



City of Bentonville
Bentonville Utility Board Meeting
Tuesday, March 21st – 11:30 am
Bentonville City Hall 305 SW “A” St.
City Council Chambers

AGENDA

Call to Order
Pledge of Allegiance
Attendance
Approval of Minutes: March 7th, 2023

New Business

1. Resolution Amendment – Fiber Cable – Travis Matlock, PE (pages 2-5)
2. Update on Manhole Repair at NWACC – Mike Bender, PE
3. ESource Presentation – Water Loss – Mike Bender, PE (page 6-24)
4. Adjournment



Agenda Item Form

Date of City Council Meeting	3/28/2023
Department	Inventory Control
Submitted by	Travis Matlock
Phone	479 271-3145

Item Type: (Check All That Apply)					
☐ Budget Adjustment	☒ Change Order	☐ Informational	☐ Ordinance	☒ Resolution	☐ Bid Award
Recommendation/Suggested Action (Enter recommendation in space below):					
Request for approval of an amendment to Resolution 10-11-22G to authorize the purchase of excess fiber delivered to the City by Stuart Irby Company through IFB-22-83, in the amount of \$10,800.04, plus applicable taxes. Funds for the additional fiber will come from the 2023 Budget Line Item for the Fiber Phase II and III Project; the additional fiber can be used for the project and for replacements as needed. No budget adjustment is needed.					

Estimated Cost	10,800
Is this Item Budgeted?	☒ Yes ☐ No
If no, please explain how item will be funded (briefly explain in space below) :	



M E M O R A N D U M

DATE: MARCH 28, 2023

TO: City Council, Mayor Orman

FROM: Travis Matlock, Electric Utility Director

RE: Additional fiber cost

The City of Bentonville recommends amending Resolution 10-11-22G and associated PO for the purchase of fiber for an additional \$10,800.04 plus applicable taxes due the extra fiber on different reels as shown on the attachment.

When ordering fiber, there is sometimes a small amount of extra fiber due how the fiber is wound on the reel and cut. Due to this being a bid award with a specific amount cited an amendment is required.

BEUD PRIORITY TWO CABLE REELS

Item #	Material Description	Unit	Qty Ordered	BEUD Part Number	Qty shipped	Cost per foot - IRBY	total cost - qty ordered	total cost - qty shipped	Difference
1	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #1	Ft	17,553'	2285		\$1.60	\$28,084.80	\$0.00	
2	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #2	Ft	12,450'	2285	12,923	\$1.60	\$19,920.00	\$20,676.80	\$756.80
3	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #3	Ft	14,241'	2285	14,685	\$1.60	\$22,785.60	\$23,496.00	\$710.40
4	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #4	Ft	14,000'	2285	14,511	\$1.60	\$22,400.00	\$23,217.60	\$817.60
5	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #5	Ft	13,500'	2285	13,943	\$1.60	\$21,600.00	\$22,308.80	\$708.80
6	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #6	Ft	18,500'	2285		\$1.60	\$29,600.00	\$0.00	
7	144 ADSS Fiber Optic Cable Dia. 0.496 Reel #7	Ft	13,500'	2285	13,671	\$1.60	\$21,600.00	\$21,873.60	\$273.60
8	288 ADSS Fiber Optic Cable Dia. 0.823 Reel #8	Ft	14,500'	2218	15,639	\$3.19	\$46,255.00	\$49,888.41	\$3,633.41
9	288 ADSS Fiber Optic Cable Dia. 0.823 Reel #9	Ft	7,000'	2218	7,312	\$3.19	\$22,330.00	\$23,325.28	\$995.28
10	48 ADSS Fiber Optic Cable Dia. 0.429 Reel #10	Ft	21,084'	2286	21,420	\$0.82	\$17,288.88	\$17,564.40	\$275.52
11	24 ADFO Gel-Free Non-Armored Loose Tube Reel #11	Ft	13,072	2,220	13,248	\$0.43	\$5,620.96	\$5,696.64	\$75.68

BEUD SPARE REELS

12	288 ADSS Fiber Optic Cable Dia. 0.823 Spare Reel	Ft	10,000'	2218	10,387	\$3.19	\$31,900.00	\$33,134.53	\$1,234.53
13	144 ADSS Fiber Optic Cable Dia. 0.496 Spare Reel	Ft	10,000'	2285	10,557	\$1.60	\$16,000.00	\$16,891.20	\$891.20
14	48 ADSS Fiber Optic Cable Dia. 0.429 Spare Reel	Ft	10,000'	2286	10,521	\$0.82	\$8,200.00	\$8,627.22	\$427.22
15	24 ADFO Gel-Free Non-Armored Loose Tube Spare Reel	Ft	10,000'	2220		\$0.43	\$4,300.00	\$0.00	

Irby total: \$317,885.24

\$10,800.04

RESOLUTION NO. 10-11-22 6

A RESOLUTION AWARDING BID IFB 22-83 TO STUART IRBY COMPANY FOR THE PURCHASE OF FIBER CABLE MATERIAL; APPROVING A BUDGET ADJUSTMENT IN THE AMOUNT OF THREE HUNDRED SEVENTEEN THOUSAND EIGHT HUNDRED EIGHTY-FIVE DOLLARS AND TWENTY-FOUR CENTS (\$317,885.24) FROM GENERAL FUND RESERVES TO ACCOUNT #101010-47390, IMPROVEMENTS – OTHER; AND FOR OTHER PURPOSES.

WHEREAS, Stuart Irby Company is the lowest qualified bidder for bid IFB-22-83; and

WHEREAS, this contract covers the purchase of fiber cable material to complete upcoming fiber truck installations for the City; and

WHEREAS, this contract requires a budget adjustment in the amount of three hundred seventeen thousand eight hundred eighty-five dollars and twenty-four cents (\$317,885.24) from General Fund Reserves to Account #101010-47390, Improvements – Other.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF BENTONVILLE, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are authorized to enter into a contract with Stuart Irby Company for the purchase of fiber cable material;

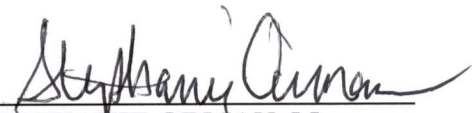
Section 2: The 2022 Budget should be and the same is hereby amended to transfer three hundred seventeen thousand eight hundred eighty-five dollars and twenty-four cents (\$317,885.24) from General Fund Reserves to Account #101010-47390, Improvements – Other;

Section 3 - Severability Provision: If any part of this Resolution is held invalid, the remainder of this Resolution shall continue in effect as if such invalid portion never existed; and

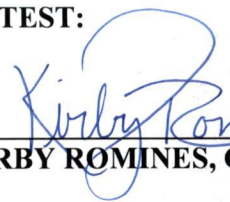
Section 4 - Repeal of Conflicting Resolutions: All Ordinances, Resolutions, or Orders of the City Council, or parts of the same, in conflict with this Resolution are repealed to the extent of such conflict.

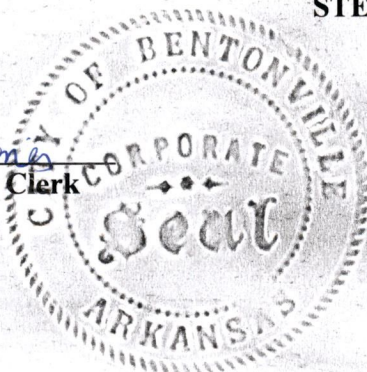
PASSED and APPROVED this 11 day of OCTOBER, 2022.

APPROVED:


STEPHANIE ORMAN, Mayor

ATTEST:


KIRBY ROMINES, City Clerk





Agenda Item Form

Date of City Council Meeting	Utility Board - 3/21/2023; City Council - 3/28/2023
Department	Water Utilities
Submitted by	Mike Bender, Preston Newbill
Phone	(479) 271-6873, (479) 271-3140

Item Type: (Check Applicable Item Type)					
☐ Budget Adjustment	☐ Change Order	☒ Informational	☐ Ordinance	☐ Resolution	☐ Bid Award
Recommendation/Suggested Action (Enter recommendation in space below):					
Informational - Presentation of Final Report from ESource regarding AMI Metering Assessment and Water Audit.					

Estimated Cost	
Is this Item Budgeted?	☐ Yes ☐ No
If no, please explain how item will be funded (briefly explain in space below) :	



Bentonville – Findings Review

Meter Reading & Billing Apparent Loss Analysis

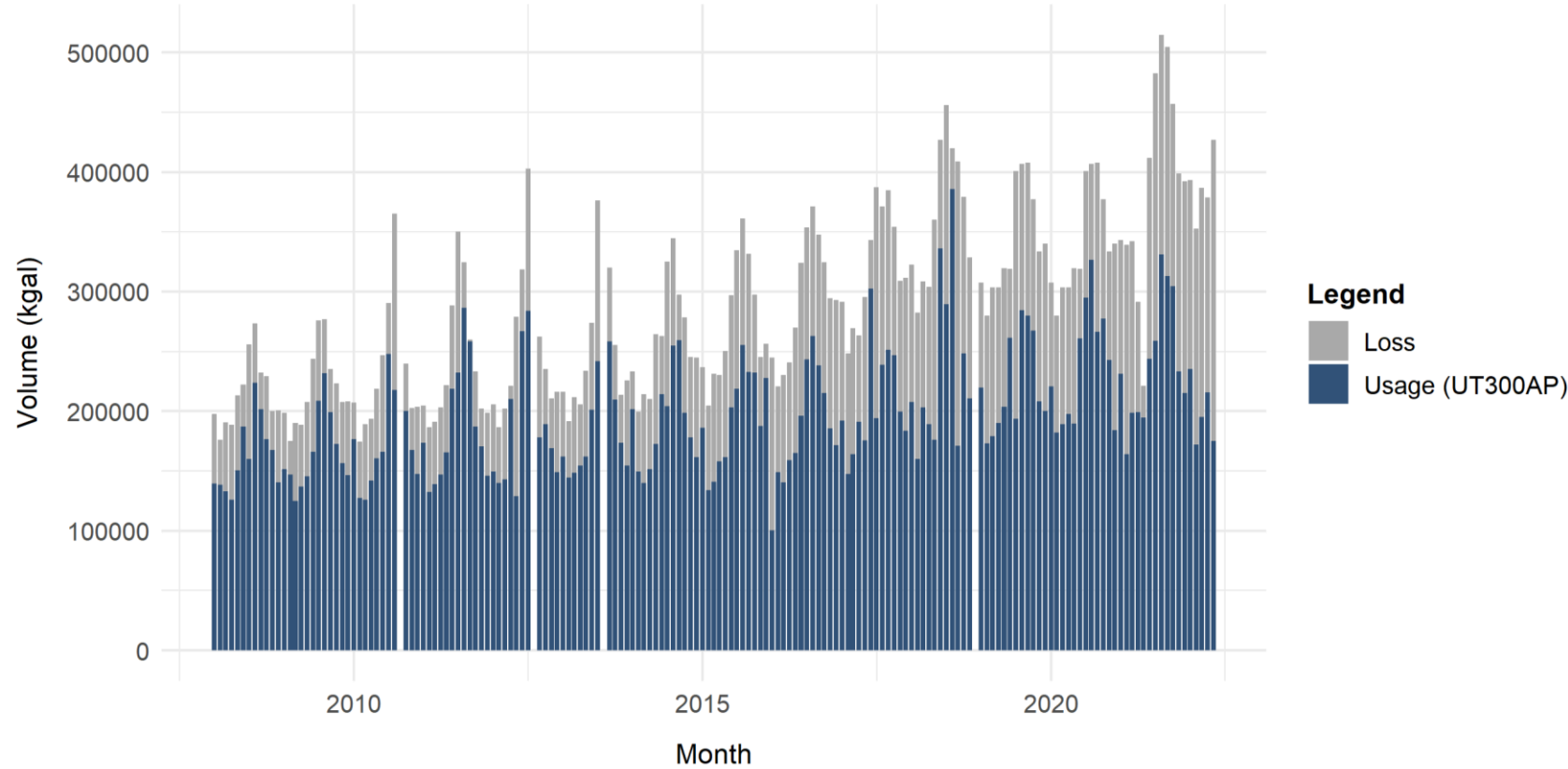


3/21/2023

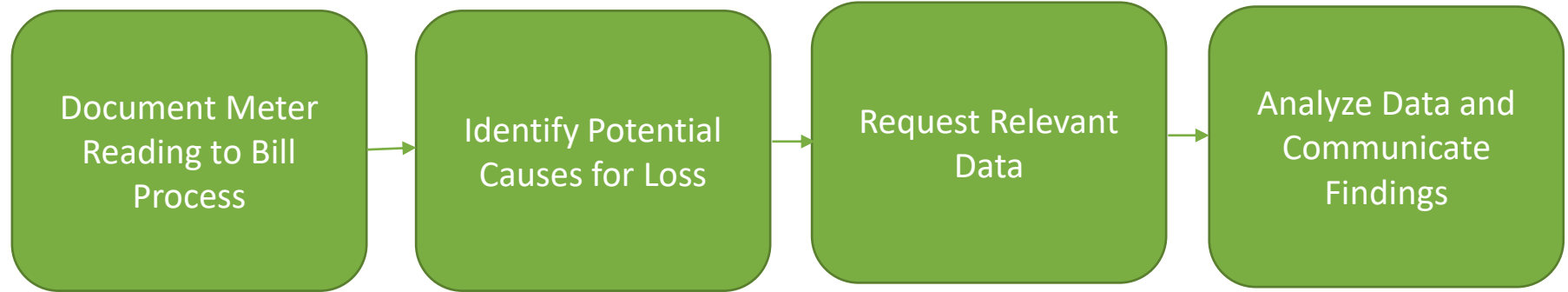


Date here

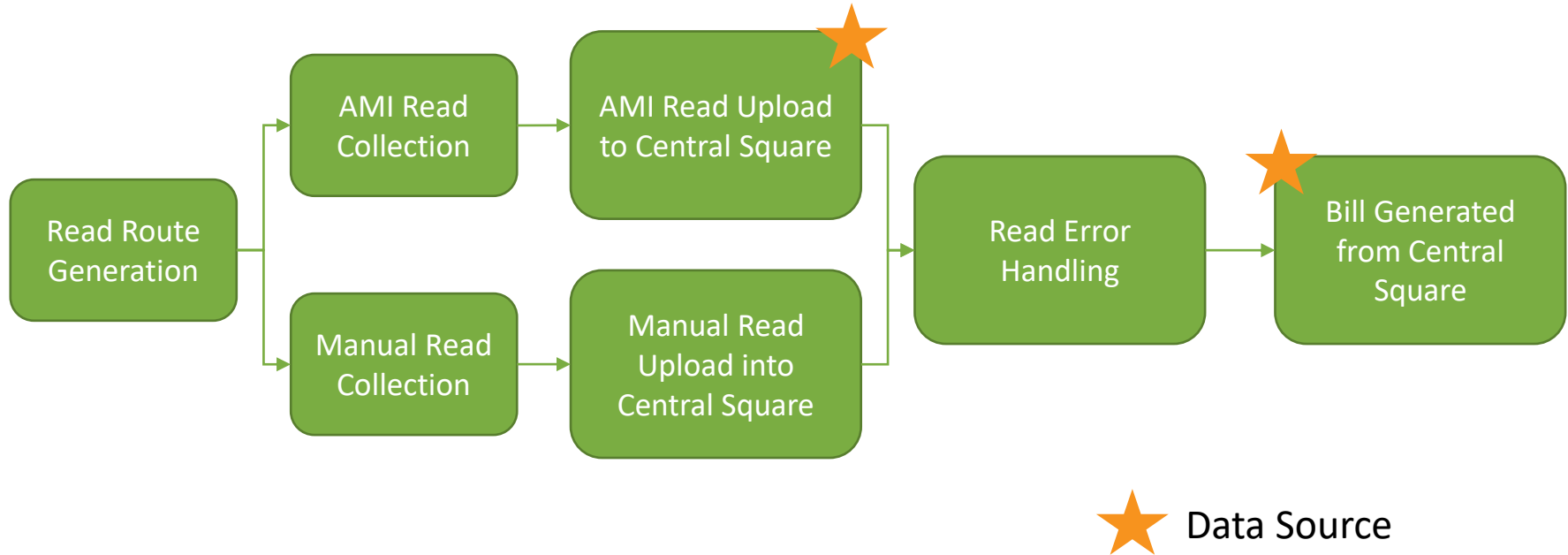
Project Background



Planned Approach



Simplified Meter Reading & Billing Process



Possible Causes for Apparent Loss

- General integrity analyses (duplicates, negative vols, etc.)
- New customer or meter activation issues
- Meters read but not billed
- Meter reading unit problems
- Meter multiplier configuration problems
- Database sync issues between central square and Meuller
- Customer meter inaccuracy

Database Alignment

Comparison Between Totalizer Readings (April – May 2021)	
Difference Type	Count of Totalizer Readings
Difference Negligible	67,788
Significant Difference of Unknown Cause	2,830
Possible Multiplier Issue x0.01	3
Possible Multiplier Issue x0.1	15
Possible Multiplier Issue x10	69
Possible Multiplier Issue x100	4

Patterns in Usage Decrease

Average Summer Usage Before and After AMI Replacement

5/8 or 1 Inch Old Hersey Registers



Possible Causes for Apparent Loss

- ~~General integrity analyses (duplicates, negative vols, etc.)~~
- ~~New customer or meter activation issues~~
- ~~Meters read but not billed~~
- ~~Meter reading unit problems~~
- ~~Meter multiplier configuration problems~~
- ~~Database sync issues between central square and Mueller~~
- Customer meter inaccuracy

Water Audit Key Performance Indicators

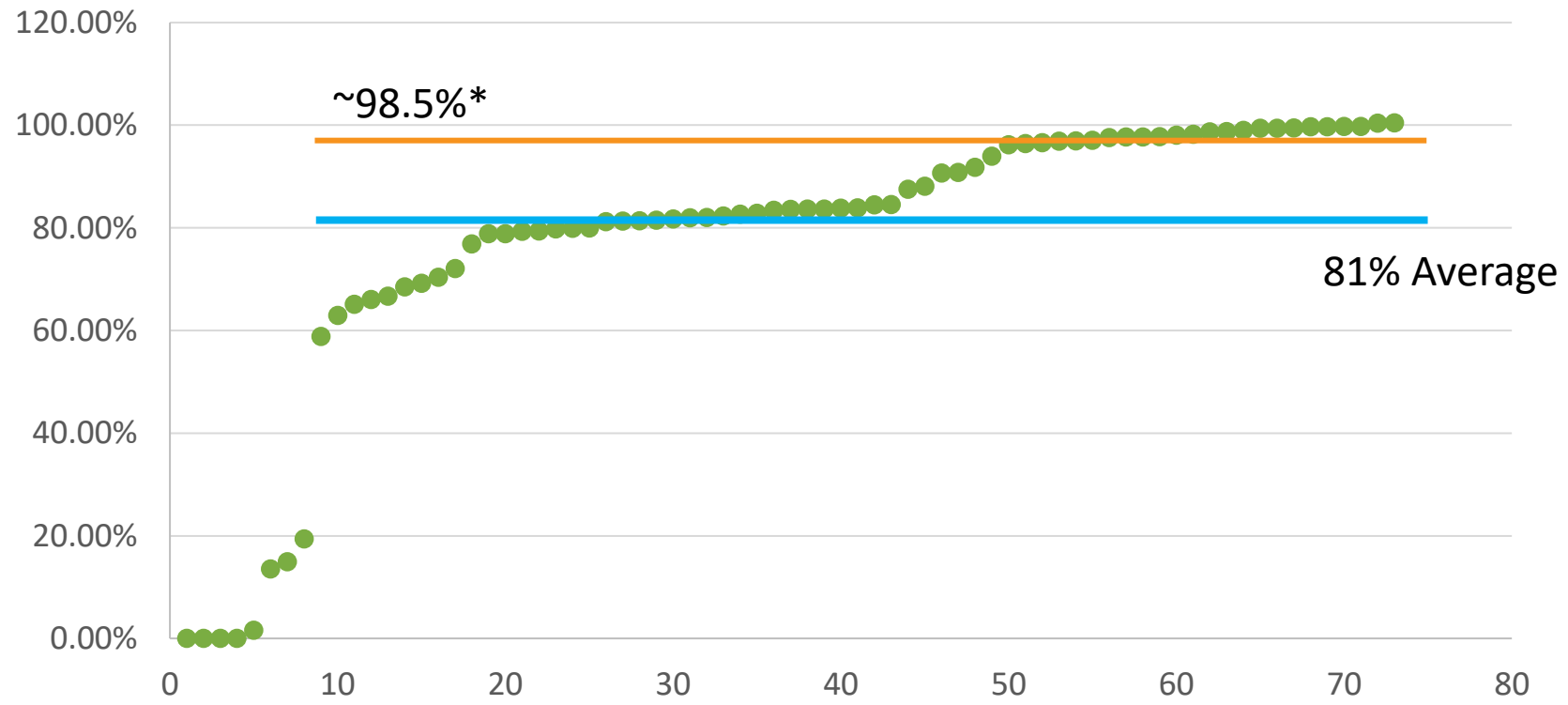
Category	Performance Indicator	Value
Volumetric	Real Loss (MG)	1161
	Apparent Loss (MG)	627
Normalized Volumetric	Real Loss per Connection per Day (gal/conn/day)	136
	Apparent Loss per Connection per Day (gal/conn/day)	73
Normalized Financial	Total Loss Cost Rate (\$/conn/year)	\$272
	Real Loss Cost Rate (\$/conn/year)	\$83
	Apparent Loss Cost Rate (\$/conn/year)	\$189
Financial	Annual Cost of Real Loss (\$/yr)	\$1,948,000
	Annual Cost of Apparent Loss (\$/yr)	\$4,430,000



Additional Evidence of Metering Inaccuracy & Apparent Loss

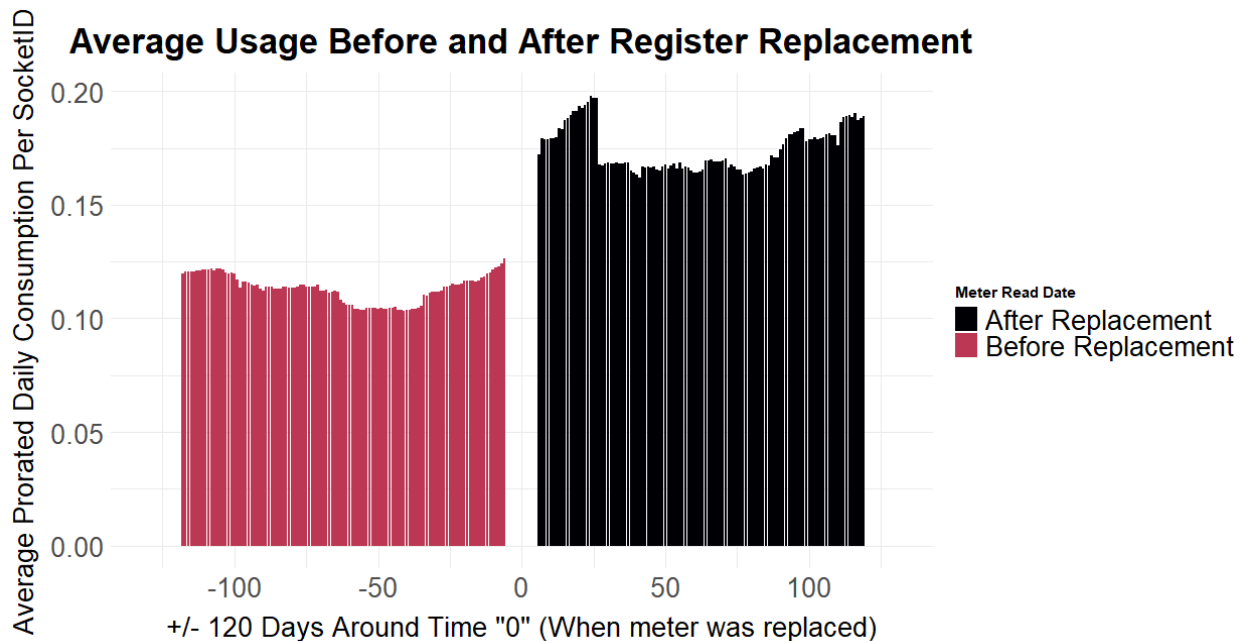


Lab Test Results (IR-14, WA-12)



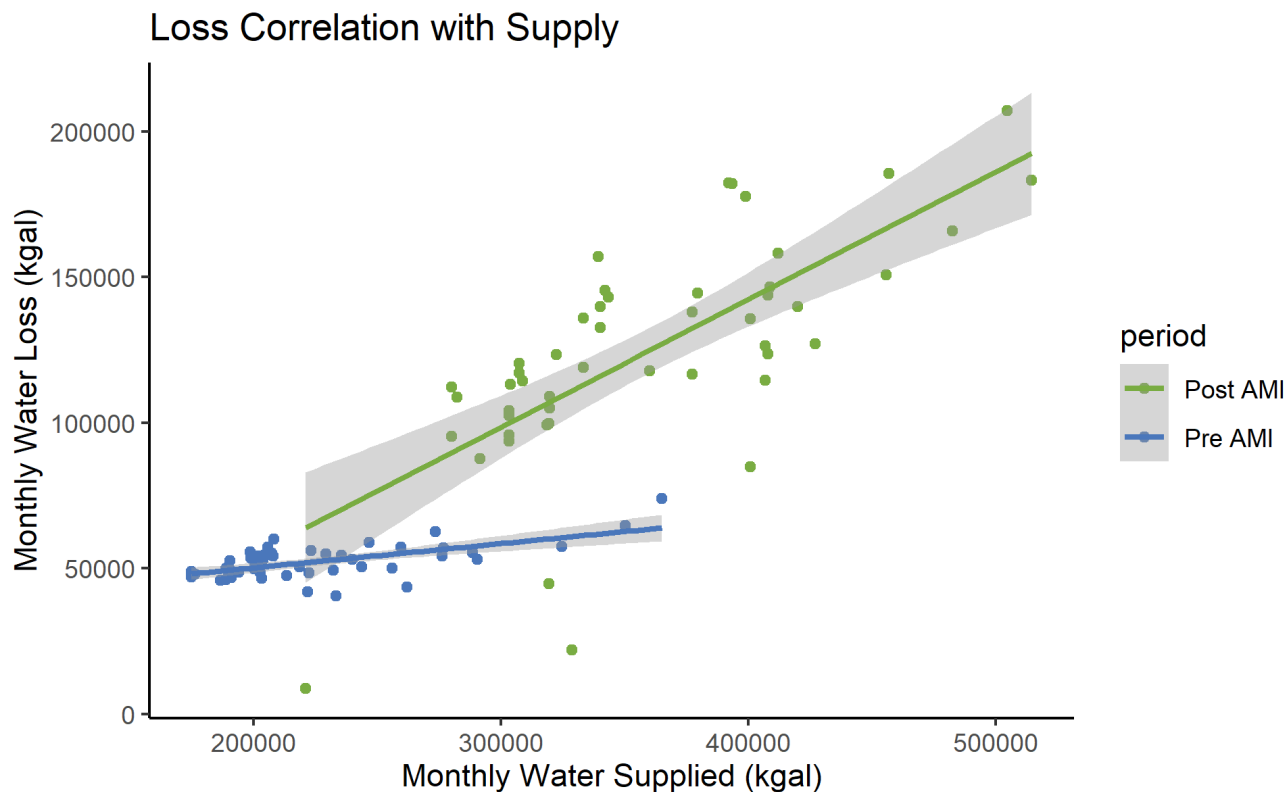
*Overall Average of ~4,000 previous test results aggregated by E Source from in-service small meters

Historical Register Swaps



5 days before and after register replacement date were excluded

Loss Correlation w/ Supply

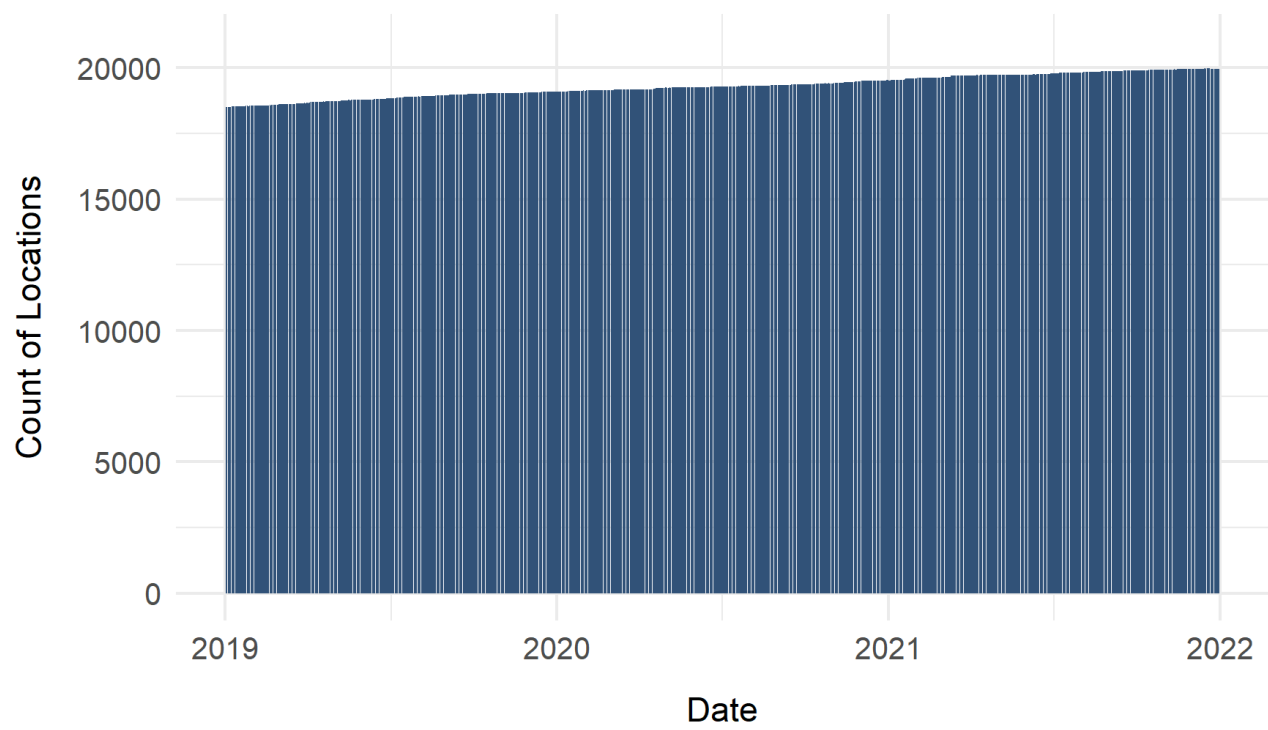




Other Supplemental Slides

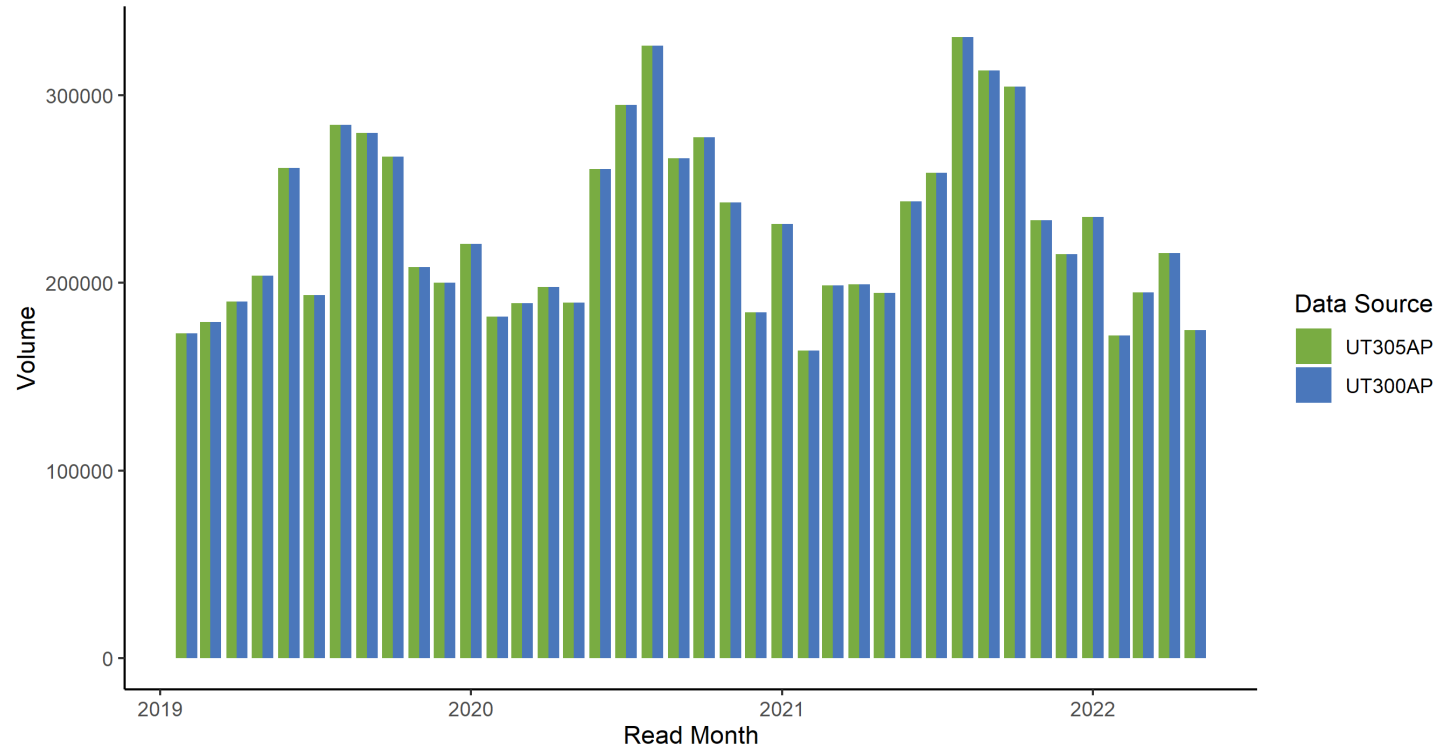


Expected Location Activation



Consistency Within Central Square

Comparing Read Component vs. Read Usage (UT305AP, UT300AP)



Backflow Record Reconciliation

Comparison of Locations in Backflow Records vs Central Square

Source File	Result of Cross Check with UT300AP in Central Square (April - June 2022)	Count of Records
Active	Location ID Not in Central Square	14
Active	No Usage in Central Square	63
Active	Usage Recorded in Central Square	3467
All	Location ID Not in Central Square	85
All	Negative Usage Recorded in Central Square	1
All	No Usage in Central Square	165
All	Usage Recorded in Central Square	4412
Locked	Location ID Not in Central Square	9
Locked	No Usage in Central Square	19
Locked	Usage Recorded in Central Square	301

Trends in Zero Usage Readings

