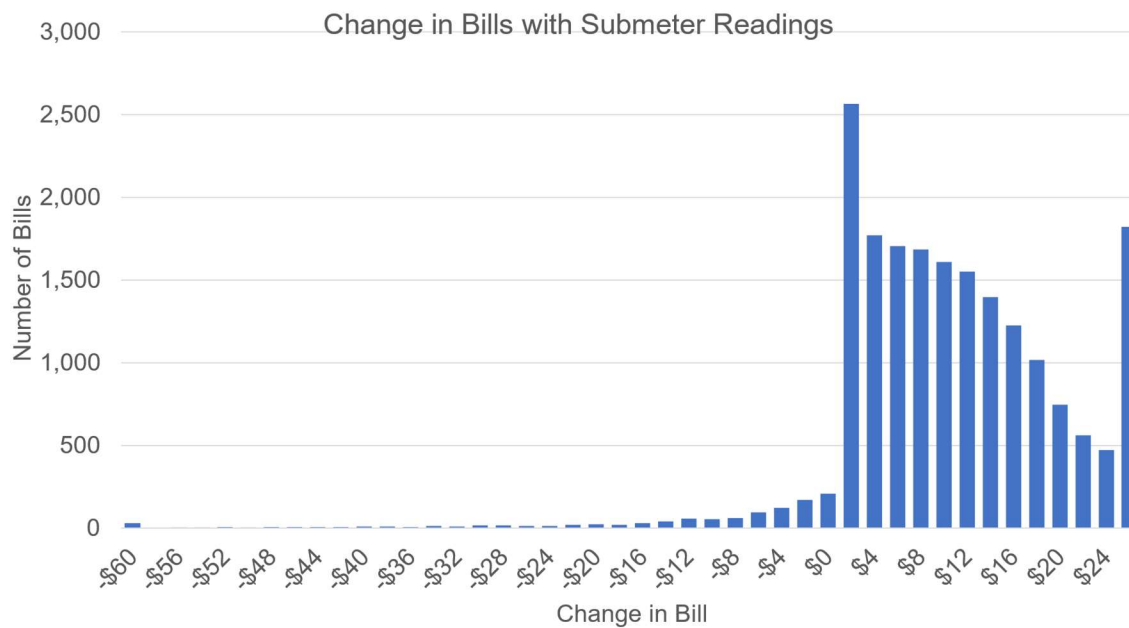


Figure 9 – Change in Bills Registering Submeter Usage

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

While these bill increases may initially seem large, it is worth recalling the dynamic described above in which the current net usage billing approach is yielding sewer bills with little to no volumetric sewer charge. Customers that experience a relatively large increase in their bill can attribute the magnitude of the change to how the bill is currently calculated.

To better understand the overall impacts to customers with submeters, it helps to evaluate the average monthly bill impact for submetered residential accounts. This is important given that individual bill impacts could be skewed based on the frequency of submetering values being reported. Figure 10 presents the distribution of changes in average monthly bills for residential accounts registering at least one submeter reading during FY 2022.

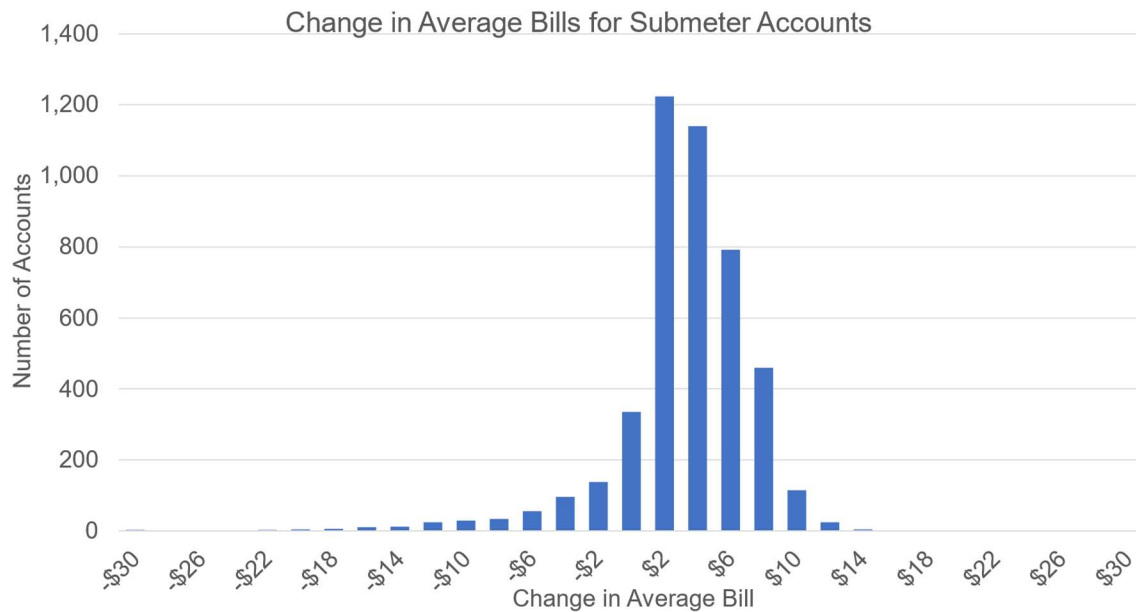


Figure 10 – Change in Average Sewer Bills for Submetered Residential Accounts

Again, due to the dynamics of low to zero net sewer usage described earlier in this section, Figure 10 shows that the majority of submeter customers will see their average bill increase; however, these impacts will be limited to the irrigation season, and the average impacts over the course of the year will be moderated by the remaining months in which bill impacts would be expected to be much smaller.

The change in sewer bills for these customers can also be viewed in relative terms by looking at the change in bill with the proposed sewer cap relative to the current bills for submetered customers. Figure 11 plots the change in average sewer bills with the proposed sewer cap against the current average sewer bills for residential accounts with submeters.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

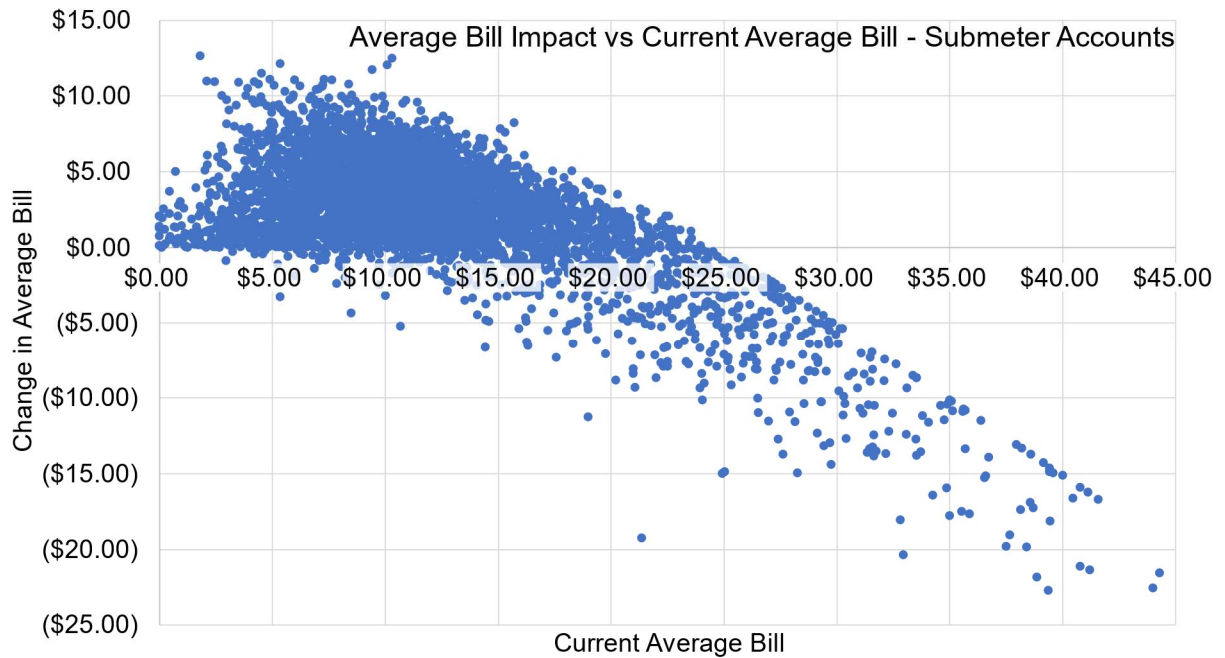


Figure 11 - Average Bill Impacts Relative to Current Bills for Submetered Accounts

Figure 11 helps put the bill impacts into context. First, a clear relationship exists between the magnitude of the current bill and the magnitude of the bill impact. As existing bills increase, the bill increases shrink, and bill decreases get larger. Second, the vast majority of changes in average bills are between zero and \$10. Finally, the accounts that will see the largest bill increases are those that currently pay the lowest average sewer bill. This can again be tied back to the issues of net zero or negative sewer usage that exists in the current submeter billing approach.

Reference: Evaluation of Submeter Billing and Potential Sewer Cap Implementation

3 Summary

In summary, the analyses and review of the policy considerations detailed in this memorandum indicate that eliminating the submeter billing practice for residential customers, and implementing a sewer cap at 8,000 gallons per month would provide better equity to residential customers, promote conservation, and could yield costs savings and/or reduce the burden on customers and JCSA staff. The shift from submeter-based billing to a sewer cap approach for residential customers would yield the following benefits:

- Reduced burden on customers, including elderly or disabled customers who may struggle to self-report readings on a regular basis.
- Improved promotion of water conservation as the current submeter approach effectively discounts bills for high irrigation users and provides a financial incentive for irrigation.
- Enhanced equity with the elimination of net zero usage sewer bills for customers reporting high submeter usage.
- Consistency with residential water rates and the tier 2 threshold of 8,000 gallons.
- Balanced bill impacts with approximately equal numbers of bills increasing and decreasing, and the majority of bills remaining unchanged.
- Improved conformance with industry practices for residential sewer billing.
- Economic benefits to larger households who irrigate but lack a submeter as sewer usage would be capped at a level that would limit or eliminate sewer billing for outdoor water use.

Appendix

Supporting Data Tables

Figure 1

Figure 2

Figure 4

Figure 5

Figure 8

Figure 9

Figure 10

Figure 1

Total Water Usage without Submeter Deduction		
Current Water Usage (gallons)	Number of Bills Within Cap	Number of Bills Above Cap
500	7,800	-
1,000	10,126	-
1,500	17,052	-
2,000	21,533	-
2,500	24,863	-
3,000	26,182	-
3,500	25,304	-
4,000	22,761	-
4,500	19,702	-
5,000	16,645	-
5,500	13,499	-
6,000	10,915	-
6,500	8,856	-
7,000	7,208	-
7,500	5,888	-
8,000	4,727	-
8,500	-	3,931
9,000	-	3,223
9,500	-	2,616
10,000	-	2,266
10,500	-	1,951
11,000	-	1,591
11,500	-	1,452
12,000	-	1,207
12,500	-	1,091
13,000	-	991
13,500	-	884
14,000	-	760
14,500	-	656
15,000	-	574
15,500	-	529
16,000	-	505
16,500	-	452
17,000	-	377
17,500	-	361
18,000	-	303
18,500	-	291
19,000	-	252
19,500	-	216
20,000	-	209
20,500	-	202
21,000	-	192

Figure 1

Total Water Usage without Submeter Deduction		
Current Water Usage (gallons)	Number of Bills Within Cap	Number of Bills Above Cap
21,500	-	175
22,000	-	148
22,500	-	151
23,000	-	131
23,500	-	122
24,000	-	106
24,500	-	103
25,000	-	105
25,500	-	88
26,000	-	89
26,500	-	77
27,000	-	72
27,500	-	76
28,000	-	73
28,500	-	56
29,000	-	49
29,500	-	63
30,000	-	40
>30,000	-	773

Figure 2

Net Sewer Usage with Submeter Deduction		
Current Net Sewer Usage (gallons)	Number of Bills Within Cap	Number of Bills Above Cap
500	8,320	-
1,000	10,794	-
1,500	17,925	-
2,000	22,594	-
2,500	26,000	-
3,000	27,068	-
3,500	26,029	-
4,000	23,180	-
4,500	19,749	-
5,000	16,459	-
5,500	13,216	-
6,000	10,440	-
6,500	8,360	-
7,000	6,749	-
7,500	5,350	-
8,000	4,186	-
8,500	-	3,404
9,000	-	2,734
9,500	-	2,117
10,000	-	1,792
10,500	-	1,499
11,000	-	1,228
11,500	-	1,065
12,000	-	914
12,500	-	800
13,000	-	687
13,500	-	601
14,000	-	539
14,500	-	429
15,000	-	407
15,500	-	362
16,000	-	341
16,500	-	296
17,000	-	252
17,500	-	240
18,000	-	210
18,500	-	206
19,000	-	164
19,500	-	161
20,000	-	146
20,500	-	127
21,000	-	144

Figure 2

Net Sewer Usage with Submeter Deduction		
Current Net Sewer Usage (gallons)	Number of Bills Within Cap	Number of Bills Above Cap
21,500	-	118
22,000	-	88
22,500	-	99
23,000	-	92
23,500	-	76
24,000	-	77
24,500	-	68
25,000	-	67
25,500	-	55
26,000	-	64
26,500	-	49
27,000	-	52
27,500	-	59
28,000	-	51
28,500	-	32
29,000	-	38
29,500	-	39
30,000	-	33
>30,000	-	773

Figure 4

Percentage of Bills		
Bill Increases	19,422	5.8%
Bill Decreases	18,561	5.6%
Bills Unchanged	294,753	88.6%

Figure 5

Change in Avg Bills for All Accounts	
Change in Avg Bill	Number of Accounts
(\$60)	25
(\$58)	3
(\$56)	2
(\$54)	-
(\$52)	4
(\$50)	6
(\$48)	2
(\$46)	1
(\$44)	4
(\$42)	5
(\$40)	6
(\$38)	2
(\$36)	10
(\$34)	14
(\$32)	11
(\$30)	13
(\$28)	25
(\$26)	25
(\$24)	17
(\$22)	27
(\$20)	30
(\$18)	38
(\$16)	70
(\$14)	74
(\$12)	109
(\$10)	167
(\$8)	208
(\$6)	339
(\$4)	527
(\$2)	1,017
\$0	21,188
\$2	1,225
\$4	1,139
\$6	792
\$8	460
\$10	115
\$12	24
\$14	4

Figure 8

Percentage of Submeter Bills		
Bill Increases	18,117	94.4%
Bill Decreases	857	4.5%
Bills Unchanged	208	1.1%

Figure 9

Change in Bills with a Submeter Reading	
Change in Bills	Number of Bills
(\$60)	29
(\$58)	-
(\$56)	1
(\$54)	3
(\$52)	5
(\$50)	3
(\$48)	5
(\$46)	4
(\$44)	4
(\$42)	5
(\$40)	10
(\$38)	10
(\$36)	4
(\$34)	13
(\$32)	9
(\$30)	15
(\$28)	16
(\$26)	13
(\$24)	13
(\$22)	18
(\$20)	24
(\$18)	19
(\$16)	30
(\$14)	41
(\$12)	57
(\$10)	54
(\$8)	62
(\$6)	96
(\$4)	123
(\$2)	171
\$0	208
\$2	2,564
\$4	1,770
\$6	1,704
\$8	1,685
\$10	1,609
\$12	1,551
\$14	1,397
\$16	1,226
\$18	1,014
\$20	745
\$22	561
\$24	472
\$26	1,819

Figure 10

Change in Avg Bills with a Submeter Reading	
Change Avg in Bills	Number of Bills
(\$60)	2
(\$58)	-
(\$56)	1
(\$54)	-
(\$52)	2
(\$50)	-
(\$48)	-
(\$46)	-
(\$44)	1
(\$42)	1
(\$40)	1
(\$38)	-
(\$36)	1
(\$34)	1
(\$32)	4
(\$30)	3
(\$28)	1
(\$26)	2
(\$24)	1
(\$22)	3
(\$20)	5
(\$18)	6
(\$16)	10
(\$14)	13
(\$12)	24
(\$10)	29
(\$8)	34
(\$6)	56
(\$4)	96
(\$2)	138
\$0	335
\$2	1,223
\$4	1,139
\$6	792
\$8	460
\$10	115
\$12	24
\$14	4

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: M. Douglas Powell, JCSA General Manager
SUBJECT: Proposed Revision to Grinder Pump Policy

ATTACHMENTS:

	Description	Type
📎	Memorandum	Cover Memo

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:22 AM

MEMORANDUM

DATE: April 28, 2023
TO: The Board of Directors
FROM: M. Douglas Powell, General Manager, James City Service Authority
SUBJECT: Proposed Revision to the Grinder Pump Policy

I have discussed with each of you the termination of the Grinder Pump Maintenance Agreement that the James City Service Authority (JCSA) offers. Consensus was reached to terminate the program.

During our earlier conversations, I had proposed that the program be discontinued in 10 years. Two members of the Board suggested that it be discontinued in five years.

Staff has discussed the termination of the program with our vendors. Contracts with the vendors end in three and half years, and Purchasing has concluded that the contracts could be extended to five years. Extending beyond five years would require a new procurement process and it may be difficult to attract vendors for a program that is decreasing in size and coming to an end.

Conclusion:

Would the Board support terminating the Grinder Pump Policy in five years? Would the Board support, effective immediately, that JCSA stops accepting new applications for Grinder Pump Maintenance Agreements?

MDP/ap
PpsdGPrev-mem

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: M. Douglas Powell, JCSA General Manager
SUBJECT: Proposed Revision to Design Standards

ATTACHMENTS:

	Description	Type
📎	Memorandum	Cover Memo

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:23 AM

MEMORANDUM

DATE: April 28, 2023

TO: The Board of Directors

FROM: Mike Youshock, Chief Engineer, James City Service Authority

SUBJECT: Proposed Revision to Design Standards

Like many utilities in the Hampton Roads region, the James City Service Authority (JCSA) uses the Hampton Roads Planning District Commission (HRPDC) Regional Construction Standards as the basis for its design and construction standards for utility infrastructure. JCSA has also developed Design and Acceptance Criteria to supplement and modify the HRPDC standards to meet JCSA's specific needs. JCSA staff reviews and updates the Design and Acceptance Criteria on a periodic basis to ensure it remains current and addresses emerging needs. The last complete update was done in March 2021, and the last addendum was issued on July 22, 2021.

JCSA staff is proposing a complete update to the Design and Acceptance Criteria which includes the following substantive changes:

- **Addition: Water Distribution System Materials.** Unless otherwise approved by JCSA, all water mains and fittings shall be Class 52 Ductile Iron pipe, zinc coated and installed with V-Bio polywrap conforming to the latest HRPDC Regional Construction Standards and JCSA Design and Acceptance Criteria. Water service lines 2 inches and smaller shall be Type K Copper. (JCSA currently allows PVC and Ductile Iron pipe as acceptable materials for water mains.)
- **Modification:** The water system shall be sufficiently looped such that a single point of failure results in no more than 50 residential units (single-family, townhomes, condominiums) or five commercial/industrial units being out of service. High volume uses may also dictate the requirement for looping. This requirement ensures reliability of service, efficient transmission of fire flows and promotes adequate water quality. Installing parallel water mains is not an acceptable substitute for the proper looping of the water system. (Added additional clarifications to this requirement, which was included in the July 22, 2021, addendum.)
- **Addition: Utility Marker Balls.** Utility Marker Balls are required for all pressurized water and sewer main installations. (This is a new requirement to help with locating JCSA infrastructure.)
- **Addition: Changes to Development Plans.** In phased development, changes to development plans that impact previously constructed infrastructure, that as a result of the changes may be undersized, oversized, or no longer needed, must be addressed as part of future phases of the development. JCSA reserves the right to add conditions to future phases of the development to address such infrastructure. (This is a new requirement to address issues that occur when development plans change.)
- **Modification: Water Meter Allowance.** JCSA's current policy for allowing service connections in new developments provides a developer two options:
 - Option 1 - Wait until all water and sanitary sewer infrastructure is fully accepted by the JCSA. This will require installation of all other franchise utilities (i.e., natural gas, electricity, telephone, TV cable, etc.), completion of all deficiencies identified by JCSA in pre-final punch list, and submittal and approval of record drawings for the water and sanitary sewer desired for acceptance by JCSA.
 - Option 2 - Submit a cash deposit or a letter of credit (the "deposited funds") to JCSA that can be used to complete deficiencies not corrected by Developer/Contractor. Entire deposited funds or unused portion will be returned to Developer/Contractor once JCSA accepts utility. When requested by Developer, JCSA will identify deficiencies in pre-final punch list. If not corrected

immediately, a plan for correction must be submitted to JCSA within 30 days of receipt of notice of deficiencies from JCSA. All deficiencies identified must be completed within 60 days of receipt of Notice of Deficiency. If not, JCSA will use deposited funds to correct deficiencies. JCSA will assess an administrative fee of 25% over costs for managing correction of deficiency. Deposited funds will be \$500 per meter multiplied by the total number of meters approved for the site plan and is to be made at the time of substantial completion. There is a \$12,000 minimum deposit.

Most developers select Option 2, which allows them to construct and sell houses as the development progresses. The issue this presents is that JCSA begins providing service to customers prior to obtaining ownership and maintenance responsibility for the infrastructure serving these customers. In many instances after full build-out of the development, it can be several years before the developer completes all work necessary for JCSA to accept ownership for the infrastructure. JCSA has also had instances where the developers go out of business and JCSA never formally accepts the infrastructure.

The following provides a summary of the issues associated with this approach:

- Potential liability issues. For example, if there is a contamination issue, JCSA would be liable.
- Potential regulatory compliance issues, providing service through facilities we do not own or have control over.
- When problems occur such as a main break, the developer is responsible for repairs. This can result in longer than usual service disruptions as it takes longer to coordinate repairs with the developer. In other instances, if JCSA is unable to make contact with the developer, JCSA may be required to make repairs to restore service to customers within a reasonable timeframe.
- Potential issues with VA 811 tickets, JCSA does not mark facilities that have not been accepted. Tickets may go unmarked.
- Cumbersome process of handling and tracking cash deposits and refunds, and identifying what developments (or portions of developments) meters can be installed in.

It should be noted that Option 2 was added to JCSA's design standards in the early 2000s when the building boom was occurring and there was pressure from the development community to get homes on the market.

In order to protect the JCSA and its customers' best interest, JCSA staff recommends that Option 2 be removed in its entirety to eliminate the liabilities caused by using this approach. JCSA staff has reviewed this issue with the County Attorney's Office, and they concur that there is no legal reason to provide both options.

Changes to the Design and Acceptance Criteria do not require Board of Directors (BOD) action to implement; however, staff requests input from BOD members regarding the proposed changes.

MY/md

DesgnStPropRev-mem

ITEM SUMMARY

DATE: 4/28/2023

TO: The Board of Directors

FROM: M. Douglas Powell, JCSA General Manager

SUBJECT: Proposed Connection of Independent Systems to Central System

ATTACHMENTS:

	Description	Type
📎	Memorandum	Cover Memo

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:24 AM

MEMORANDUM

DATE: April 28, 2023

TO: The Board of Directors

FROM: Mike Youshock, Chief Engineer, James City Service Authority

SUBJECT: Proposed Connection of Independent Systems to Central System

The James City Service Authority's (JCSA) water system consists of a larger Central System that provides water service primarily inside of the Primary Service Area (PSA), and eight smaller independent water systems that serve developments outside of the PSA. Recent changes to County land development Ordinances limit the potential for future independent water systems. Due to the limited number of customers served by independent water systems, and the complex nature of the facilities required to serve these developments, these water systems generally operate at a financial loss and cannot be financially supported by the limited customer base alone.

As part of a review of the Central System Water Treatment Facility needs, JCSA staff has identified potential benefits of combining the Liberty Ridge and Westport independent well facilities with the Central System. The Liberty Ridge and Westport systems are in close proximity to the Central System, both requiring approximately 600 feet of water main to connect. Combining the systems would provide the following benefits:

- Adds two newer well facilities with excess capacity to the Central System which provides opportunities to reevaluate needed improvements at some of the older Central System well facilities. For example, the well facility at the Williamsburg Pottery is in need of rehabilitation to address structural damage to the 500,000-gallon storage tank and removal of an old fire pump system. Adding the two additional well facilities will allow JCSA to abandon the facility, thus avoiding significant investments to make the necessary improvements to a 40+ -year-old facility. This can be done without negatively impacting our Department of Environmental Quality (DEQ) or Virginia Department of Health (VDH) permits.
- The systems would be combined into the Central System DEQ groundwater withdrawal permit. No change to the limits of the Central System withdrawal permit is anticipated. This would result in two less groundwater permits to manage and streamline reporting requirements.
- The systems would be combined into the VDH Central System operations permit. It is expected that this would increase the VDH permitted capacity. This would result in two less permits to manage, and it would also streamline sampling and reporting requirements as these would no longer be treated as separate water systems.
- Improves reliability/redundancy to Liberty Ridge and Westport by providing an additional water source.
- Water from these facilities is less costly to produce compared to Five Forks Water Treatment Plant (FFWTP), will reduce the load on FFWTP.

Based on discussions with Community Development staff, Special Use Permits would be required to connect these systems to the Central System. It should be noted that several developments outside of the PSA have been connected to the Central System in the past, most notably, Governors Land and Greensprings West. In addition, Stonehouse was originally constructed as an Independent System, but was eventually connected to the Central System.

Proposed Connection of Independent Systems to Central System

April 28, 2023

Page 2

Conclusion:

Does the Board support the initiation of special use permit applications to connect the Liberty Ridge and Westport independent well facilities to the Central System?

MY/ap

PpsdCIS-CS-mem

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: M. Douglas Powell, JCSA General Manager
SUBJECT: Update – Enterprise Software

ATTACHMENTS:

	Description	Type
☐	Memorandum	Cover Memo
☐	Attachment	Exhibit

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:24 AM

MEMORANDUM

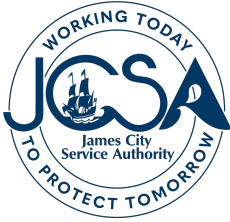
DATE: April 28, 2023
TO: The Board of Directors
FROM: Mike Youshock, Chief Engineer, James City Service Authority
SUBJECT: Update - Enterprise Software

Staff will update the Board on the progress of the enterprise software implementation. Staff is seeking feedback from the Board on the proposed new bill, a copy of which is attached.

Conclusion:

Does the Board have any feedback on the proposed new bill?

MY/ap
EntUpd-mem



James City Service Authority

119 Tewning Rd
Williamsburg, VA 23188
www.jcsava.gov

Customer Service 757-253-6800

Final Bill

Account Summary

Bill Date	03/01/2023
Previous Bill	\$15.44
Payments / Adjustments	-\$15.44
Current Bill	\$26.74
Current Bill Due Date	03/22/2023

Total Current Charges \$70.02

! Past Due Balance due immediately to avoid turn off on April 10, 2023 and an additional \$25.00 non payment fee **\$62.60**

Account Information

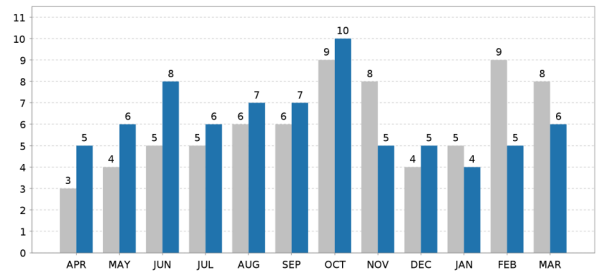
Account Number A061168
KENNETH RINEHART
102 KNOLLWOOD DR

Current Water Charges

Fixed Water Charge 28 days @ \$0.19033 Per Day	\$5.33
Water Usage 1st tier 4,000 Gal @ 3.86/1,000 Gal	\$15.44
Water Usage 2nd tier 1,099 Gal @ 7.01/1000 Gal	\$7.70
Water Subtotal	\$28.47
Fixed Sewer Charge 28 days @ \$0.066778 Per Day	\$1.87
Sewer Service for 1st tier 5,099 Gal @ 3.11/1,000 Gal	\$15.86
Sewer Subtotal	\$17.73
NSF Fee	\$20.00
Interest 1.5% outstanding Balance	\$3.82
Other Subtotal	\$23.82

Usage Profile (Gallons)

Last Year 5,000 **Last Month** 6,000 **This Month** 5,099



Total Current Charges

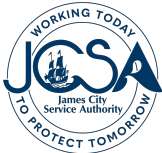
\$70.02

Meter Readings

Rate	Read_dates	Days	
Residential	02/01/23 - 02/28/23	31	
Meter	Previous Read	Current Read	Usage
Residential	5,000	10,099	5099

Messages

JCSA offers a convenient way to view and pay bills online. Visit jcsava.gov and click on "Pay Bill Now" to learn more.



James City Service Authority

119 Tewning Rd
Williamsburg, VA 23188

KENNETH RINEHART
102 KNOLLWOOD DR
WILLIAMSBURG, VA 23188

Bill Date	03/01/23
Due Date	03/22/23
Account Number	A061168

If paid after due date the account is subjected to a 1.5% late fee

Total Amount Due \$70.02



JCSA
119 Tewning Rd
Williamsburg, VA 23188

000A06116800000000000010415015

PAY ONLINE	PAY BY PHONE	PAY BY MAIL	PAY IN PERSON	PAYMENT DROP-OFF
Visit jcsava.gov to select one time payment or sign in to your account	Call 757-253-6800 to use the automated phone service. We accept credit, debit card or eCheck payments	James City Service Authority 119 Tewning Rd Williamsburg, VA 23188 <i>Checks or money orders only</i>	Visit the cashier's office located at: 119 Tewning Rd Williamsburg, VA 23188	Drop Box: JCSA Office 119 Tewning Rd Williamsburg, VA 23188



H2O (Help to Others) is a community-based program that assists people in crisis through the generosity of donations. Through H2O, families or individuals in danger of losing residential water/sewer service because of a family crisis can receive one-time financial assistance to pay their local public utility and/or JCSA bill.

Want to donate? Go to shareh2o.org. Your donation may be tax-deductible and will help your neighbors in need.

WATER CONSERVATION REBATES

Applicants (and installation addresses) must be JCSA residential water customers with a current account balance. Rebate requests must be submitted and received within 180 days of purchase. Rebate submission must include receipt or other documentation showing both the actual item purchased and proof of type of payment (cash, check or credit card). Apply online at jcsava.gov

EXPLANATION OF CHARGES

LATE CHARGE: A 1.5% fee is assessed on outstanding balances for charges not paid by the due date.

FIXED CHARGE: The fixed charge is for expenses associated with operating and maintaining the water distribution system and the wastewater collection system

WATER USAGE CHARGE: Based on the amount of water used at the current rate per gallon

SEWER USAGE CHARGE: Sewer usage is based on the water meter reading

Rate Information

Water - Residential

0 - 4,000 Gallons	4,001 - 8,000 Gallons	8,001 - 12,000 Gallons	12,001+ Gallons
Rate per 1,000 Gallons \$3.86	\$7.01	\$14.03	\$21.74

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: M. Douglas Powell, JCSA General Manager
SUBJECT: Compensation

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:25 AM

ITEM SUMMARY

DATE: 4/28/2023

TO: The Board of Directors

FROM: Adam R. Kinsman, JCSA Legal Counsel

SUBJECT: Closed Session: Consultation with legal counsel pertaining to actual or probable litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body, pursuant to Section 2.2-3711 (A)(7) of the Code of Virginia; and Consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel, pursuant to Section 2.2-3711 (A)(8) of the Code of Virginia and pertaining to a proposed policy and fee revision for dedicated fire protection lines.

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:27 AM

ITEM SUMMARY

DATE: 4/28/2023
TO: The Board of Directors
FROM: Teresa J. Saeed, Deputy Secretary
SUBJECT: Adjourn until 5 pm on May 9, 2023 for the Regular Meeting

REVIEWERS:

Department	Reviewer	Action	Date
Board Secretary	Saeed, Teresa	Approved	4/18/2023 - 11:28 AM