

# EPA's 2023 Clean Water Act Financial Capability Assessment Guidance: Schedule Development

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# Roadmap for Today's Discussion

Goals of Presentation

Background

Overview of Updated Guidance

- Purpose of 2023 FCA Guidance Update
- Use of FCA for CWA Schedule Negotiations
  - ✓ Alternative 1
  - ✓ Alternative 2
  - ✓ Financial Alternatives Analysis, Other Metrics, Additional Scheduling Considerations
  - ✓ Schedule Development

Resources



# Goals of Presentation

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- Provide background on the 2023 updates to EPA's FCA Guidance.
- Summarize the structure of the FCA Guidance.
- Describe the key changes relative to the 1997 FCA Guidance.
- Highlight EPA's available and planned FCA resources.



# Background: History of Related Guidance

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- 1995: *Interim Economic Guidance for Water Quality Standards Workbook* (**public sector portion is supplemented by the 2023 FCA Guidance**)
- 1997: *CSO Guidance for Financial Capability Assessment and Schedule Development* (**superseded by the 2023 FCA Guidance**)
- 2012: *Integrated Municipal Stormwater and Wastewater Planning Approach Framework*
- 2014: *Financial Capability Assessment Framework for Municipal Clean Water Act Requirements*



# Background: Assessing Financial Capability

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- Normally, a Clean Water Act (CWA) implementation schedule is the time required for normal engineering and construction practices. However, a schedule can be lengthened based on consideration of financial capability.
- An implementation schedule is a negotiation involving the permittee, EPA, and state NPDES authorities memorialized in a permit or enforcement mechanism.
- With the 2023 Update, part of a financial capability assessment also looks at ways to lower costs and reduce or mitigate the financial impact of water service costs on low-income households.



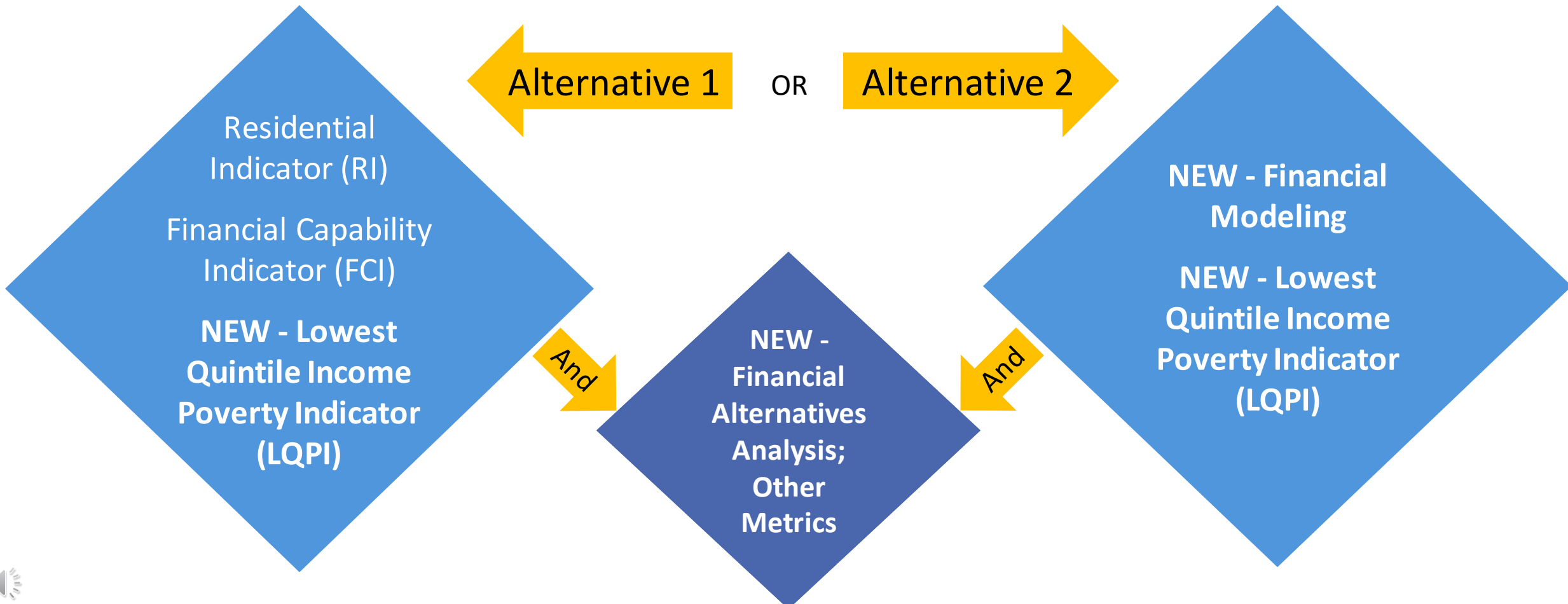
# 2023 FCA Guidance Updates

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- Updates the basis for the FCA calculations given the increase in availability of Census and other data.
- Considers low-income households as well as median household income.
- Provides additional support and guidance to empower and support communities, including best practices to mitigate economic impacts.
- Consolidates guidance for schedule development and WQS decision-making into a single document given their similarity.



# Structure of Updated FCA Guidance



# Alternative 1

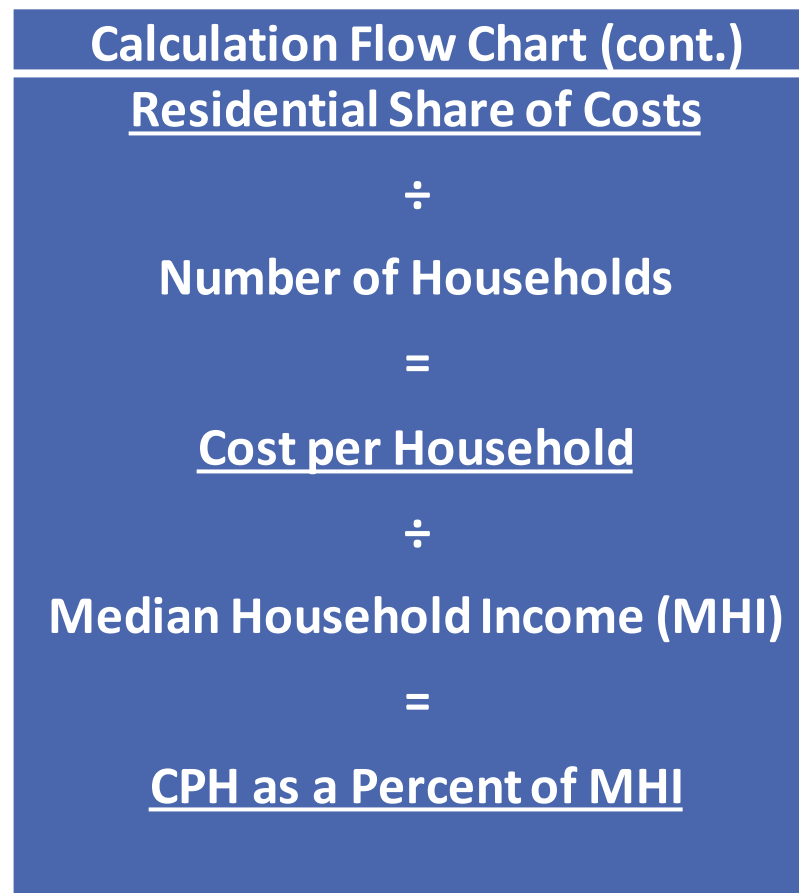
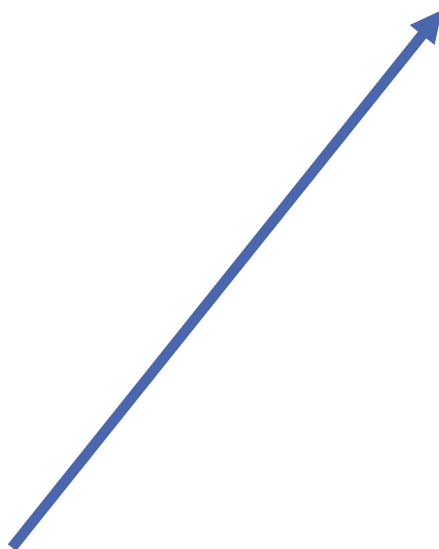
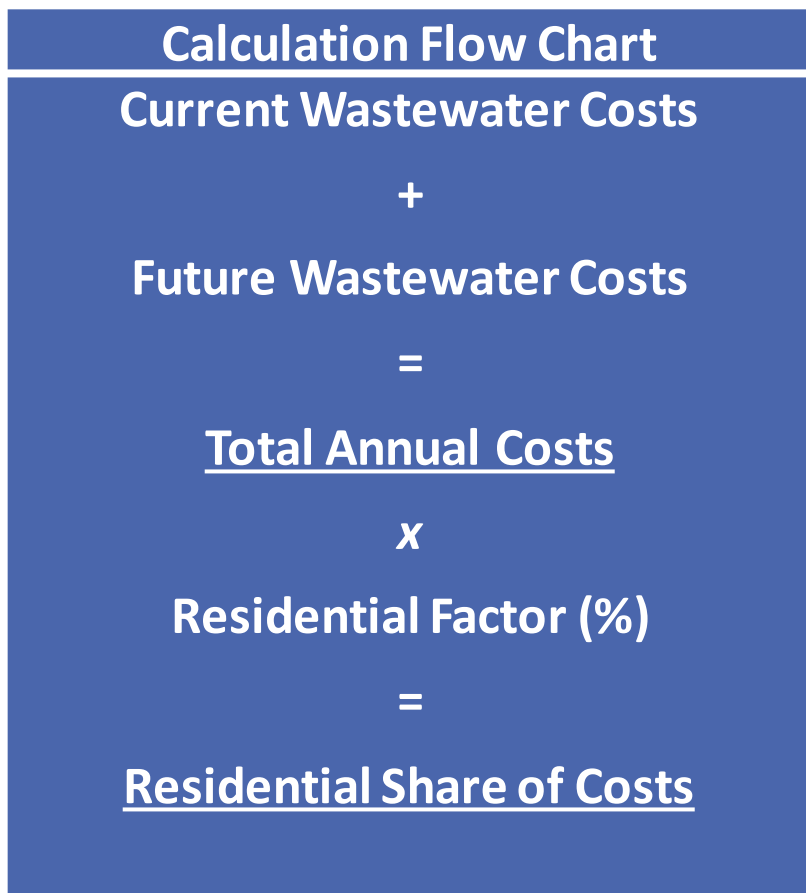
- Residential Indicator: Appendix A, Worksheets 1 – 2
- Financial Capability Indicators: Appendix B, Worksheets 3 – 9
- Lowest Quintile Poverty Indicator: Exhibit 3
- Financial Alternatives Analysis: Appendix C, Checklist and Example Worksheet

## COST PER HOUSEHOLD: Worksheet 1

	LINE NUMBER
<b>Current WWT Costs</b>	
Annual Operations and Maintenance Expenses (Excluding Depreciation)	100
Annual Debt Service (Principal and Interest)	101
Subtotal of Current Costs (Line 100 + Line 101)	102
<b>Projected WWT and CWA Costs (Current Dollars)</b>	
Estimated Annual Operations and Maintenance Expenses (Excluding Depreciation)	103
Annual Debt Service (Principal and Interest)	104
Subtotal of Projected Costs (Line 103 + Line 104)	105
Total Current and Projected WWT and CWA Costs (Line 102 + Line 105)	106
Residential Share of Total WWT and CWA Costs	107
Total Number of Households in Service Area	108
Cost per Household (Line 107 ÷ Line 108)	109



# Alternative 1 - Residential Indicator



# What's New with Residential Indicator (RI)

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- Detailed guidance for each element of the RI calculation in Appendix A.
  - ✓ Specific reference to Census data sources for Median Household Income.
  - ✓ “Practice Tips” related to various issues that often arise (e.g., multiple jurisdictions in the service area and estimating residential share of costs).
- Worksheets 1 and 2, with benchmarks.

$$\text{Residential Share of Costs} = \text{Total Costs} \times \frac{\text{Residential Wastewater Flow}}{\text{Total Wastewater Flow}}$$
$$\text{Residential Share of Costs} = \$12,000,000 \times \frac{10.5 \text{ Million Gallons per Day}}{13.1 \text{ Million Gallons per Day}} = \$9,600,000$$

# Alternative 1 – Financial Capability Indicators (FCI)

Indicator	Strong	Mid-Range	Weak
<b>Bond Rating</b>	AAA – A (S&P) or Aaa – A (Moody’s) or AAA – A (Fitch Ratings)	BBB (S&P) or Baa (Moody’s) or BBB (Fitch Ratings)	BB – D (S&P) or Ba – C (Moody’s) or BB – D (Fitch Ratings)
<b>Overall Net Debt as a Percent of Full Market Property Value</b>	Below 2%	2% - 5%	Above 5%
<b>Unemployment Rate</b>	More than 1 Percentage Point below the National Average	±1 Percentage Point of the National Average	More than 1 Percentage Point above the National Average
<b>Median Household Income</b>	More than 25% above the National MHI	±25% of the National MHI	More than 25% below the National MHI
<b>Property Tax Revenues as a Percent of Full Market Property Value</b>	Below 2%	2% - 4%	Above 4%
<b>Property Tax Collection Rate</b>	Above 98%	94% - 98%	Below 94%

# What's New with the Financial Capability Indicators

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- Detailed guidance for each element of the calculation provided in Appendix B.
  - Specific reference to Census data sources for Unemployment and Median Household Income.
  - “Practice Tips” related to various issues that regularly come up in terms of the FCI (e.g., including all property tax collections in a year).
  - References to documentation available to help calculate the elements of the FCI.
- Worksheets 3 to 9, with benchmarks.



# Alternative 1 – FCA Table

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<b>Financial Capability Indicator</b>	<b>Low Impact Residential Indicator (Below 1.0%)</b>	<b>Mid-Range Residential Indicator (1.0% to 2.0%)</b>	<b>High Impact Residential Indicator (Above 2.0%)</b>
<b>Strong (Above 2.5)</b>	Low Impact	Low Impact	Medium Impact
<b>Mid-Range (1.5 to 2.5)</b>	Low Impact	Medium Impact	High Impact
<b>Weak (Below 1.5)</b>	Medium Impact	High Impact	High Impact

# NEW: Lowest Quintile Poverty Indicator (LQPI)

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- The LQPI provides a better understanding of lower income households and other poverty considerations in the permittee's service area.
- There are six elements in the LQPI:
  - ✓ Lowest quintile income represents 50% of the indicator.
  - ✓ The other five are combined as an assessment of poverty, which is remaining 50% of the indicator.
- Similar to the RI and FCI, the updated FCA guidance provides worksheets for this calculation (Exhibit 3 in document).
- All data are readily available from the Census Bureau.



# Lowest Quintile Poverty Indicator (LQPI)

Indicator	Strong	Mid-Range	Weak	Weighting
Upper Limit of Lowest Income Quintile	More than 25% above National LQI	±25% of National LQI	More than 25% below National LQI	50%
Percentage of Unemployed Population 16 and Over in Civilian Labor Force	More than 25% below National value	±25% of National value	More than 25% above National value	10%
Percentage of Population Living Under 200% of Poverty Level	More than 25% below National value	±25% of National value	More than 25% above National value	10%
Percentage of Population Receiving Food Stamps/SNAP Benefits	More than 25% below National value	±25% of National value	More than 25% above National value	10%
Percentage of Vacant Households	More than 25% below National value	±25% of National value	More than 25% above National value	10%
Trend in Household Growth	>1%	0-1%	<0%	10%



# Alternative 1 – Expanded FCA Table

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<b>FCA Score (RI and FCI)</b>	<b>Low Impact LQPI Score</b>	<b>Medium Impact LQPI Score</b>	<b>High Impact LQPI Score</b>
<b>Low Impact</b>	Low Impact	Low Impact	Medium Impact
<b>Medium Impact</b>	Low Impact	Medium Impact	High Impact
<b>High Impact</b>	Medium Impact	High Impact	High Impact



# Financial Alternatives Analysis

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- Consideration of current and planned efforts to minimize the environmental and financial impacts on rate payers, especially low-income households.
  - ✓ Variable rate structures
  - ✓ Customer assistance programs
  - ✓ Grants or subsidies, e.g., from the Clean Water State Revolving Fund
- Financial considerations identified in CSO Policy:
  - ✓ Grant and loan availability.
  - ✓ Previous and current residential, commercial and industrial sewer user fees and rate structures.
  - ✓ Other viable funding mechanisms and sources of financing.



# Financial Alternatives Analysis, cont'd

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- The Updated FCA Appendix C provides a “checklist” of financial options for communities to implement when appropriate, including loans, grants, customer assistance programs and alternative rate structures.
- EPA provides resources where needed in this analysis and encourages subsidy and grant consideration from governmental funding sources for communities with significant financial challenges.
  - Online intake form for no-cost, direct water technical assistance: <https://www.epa.gov/water-infrastructure/request-water-technical-assistance>
  - For any questions, the community can email [WaterTA@epa.gov](mailto:WaterTA@epa.gov)



# Alternative 2

- Financial and Rate Models: Section II.b of FCA Guidance
- Lowest Quintile Poverty Indicator: Exhibit 3
- Financial Alternatives Analysis: Appendix C, Checklist and Example Worksheet

Exhibit 6. Examples of Rate Increase Scenarios and Median Household Impacts for Each Scenario

SCENARIO:	COMMUNITY PROPOSED SCENARIO				OTHER SCENARIOS							
	2047				2036				2041			
END YEAR:												
MEASURE:	RATE INC.	CPH (\$)	MHI (\$)	RI	RATE INC.	CPH (\$)	MHI (\$)	RI	RATE INC.	CPH (\$)	MHI (\$)	RI
2018	7.5%	647	67,753	1.0%	8.4%	639	67,753	0.9%	6.5%	629	67,753	0.9%
2019	7.5%	588	69,272	0.8%	8.4%	584	69,272	0.8%	6.5%	566	69,272	0.8%
2020	7.5%	629	70,825	0.9%	8.4%	630	70,825	0.9%	6.5%	601	70,825	0.8%
2021	7.5%	672	72,413	0.9%	8.4%	678	72,413	0.9%	6.5%	637	72,413	0.9%
2022	7.5%	719	74,037	1.0%	8.4%	731	74,037	1.0%	6.5%	675	74,037	0.9%
2023	7.5%	770	75,697	1.0%	8.4%	789	75,697	1.0%	6.5%	716	75,697	0.9%
2024	7.5%	824	77,394	1.1%	8.4%	850	77,394	1.1%	6.5%	760	77,394	1.0%
2025	7.5%	882	79,129	1.1%	8.4%	917	79,129	1.2%	6.5%	806	79,129	1.0%
2026	7.5%	944	80,903	1.2%	8.4%	990	80,903	1.2%	6.5%	856	80,903	1.1%
2027	5%	989	82,717	1.2%	8.4%	1,069	82,717	1.3%	6.4%	907	82,717	1.1%
2028	5%	1,037	84,572	1.2%	8.4%	1,154	84,572	1.4%	6.4%	962	84,572	1.1%
2029	5%	1,086	86,468	1.3%	8.4%	1,246	86,468	1.4%	6.4%	1,020	86,468	1.2%
2030	5%	1,138	88,407	1.3%	8.4%	1,345	88,407	1.5%	6.4%	1,082	88,407	1.2%
2031	5%	1,193	90,389	1.3%	8.4%	1,453	90,389	1.6%	6.4%	1,148	90,389	1.3%
2032	5%	1,251	92,416	1.4%	8.4%	1,570	92,416	1.7%	6.4%	1,218	92,416	1.3%
2033	5%	1,311	94,488	1.4%	8.4%	1,697	94,488	1.8%	6.4%	1,292	94,488	1.4%
2034	5%	1,374	96,607	1.4%	8.4%	1,834	96,607	1.9%	6.4%	1,372	96,607	1.4%
2035	5%	1,440	98,773	1.5%	8.3%	1,980	98,773	2.0%	6.4%	1,456	98,773	1.5%

# Alternative 2 – Financial and Rate Modeling

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- Financial and rate models provide a sophisticated and detailed evaluation of the financial feasibility and customer impact of required improvements.
- Alternative 2 considers potential rate shock and seeks to avoid overly burdensome sewer rates.
- Financial modeling evaluates the timing of capital costs over time, including the rate increases necessary to pay for improvements.
- The Financial Alternatives Analysis and Lowest Quintile Poverty Indicator are also part of Alternative 2.



## Alternative 2 – Financial and Rate Modeling (cont'd)

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- Financial and rate models should include:
  - Inputs and assumptions
  - Debt service schedules
  - Annual operations and maintenance costs
  - Projected capital improvements
  - Projected revenues and service area demographics
- Models are set up to evaluate alternative scenarios in terms of cost, schedule, or types of financing.
- The analysis estimates the potential rate increases and impacts on ratepaying households.



## Alternative 2 – Financial and Rate Modeling (cont'd)

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- To support EPA's review of modeling analyses, communities should provide:
  - Three years of financial reports.
  - Historical wastewater rate increases for the last five years.
  - Recent Budget and Capital Improvement Plans.
  - A summary of the basis for all model input assumptions.
  - Identification of either constant (uninflated) or nominal (inflated) dollars.
  - Explanation of how the model informs financial capability.
  - A fully functional model of all scenarios presented with formulas and interactions among worksheets intact.



# Alternative 2 – Financial and Rate Modeling (cont'd)

SCENARIO:	COMMUNITY PROPOSED SCENARIO				OTHER SCENARIOS							
END YEAR:	2047				2036				2041			
MEASURE:	RATE INC.	CPH (\$)	MHI (\$)	RI	RATE INC.	CPH (\$)	MHI (\$)	RI	RATE INC.	CPH (\$)	MHI (\$)	RI
2021	7.5%	672	72,413	0.9%	8.4%	678	72,413	0.9%	6.5%	637	72,413	0.9%
2022	7.5%	719	74,037	1.0%	8.4%	731	74,037	1.0%	6.5%	675	74,037	0.9%
2023	7.5%	770	75,697	1.0%	8.4%	789	75,697	1.0%	6.5%	716	75,697	0.9%
2024	7.5%	824	77,394	1.1%	8.4%	850	77,394	1.1%	6.5%	760	77,394	1.0%
2025	7.5%	882	79,129	1.1%	8.4%	917	79,129	1.2%	6.5%	806	79,129	1.0%
2026	7.5%	944	80,903	1.2%	8.4%	990	80,903	1.2%	6.5%	856	80,903	1.1%
2027	5%	989	82,717	1.2%	8.4%	1,069	82,717	1.3%	6.4%	907	82,717	1.1%
2028	5%	1,037	84,572	1.2%	8.4%	1,154	84,572	1.4%	6.4%	962	84,572	1.1%
...	...	...	...	...	...	...	...	...	...	...	...	...
2036	5%	1,510	100,988	1.5%	8.3%	2,139	100,988	2.1%	6.4%	1,545	100,988	1.5%
2037	5%	1,582	103,252	1.5%	0%	2,141	103,252	2.1%	6.4%	1,640	103,252	1.6%
2038	5%	1,659	105,567	1.6%	0%	2,144	105,567	2.0%	6.4%	1,741	105,567	1.6%
2039	5%	1,739	107,934	1.6%	0%	2,146	107,934	2.0%	6.4%	1,848	107,934	1.7%
2040	1.39%	1,764	110,354	1.6%	0%	2,148	110,354	2.0%	6.4%	1,962	110,354	1.8%
2041	1.39%	1,790	112,828	1.6%	0%	2,151	112,828	1.9%	6.4%	2,084	112,828	1.8%
2042	1.39%	1,816	115,358	1.6%	0%	2,153	115,358	1.9%	0%	2,086	115,358	1.8%
2043	1.39%	1,842	117,944	1.6%	0%	2,156	117,944	1.8%	0%	2,089	117,944	1.8%
2044	1.39%	1,869	120,588	1.5%	0%	2,158	120,588	1.8%	0%	2,091	120,588	1.7%
2045	1.39%	1,896	123,292	1.5%	0%	2,161	123,292	1.8%	0%	2,094	123,292	1.7%
2046	1.39%	1,923	126,056	1.5%	0%	2,164	126,056	1.7%	0%	2,097	126,056	1.7%
2047	0%	1,926	128,882	1.5%	0%	2,166	128,882	1.7%	0%	2,099	128,882	1.6%

**Key:**  
Rate Inc. = Annual Rate Increase for Wastewater  
CPH = Annual Cost per Household for Wastewater and Stormwater Combined  
MHI = Median Household Income  
RI = Residential Indicator (i.e., CPH as a percent of MHI)

**Key:**  
 2021-2022 Actual (Historical) Data  
 Scenario End Year 2047  
 Scenario End Year 2036  
 Scenario End Year 2041

# Other Metrics

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- The FCA Guidance invites communities to submit additional information for consideration, such as:
  - ✓ Drinking Water Costs
  - ✓ Water Affordability Program Costs and Savings
  - ✓ Asset Management Costs
  - ✓ Stormwater Management Costs
  - ✓ Comparisons to County, State, and National Data

Additional examples in Appendix E.



# CWA Project Scheduling Considerations

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- Schedules should take into account:
  - ✓ Discharges to sensitive areas
  - ✓ Use impairment
  - ✓ Public health
  - ✓ Environmental justice
- Reducing exposure to raw sewage should be a priority in any negotiated schedule.
- Any implementation schedule should sequence projects to mitigate public health and environmental impacts to areas with potential environmental justice concerns as early as possible.
- Before seeking an extended schedule, EPA also encourages communities to actively involve the affected public by holding public meetings.



Expanded FCA Matrix Results	Recommended Implementation Schedule Benchmarks
Low Impact	Normal Engineering/Construction Schedule
Medium Impact	Total schedule generally up to 10 years
Medium Impact with Comprehensive Financial Alternatives Analysis	Total schedule generally up to 15 years
High Impact	Total schedule generally up to 15 years (or 20 years based on further negotiation with EPA and state NPDES authorities)
High Impact with Comprehensive Financial Alternatives Analysis	Total schedule generally up to 20 years (or 25 years based on further negotiation with EPA and state NPDES authorities)

## Developing a Schedule Using Alternative 1

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# Developing a Schedule Using Alternative 2

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- Using Alternative 2, EPA will consider the impacts on households as well as the LQPI Score and Financial Alternatives Analysis.
- Schedules developed using Alternative 2 should be generally consistent with the recommended implementation schedule benchmarks in Alternative 1.



# Conclusion

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- Additional information about the 2023 FCA Guidance is available at: <https://www.epa.gov/waterfinancecenter/clean-water-act-financial-capability-assessment-guidance>
- Requests for technical assistance can be made using the online intake form for no-cost, direct water technical assistance: <https://www.epa.gov/water-infrastructure/request-water-technical-assistance>
- For any questions, email [WaterTA@epa.gov](mailto:WaterTA@epa.gov)
- Upcoming trainings scheduled through 2023:
  - *FCAs for Small Communities and Accessing Funding and Technical Assistance*
  - *Reviewing FCAs Using the 2023 FCA Guidance* (internal for EPA and state regulators)
- Contacts:
  - ✓ CWA Schedule Negotiations: [baptista.chrisna@epa.gov](mailto:baptista.chrisna@epa.gov), [lunn.jacob@epa.gov](mailto:lunn.jacob@epa.gov), [anderson.hannah@epa.gov](mailto:anderson.hannah@epa.gov)
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