City of Millwood
Water System Capital Improvement Plan Update

October 14, 2025

CITY OF MILLWOOD

WELCH-COMER ENGINEERS | SURVEYORS

Introductions

- Matt Erdahl – Utilities Supervisor

- Ashley Williams, PE Project Manager
- Sandy Faulkner, EIT Project Engineer

Purpose

- Update Capital Improvement Plan for Water System based on recent investigations
  - Refine funding plan, providing potential funding methods (“pay as you go”, loan usage, etc.)

What We've Been Working On

- Leak Detection - Cast Iron Pipe
  - No major leaks or concerns reported
- Meter Calibration
  - Detailed meter report in September 2025
  - Production meters reading slightly high (~10 gpm total)
  - Large customer meters reading slightly high (~8.5 gpm total)
- Tank Inspection
  - Video Inspection in August 2025
    - Few rust spots, otherwise good condition
  - Feedback from Tnemec: Great condition, plan for re-lining in 3-5 years

Revisions to Capital Improvement Plan

- Projects
  - Cast Iron may not need to be addressed immediately but within the next 3-5 years
  - Tank coating in the next 3-5 years
- Assumptions
  - Current CIP funding available: $64k per year
  - Assume 3% annual inflation

Capital Improvement Plan – 5-year

		Current Cost	2026	2027	2028	2029	2030
Distribution	Leak Detection – City-wide	$2,500	$2,500				
	Cast Iron Main Replacement (4,890 LF)	$3,620,700			$640,200		$679,188
Storage	Interior Tank Coating	$597,500					$672,492
Source	Butler Pump Replacement	$60,000		$61,800			
	VFD on Old Park Well (triggered by interior tank coating)	$18,000			$19,096		
Misc.	Structure Maintenance (roof sealant, windows)	$36,000	$23,000	$13,390			
	Well Improvements (chlorination, well monitors, SCADA)	$42,600	$28,600	$14,420			
	Meter Replacement	$20,000	$20,000	$20,600	$21,218	$21,855	$22,510
	Total 5-year Plan	$4,397,300	$74,100	$110,210	$680,514	$21,855	$1,374,190

*inflation included in future pricing

Capital Improvement Plan – 10-year

		Current Cost	2031	2032	2033	2034	2035	2036
Distribution	Cast Iron Main Replacement (4,890 LF)	$3,620,700		$720,551		$764,432		$810,986
Storage	Exterior Tank Coating	$372,200		$444,426				
Source	Old Park Pump Replacement	$130,000						$174,709
	Butler Well Generator	$204,000						$274,159
Misc.	Meter Replacement	$20,000	$23,185	$23,881	$24,597	$25,335	$26,095	$26,878
	Total 10-year Plan	$4,346,900	$23,185	$1,188,858	$24,597	$789,767	$26,095	$1,286,732

*inflation included in future pricing

Capital Improvement Plan – 20+ year

		Current Cost	Year Due	Notes
Distribution	Cast Iron Main Replacement (4,890 LF)	$3,620,700	2039	
Storage	Tank Replacement	$3,500,000	2069	$430,000 per year (2038 to 2068)
	Interior Tank Coating	$597,500	2045	
	Exterior Tank Coating	$372,200	2049	
Source	New Park Pump Replacement	$175,000	2044	
	Butler Pump Replacement	$60,000	2048	
	VFD on Old Park Well	$18,000	2047	
Misc.	Structure Maintenance (roof sealant)	$26,000	2046	
	Meter Replacement	$20,000	annual effort	$20,000 per year (plus inflation)
	Total 20-year Plan	$8,389,400	--	--

Rates and Reserve: “Pay As You Go”

	2026	2027	2028	2029	2030
Total CIP	$74,100	$110,210	$680,514	$21,855	$1,374,190
Current Rate CIP Funding	$64,080	$64,080	$64,080	$64,080	$64,080
Needed CIP Funding	$328,020	$374,880	$421,740	$468,600	$515,460
Reserve Balance	$318,000	$646,750	$452,056	$962,881	$168,231
Rate Increase per Connection	$35	$40	$45	$50	$55

Rate increase range (through 2045): $35 to $70

Loan Funding Option

- Public Works Board (20 years, at 1.71%) or DWSRF-DOH
- Looked at three different loan options:
  - For main replacement only
  - For main replacement and tank coatings
  - For main replacement, tank coatings, and eventual tank replacement

Rates and Reserve: Loan for Main Replacement Only

	2026	2027	2028	2029	2030
Total CIP	$74,100	$110,210	$40,317	$21,855	$695,002
Loan Payment	$0	$0	$164,000	$164,000	$164,000
Current Rate CIP Funding	$64,080	$64,080	$64,080	$64,080	$64,080
Needed CIP Funding	$187,440	$234,300	$281,160	$328,020	$328,020
Reserve Balance	$177,420	$395,590	$506,516	$712,761	$245,860
Rate Increase per Connection	$20	$25	$30	$35	$35

Rate increase range (through 2045): $25 to $60

Rates and Reserve: Loan for Main Replacement and Tank Coatings

	2026	2027	2028	2029	2030
Total CIP	$71,600	$110,210	$40,314	$21,855	$22,510
Loan Payment	$0	$0	$164,000	$164,000	$227,000
Current Rate CIP Funding	$64,080	$64,080	$64,080	$64,080	$64,080
Needed CIP Funding	$28,116	$46,860	$93,720	$140,580	$187,440
Reserve Balance	$20,596	$83,126	$55,708	$74,513	$76,523
Rate Increase per Connection	$3	$5	$10	$15	$20

Rate increase range (through 2045): $3 to $60

Rates and Reserve: Loan for Main Replacement, Tank Coatings and Replacement

	2026	2027	2028	2029	2030
Total CIP	$71,600	$110,210	$40,314	$21,855	$22,510
Loan Payment	$0	$0	$164,000	$227,000	$227,000
Current Rate CIP Funding	$64,080	$64,080	$64,080	$64,080	$64,080
Needed CIP Funding	$28,116	$46,860	$93,720	$140,580	$187,400
Reserve Balance	$20,596	$83,126	$55,708	$74,513	$76,523
Rate Increase per Connection	$3	$5	$10	$15	$20

Rate increase range (through 2045): $3 to $25

CIP Questions for Council

1. How does the Council want to fund the CIP?

    - Begin review grant/loan options? Target funding year of 2027 or 2028

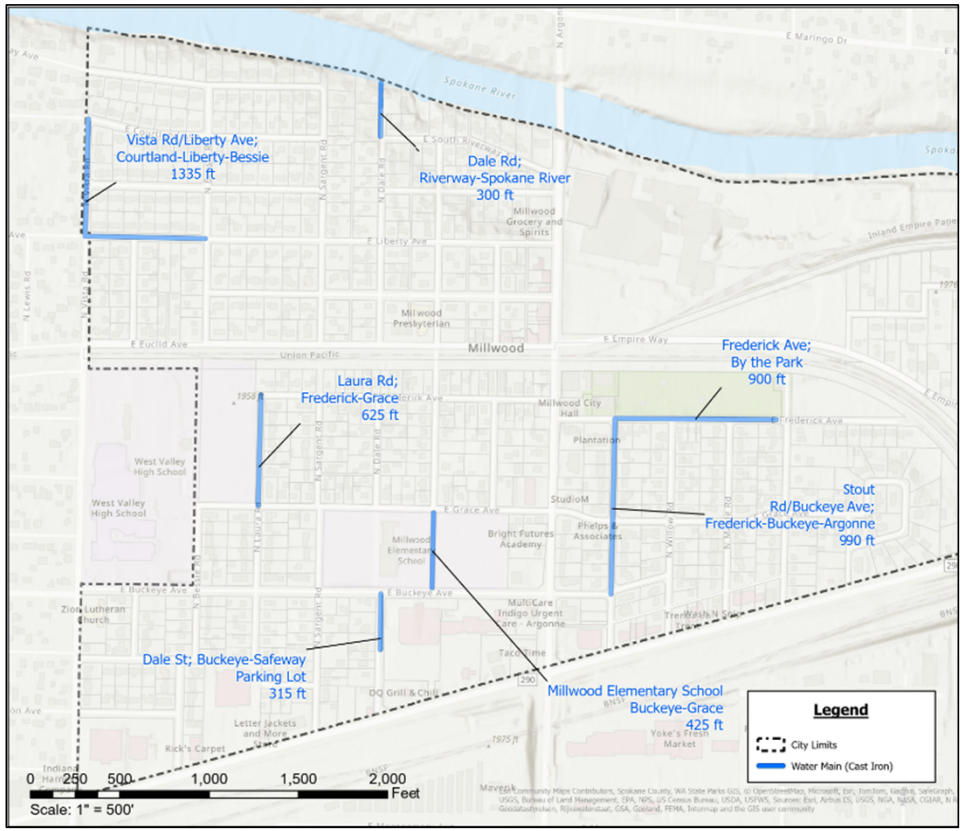
2. Does the Council wish to make any changes to the Plan?

Questions

Extra Slides

Capital Improvement Projects - Distribution

- Cast Iron Pipe Replacement
  - 4,890 Linear Feet remaining in City
  - Major breaks within the last several years
  - Estimated costs:
    - $2,754,000 if completed in one bid package ($563 per LF)
    - $3,620,700 if completed in ~800 LF bid packages over the next 10 years ($500 per LF)



Capital Improvement Projects

- Tank Coatings and Structure Life
  - Discussed anticipated structure life with steel tank manufacturer – if coatings are maintained ~100 year life span
  - Coatings:
    - Interior - last completed in 1992 (due 2017)
      - Interior coating will require the tank to be offline – plan to install a Variable Frequency Drive on Old Park Well to facilitate this (during fall season)
    - Exterior – last completed in 2016 (due 2031)
    - City will conduct inspection of both interior and exterior
  - Estimated costs:

Project	Cost
Interior Tank Inspection	$10,000
Interior Tank Coating	$597,500
Exterior Tank Coating	$372,200
VFD on Old Park Well	$18,000
Tank Replacement	$3,500,000

Capital Improvement Projects

- Pump Replacements and Generators
  - Estimate 20-year lifespan on pumps
  - Estimated costs:

Project	Cost
New Park Pump Replacement	$175,000
Old Park Pump Replacement	$130,000
Butler Pump Replacement	$60,000
Butler Well Generator	$204,000

Capital Improvement Projects

- Miscellaneous Improvements
  - Structure Maintenance
    - Old Park Well and Butler Well Roof Sealant
    - Windows at Old Park
  - Well Improvement
    - Add Chlorination at New Park Well
    - Well Level and Temperature Monitors (all wells)
    - SCADA Update/Upgrade
  - Meter replacement, source meter replacement

Project	Cost
Old Park Well Roof Sealant	$13,000
Butler Well Roof Sealant	$13,000
Windows at Old Park	$10,000
Add Chlorination to New Park Wells	$14,000
Well Level and Temperature Monitors	$20,800
SCADA Update/Upgrade	$15,000
Meter Replacement, Source Meter Replacement	$20,000 / year