



Ask Me Anything: Calculating User Rates

June 16, 2025



About Us

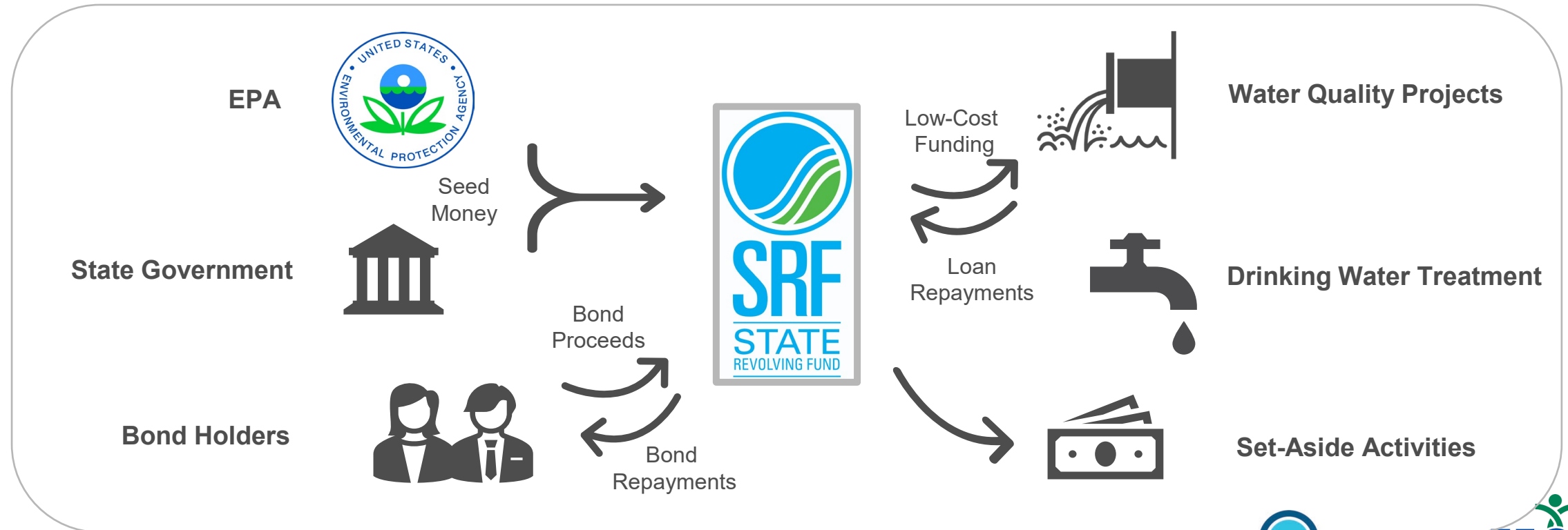
The **Environmental Finance Center Network (EFCN)** is a university- and non-profit-based organization creating innovative solutions to the difficult how-to-pay issues of environmental protection and water infrastructure.

The EFCN works collectively and as individual centers to address these issues across the entire U.S, including the 5 territories and the Navajo Nation. The EFCN aims to assist public and private sectors through training, direct professional assistance, production of durable resources, and innovative policy ideas.



What are the SRFs?

- Low interest revolving loan program with subsidies for targeted projects and communities
- Money comes from EPA/Federal Government, state match, loan repayments, interest, bond proceeds



It's not the destination;
it is the journey.

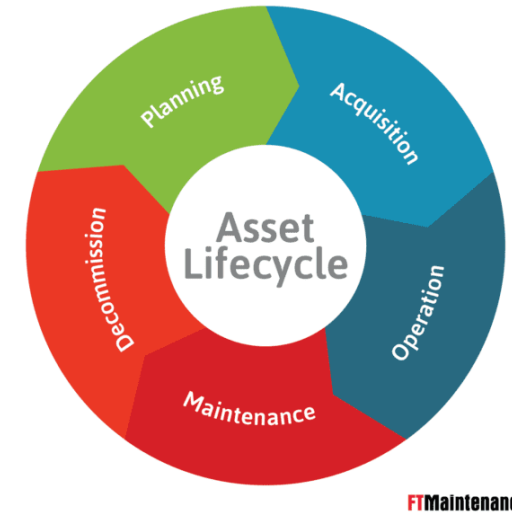
THE JOURNEY



AM + CIP

Asset Management

- Inventory, including condition assessment
- Level of Service goals
- Criticality assessment
 - Probability of failure
 - Consequence of failure
- Prioritization
- Funding strategy



- An AMP typically includes:
 - Inventory and analysis of critical assets
 - Evaluation of asset maintenance costs
 - Long-term funding strategies

Capital Improvement Plan

- A CIP covers 5-7 years and typically includes:
 - Estimated costs for each project
 - Estimated timelines for each project
 - Funding sources
 - A financing plan

<https://opengov.com/article/capital-improvement-plans-101/>

CIP Example

(IN THOUSANDS OF DOLLARS)

PROJECT CATEGORY	PROJECT NO.	PROJECT NAME						
			FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29
Colonel Ward Treatment and Pumping Plant	1	Filter Plant Clearwell Optimization	500	500	5,000	5,000		
	2	Filter Plant Backwash Pump Station rehab.					300	2,000
	3	Flood Control	3,000					
	4	Filter Plant PAC	300	300	5,000			
	5	Flocculation motors / baffles			500	3,000		
	6	Thickener Rehab including Tube Settlers	300		1,000	1,000		
	7	Sodium Hypochlorite System	9,500					
	8	Filter Plant Miscellaneous Improvements*				500	2,000	2,000
	9	Colonel Ward Valve House Rehabilitation				300	1,000	1,000
	10	Colonel Ward Pumping Improvements					500	5,000
	11	Colonel Ward Complex Building Improvements	500	15,000	3,000	2,000		
	12	Colonel Ward Miscellaneous Improvements*			1,000	1,000	1,000	1,000
System Pumping and Storage	13	Massachusetts Ave. P.S. Power Upgrades	7,700	25,000				
	14	Massachusetts Ave. Tunnel Rehab.				500	2,000	
	15	Massachusetts Ave. P.S. Miscellaneous Improvements*					1,000	500
	16	Manhattan Tank & P.S. Rehabilitation					500	5,000
	17	Manhattan Tank & P.S. Misc. Improvements*				300	300	300
	18	Kensington Tank stabilization	800					
	19	Grover Cleveland Tank & P.S. Rehabilitation / Replacement				500	10,000	
	20	Hancock Tank Replacement			500	10,000		
	21	Ferry Tank Replacement	500	500	10,000			
Transmission & Distribution	22	Annual Watermain / Valve Replacement / Rehabilitation	9,000	25,000	20,000	20,000	20,000	20,000
	23	Service Line Lead Abatement Program		5,000	5,000	5,000	5,000	5,000
Buildings & Other	24	Metering Program	1,000	750	750	750	750	750
	25	System Security			250	250	250	250
	26	Intake Rehabilitation					300	2,000
	27	Additional Building Improvements**				1,000	2,000	2,000
Estimated Total Annual Capital Project Costs:			\$33,100	\$72,050	\$52,000	\$51,100	\$46,900	\$46,800

CIP v. AMP

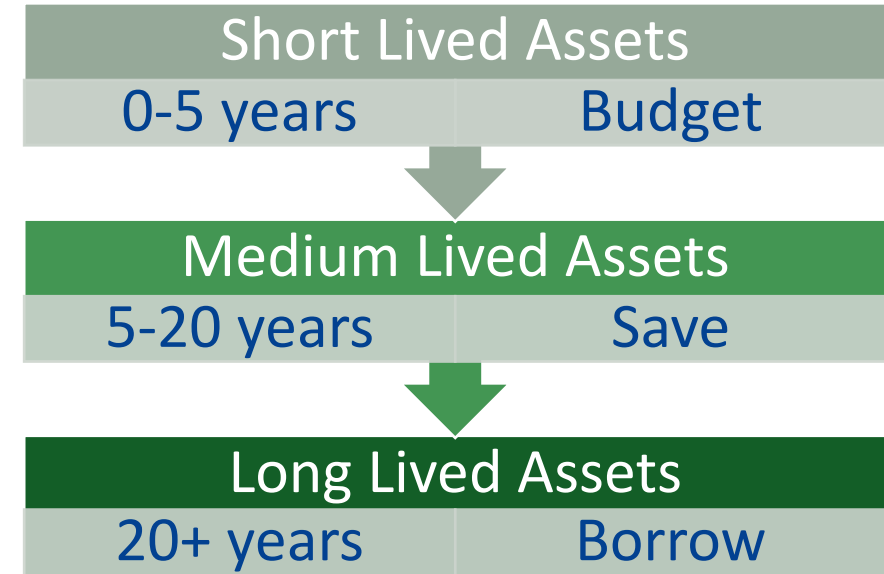
What's the difference between a CIP and an AMP?

- **Scope:** An AMP covers an organization's entire asset infrastructure, while a CIP focuses on capital improvement projects and equipment purchases.
- **Duration:** An AMP is a long-term plan that helps manage assets throughout their lifecycle, while a CIP is a short-range plan that typically covers a period of four to ten years.
- **Purpose:** An AMP helps organizations make cost-effective, proactive decisions about their assets, while a CIP helps organizations coordinate community planning and fiscal management to determine the location, timing, and financing of capital improvements.

Reserves

What is the Right Amount to Save?

- It depends
 - Asset Management Plan
 - Capital Improvement Plan
 - Short Term Asset Reserve Table
- Board tolerance
- Ashley's Budget Philosophy
 - Intergenerational Equity



- Surcharge Fund
- Capital Improvement Fund
- Sinking Fund
- Cash accrual
- Budget line items for maintenance and capital investment

Policies and Procedures

Policies & Procedures

Fees

Connection and
Disconnection

Application for
Service/Allocation

Design and
Construction
Standards

Cross Connection
/ Backflow
Prevention

Conservation and
Emergency Plan

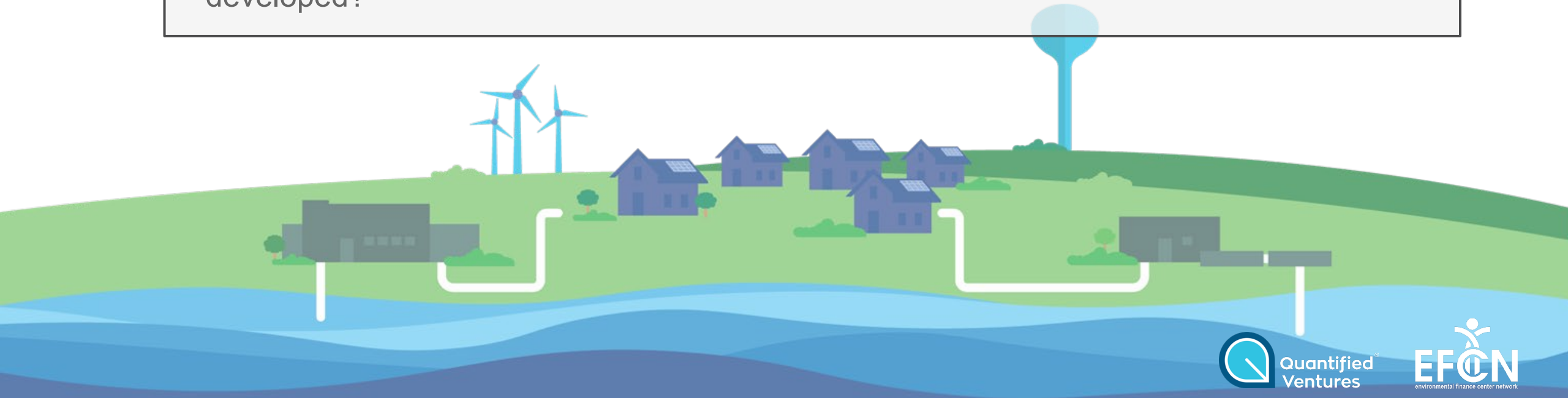
By-
laws/Ordinances

Water Service
Line Ownership /
Control

Budgeting

Budget Considerations

- Do you have a budget?
- When was the last time a review was completed?
- How and when is the next year's budget developed?
- Are you on target with expected expenses?
- What are the high dollar value or % exceedance line items?
- Set expense needs, then evaluate revenue



Revenues and Expenses

Revenues

User Fees	Taxes	Loans/ Grants	Development /Allocation Fees	Other
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Expenses

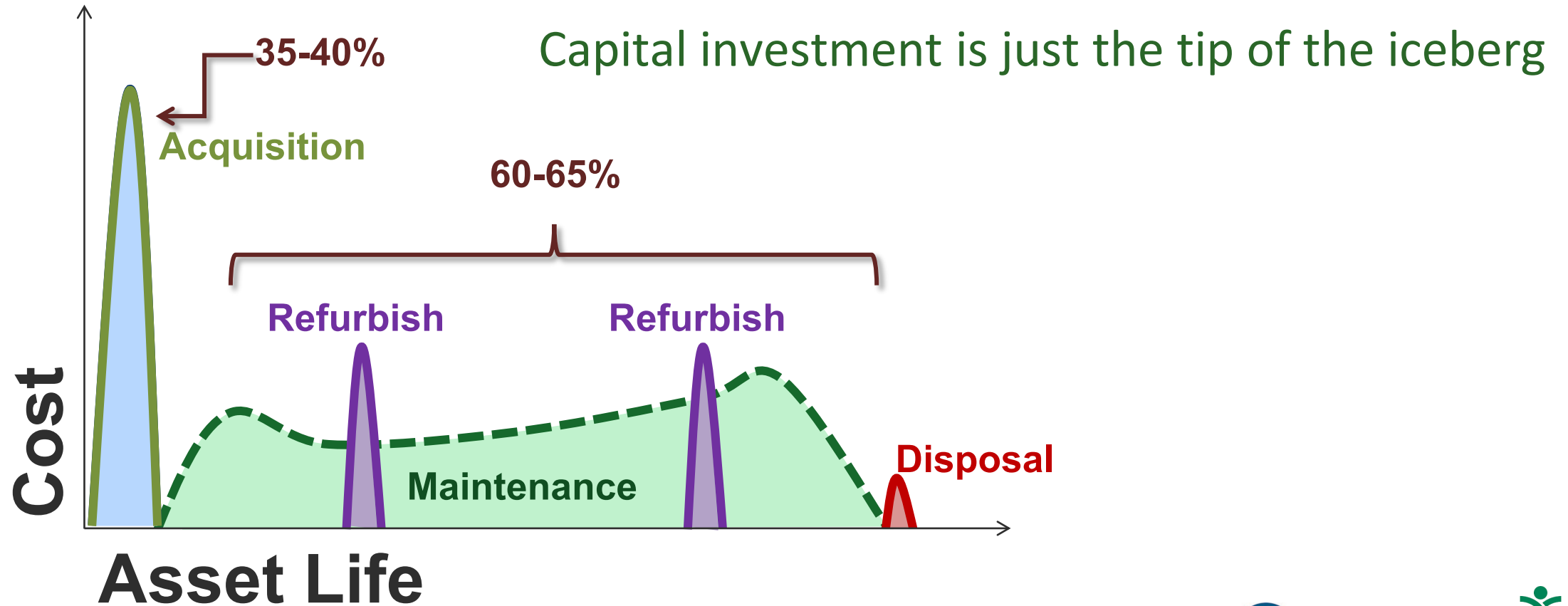
O&M	Capital	Debt
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What about Depreciation?

- What is depreciation?
 - Reduction in value of an asset with the passage of time, due to wear and tear
 - Accounting method of allocating the cost of a tangible or physical asset over its useful life
 - Represents how much of an asset's value has been used up
- How is it calculated?
 - Straight line depreciation
 - $(\text{original cost} - \text{salvage value}) / \text{expected useful life} = \text{annual depreciation}$
 - Equipment, vehicles, buildings. Excludes land and construction
- Funding depreciation
 - Budgeted line item → equal amount remaining at end of budget year

[Link to article: VBB An Appreciation for Depreciation](#)

Lifecycle Costing



What am I Missing?

- Delinquent accounts
 - Not apparent on revenue/expense statement
 - How are they handled?
 - Disconnection policies?
 - Liens
 - Tax sales
 - High delinquency affects the entire system; sets the expectation that payment is optional
- Transfers to the GF
- Outdated or underreporting meters
- 'Free' water users



Ask Yourself

- Calculating reserves
- Debt planning
- Depreciation
- End-of-year surplus
- Delinquencies
- Days of cash on hand
- General Fund transfers
- Non-revenue water
- Contract services
- Debt Service Coverage Ratio



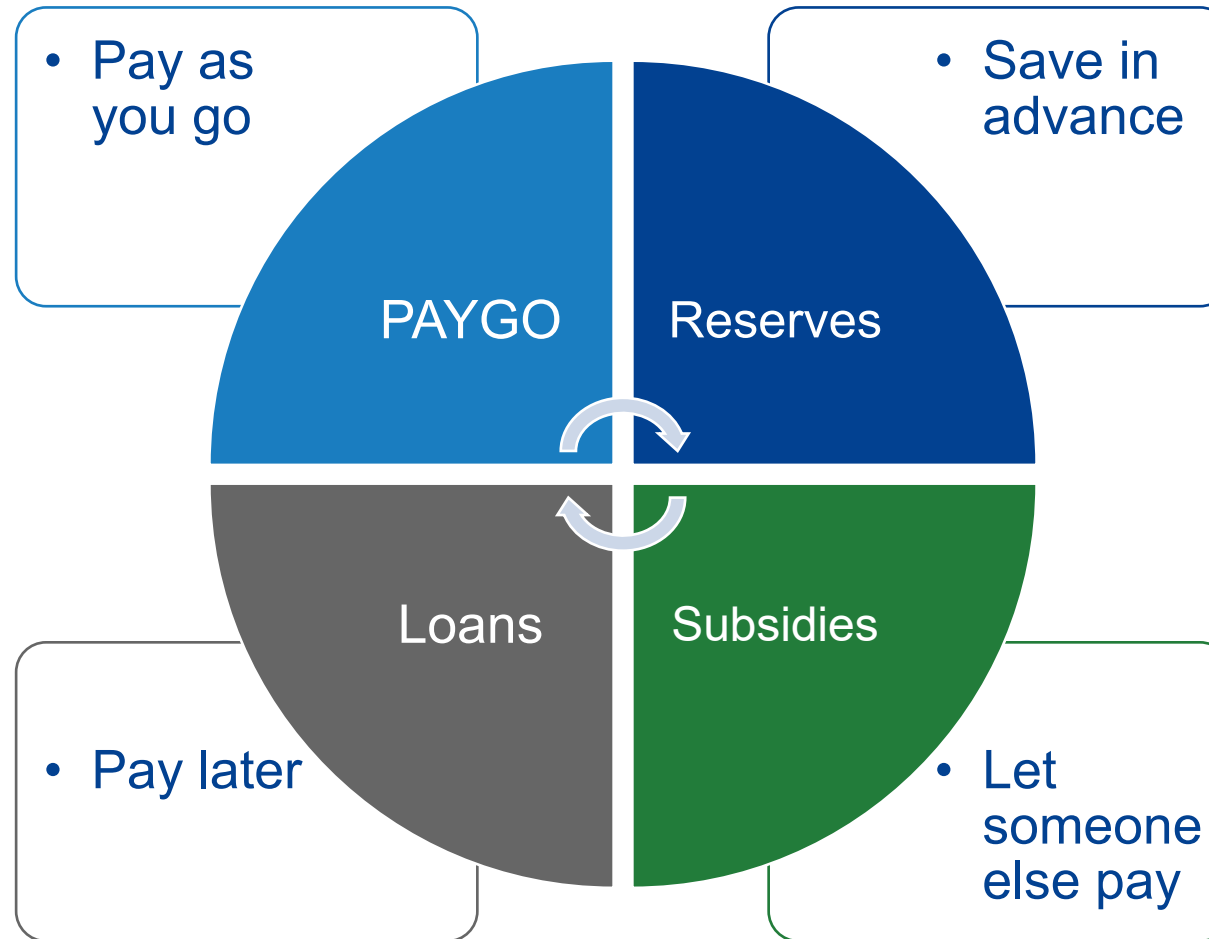
THE DESTINATION

Rate Setting Questions

- What are your system's rate setting goals?
- Does your rate structure support your objectives?
- What is your current rate structure?
- How much money do you need to meet future O&M and Capital expenses?



Paying for Infrastructure



Full Cost Pricing

A full accounting for all current and future utility expenses in rate structure, including:

- O&M
- Emergencies
- P&I on debt
- Reserves
- Source water protection
- CIP



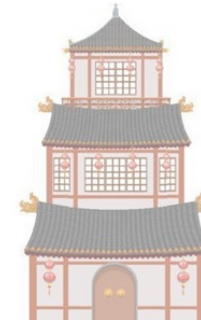
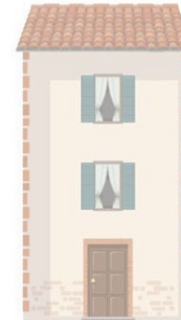
Elements of a User Rate Structure

- Customer classes
- Billing periods
- Base/flow or meter/usage charge
- Capital investments
- Regular rate adjustments
- **Equitable, sustainable, defensible**



Customer Classes

- One rate structure for all users
- Separate rates for residential, commercial, industrial, government, wholesale
- Meter-size rates
- Users outside the 'district'
- High-use industrial
- Seasonal users



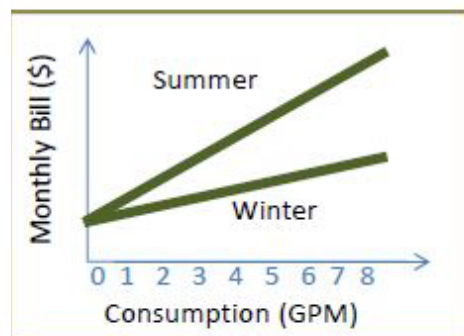
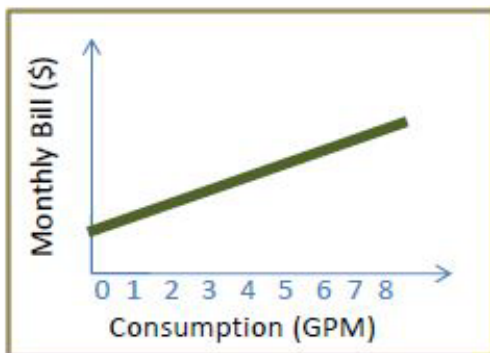
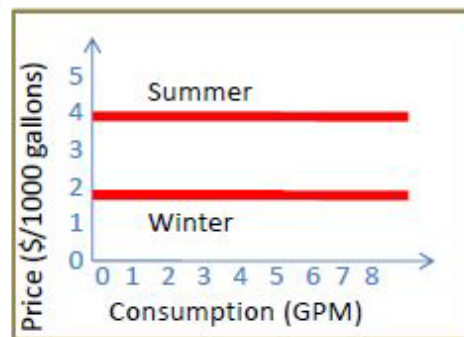
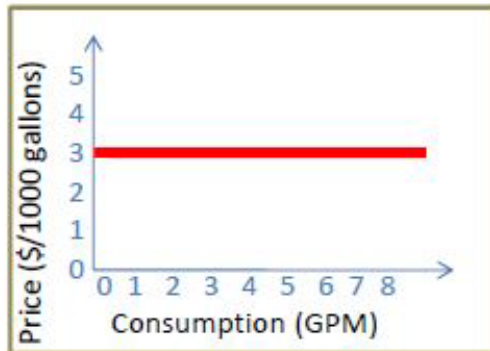
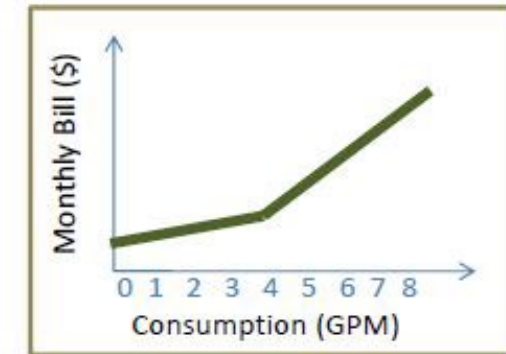
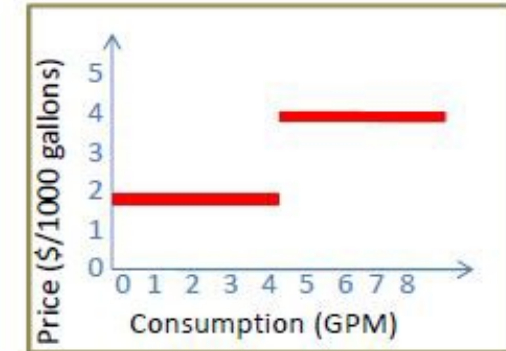
Base & Flow Charge

- AKA Fixed v. Variable; Meter v. Usage
- How homogenous is your system?
- Seasonal usage
- Usage allowance in base charge
- How much of your budget is fixed? How much is variable?
 - What are the differences?



Volume Charges

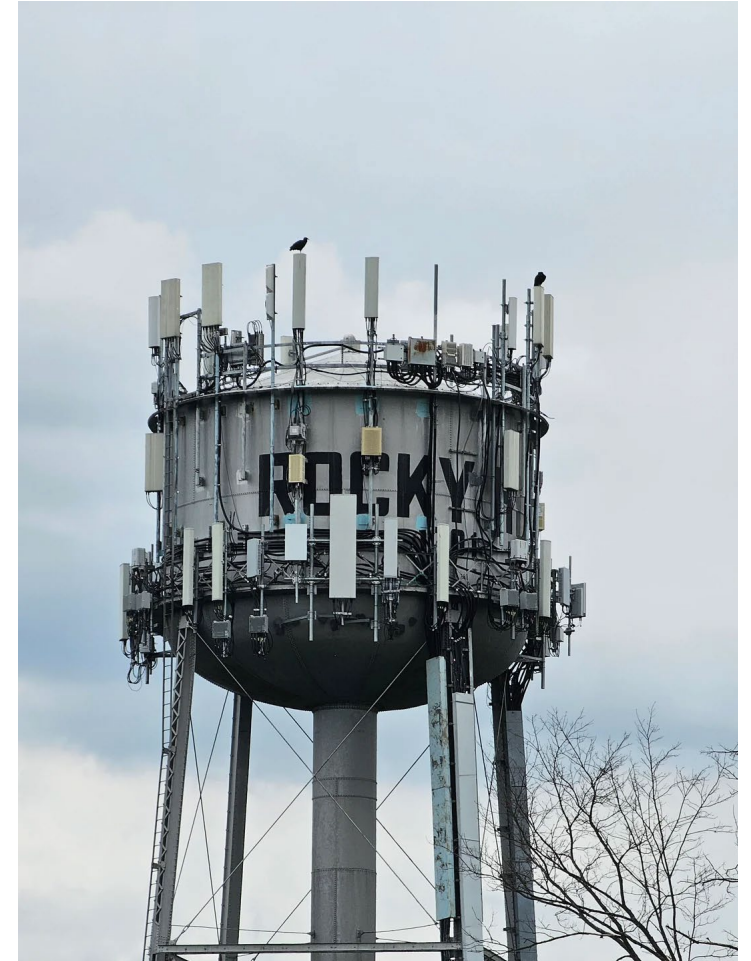
- Flat rate
- Seasonal flat rate
- Easy to understand; the more you use, the more you pay



- Increasing block rate
- May receive push back from high-water users

Non-User Rate Revenues

- Penalties
- Cell phone and radio receivers
- Tap fees
- System development/impact/allocation fees
- Sprinkler/hydrant fees
- Bulk water
- Septage
- 'strong' wastewater
- Interest on investments



Real World Examples

Unmetered Flat Rate + Seasonal

WATER INFORMATION:

FEES:	ANNUAL WATER	\$695.00
	SEASONAL WATER	\$495.00

WATER USER YEAR: JULY 1 – JUNE 30

WATER BILL IS MAILED ON OR BEFORE JUNE 20.

WATER BILLS ARE DIVIDED INTO 4 INSTALLMENTS:
07/20, 09/20, 11/20 and 03/20.

Unmetered Flat Rate + Tax

Check Payable and Mail to:
Fire District No. 1

Direct Inquiries to

Account: 162
Location: 45 Ossie Rd
Due Date: *July 30, 2009*
Total Due: \$100.00

Please return tear-off with your payment.

Check Payable and Mail to:
Fire District No. 1

Direct Inquiries to

Account: 162
Location: 45 Ossie Rd
Due Date: *May 30, 2009*
Total Due: \$100.00

Please return tear-off with your payment.

Check Payable and Mail to:
Fire District No. 1

Direct Inquiries to

Account: 162
Location: 45 Ossie Rd
Due Date: *February 28, 2009*
Total Due: \$100.00

**300-
Pa 1/29/09
B.P.*

Taxes from January 1, 2008 - December 31, 2008

Grand List Value	Rate	Total Due
\$2,091.00	\$.07	\$146.37

Increasing Base Charge + Metered Flat Rate

Water Fees

Water Meter Size	0 to 2,000 Gallons	Gallons Over 2,000
Inside Town		
5/8" or 3/4"	\$21.00	\$3.40/1000
1"	\$39.80	\$3.40/1000
1 1/2 "	\$112.40	\$3.40/1000
2" and up	\$218.00	\$3.40/1000
Outside Town		
5/8" or 3/4"	\$36.75	\$5.95/1000
1"	\$69.65	\$5.95/1000
1 1/2"	\$196.70	\$5.95/1000
2" and up	\$381.50	\$5.95/ 1000

Flat Base Charge + Metered Increasing Rate +

Rate Schedule - Effective February 5, 2008

Water Quarterly Rates		Sewer Quarterly Rates	
\$ 22.33	BASE CHARGE- Per Unit	\$60.74	BASE CHARGE - Per Unit
\$ 1.42	PER THOUSAND GALLONS	\$2.40	PER THOUSAND GALLONS < 14,250
\$ 12.70	BOND CHARGE - Per Unit (Previous \$14.00)	\$5.80	PER THOUSAND GALLONS > 14,250
		\$29.00	BOND CHARGE - Per Unit (Previous \$32.00)

The BASE CHARGE is used to pay the basic quarterly operating costs - regardless of usage.
The PER GALLON charge is based on the number of gallons.
The BOND CHARGE is used to pay the bond (loan) payments.
The WATER bond payments include the water portion of the South Pleasant Street bond,
the direct line project, Goshen Road project, and well head protection land purchase.
The SEWER bond payments include the sewer portion of the South Pleasant Street bond,
the original bond
The BASE and BOND CHARGE

8.51 x 11.00 in

Metered Flat Rate City v. Town

Metered Rates are based on 100 cubic feet which is 748 gallons of water.
Meter Service Fee \$29.05 – Sewer Service Fee \$17.55
Will be charged per quarter to each account

City of [REDACTED] - Properties located in [REDACTED] City

	100 cubic feet (748 gallons)
WATER:	\$ 3.397
SEWER TREATMENT:	\$ 4.079
SEWER COLLECTION:	<u>\$ 1.195</u>
COMBINED TOTAL:	\$ 8.671

STAND-BY WATER: \$.0435 per square foot (sprinkled area)

Town of [REDACTED] - Properties located in [REDACTED] Town

	100 cubic feet (748 gallons)	
	Residential	Business
WATER: (1 1/3 X City Rate)	\$ 4.528	\$ 4.528
SEWER TREATMENT:	\$ 4.079	\$ 4.079
SEWER COLLECTION:	\$ 1.195	\$ 1.195
SEWER BUSINESS RATE: (4 X Base Rate)		<u>\$16.316</u>
COMBINED TOTAL:	\$ 9.802	\$26.118

STAND-BY WATER: \$.148 per square foot (sprinkled area)

All the Metered Rates City v. Town

Water Rate Change (12% increase)

12%

Description	Code	Village Water Rate	New	Code	Town Water Rate	New
<u>Flat-rate charges per month/room</u>						
Residential-Single Family-Mobile homes	WF3	26.43	29.60	WF8	33.04	37.00
Apartment-2 rooms or less	WF1	12.26	13.73	WF6	15.33	17.17
Office-2 rooms or less	WF1	12.26	13.73	WF6	15.33	17.17
Apartment-4 rooms or less	WF2	16.98	19.02	WF7	21.22	23.77
Office-4 rooms or less	WF2	16.98	19.02	WF7	21.22	23.77
Office-more than 4 rooms or 1699 sq ft	WF3	26.43	29.60	WF8	33.04	37.00
Commercial-stores, gas stations, theaters small businesses	WF4	40.17	44.99	WF9	50.22	56.25
Hotels/motels-per room	WF1	12.26	13.73	WF6	15.33	17.17
Farm	WF10	40.17	44.99	WF9	50.22	56.25
Restaurant	WF5	156.61	175.40		195.76	219.25
<u>Metered charges-per 100 cubic feet</u>						
Metered rate	MWV	3.30	3.70	MWT	4.13	4.63
Customer charge per month		7.65	8.57		7.65	8.57

Increasing Base and Metered Rate

WATER/SEWER RATES				
Gallons Per	Water Fixed Rate	Water per Tgals	Sewer Fixed Rate	Sewer per Tgals
Quarter		Variable		Variable
0 to 19,999	\$50.00	\$3.41	\$73.00	\$4.10
20,000 to 35,999	\$75.00	\$3.41	\$110.00	\$4.10
36,000 to 249,999	\$195.00	\$3.41	\$345.00	\$4.10
250,000 to 999,999	\$265.00	\$3.41	\$460.00	\$4.10
OVER 1,000,000	\$400.00	\$3.41	\$575.00	\$4.10
State Permit Fee		.036		

Increasing Base and Metered Rate, too many

Sewer equivalent user rate: \$80/month				water usage: \$1.79 per 750 gallons					
				sewer usage: \$4.62 per 750 gallons					
Customer Service Fee increases by usage in increments of 3000 gallons									
Gallon Usage	Water Usage Charge	Water Service fee	Water Total		Sewer Usage Charge	Sewer Service fee	Sewer Total		Grand Total
750	\$ 1.79	\$ 20.10	\$ 21.89		\$ 4.62	\$ 26.57	\$ 31.19		\$ 53.08
1500	\$ 3.58	\$ 20.10	\$ 23.68		\$ 9.24	\$ 26.57	\$ 35.81		\$ 59.49
2250	\$ 5.37	\$ 20.10	\$ 25.47		\$ 13.86	\$ 26.57	\$ 40.43		\$ 65.90
3000	\$ 7.16	\$ 20.10	\$ 27.26		\$ 18.49	\$ 26.57	\$ 45.06		\$ 72.32
3750	\$ 8.95	\$ 22.61	\$ 31.56		\$ 23.10	\$ 26.57	\$ 49.67		\$ 81.23
4500	\$ 10.74	\$ 22.61	\$ 33.35		\$ 27.72	\$ 26.57	\$ 54.29		\$ 87.64
5250	\$ 12.53	\$ 22.61	\$ 35.14		\$ 32.34	\$ 26.57	\$ 58.91		\$ 94.05
6000	\$ 14.32	\$ 22.61	\$ 36.93		\$ 36.96	\$ 26.57	\$ 63.53		\$ 100.46
6750	\$ 16.11	\$ 30.15	\$ 46.26		\$ 41.58	\$ 57.77	\$ 99.35		\$ 145.61
7500	\$ 17.90	\$ 30.15	\$ 48.05		\$ 46.20	\$ 57.77	\$ 103.97		\$ 152.02
8250	\$ 19.69	\$ 30.15	\$ 49.84		\$ 50.82	\$ 57.77	\$ 108.59		\$ 158.43
9000	\$ 21.48	\$ 30.15	\$ 51.63		\$ 55.44	\$ 57.77	\$ 113.21		\$ 164.84
9750	\$ 23.27	\$ 37.69	\$ 60.96		\$ 60.06	\$ 57.77	\$ 117.83		\$ 178.79
10500	\$ 25.06	\$ 37.69	\$ 62.75		\$ 64.68	\$ 57.77	\$ 122.45		\$ 185.20
11250	\$ 26.85	\$ 37.69	\$ 64.54		\$ 69.30	\$ 57.77	\$ 127.07		\$ 191.61
12000	\$ 28.64	\$ 37.69	\$ 66.33		\$ 73.92	\$ 57.77	\$ 131.69		\$ 198.02
12750	\$ 30.43	\$ 60.30	\$ 90.73		\$ 78.54	\$ 88.97	\$ 167.51		\$ 258.24
13500	\$ 32.22	\$ 60.30	\$ 92.52		\$ 83.16	\$ 88.97	\$ 172.13		\$ 264.65
14250	\$ 34.01	\$ 60.30	\$ 94.31		\$ 87.78	\$ 88.97	\$ 176.75		\$ 271.06
15000	\$ 35.80	\$ 60.30	\$ 96.10		\$ 92.40	\$ 88.97	\$ 181.37		\$ 277.47
15750	\$ 37.59	\$ 70.35	\$ 107.94		\$ 97.02	\$ 88.97	\$ 185.99		\$ 293.93
16500	\$ 39.38	\$ 70.35	\$ 109.73		\$ 101.64	\$ 88.97	\$ 190.61		\$ 300.34
17250	\$ 41.17	\$ 70.35	\$ 111.52		\$ 106.26	\$ 88.97	\$ 195.23		\$ 306.75
18000	\$ 42.96	\$ 70.35	\$ 113.31		\$ 110.88	\$ 88.97	\$ 199.85		\$ 313.16
18750	\$ 44.75	\$ 80.40	\$ 125.15		\$ 115.50	\$ 120.17	\$ 235.67		\$ 360.82
19500	\$ 46.54	\$ 80.40	\$ 126.94		\$ 120.12	\$ 120.17	\$ 240.29		\$ 367.23
20250	\$ 48.33	\$ 80.40	\$ 128.73		\$ 124.74	\$ 120.17	\$ 244.91		\$ 373.64
21000	\$ 50.12	\$ 80.40	\$ 130.52		\$ 129.36	\$ 120.17	\$ 249.53		\$ 380.05
21750	\$ 51.91	\$ 90.45	\$ 142.36		\$ 133.98	\$ 120.17	\$ 254.15		\$ 396.51
22500	\$ 53.70	\$ 90.45	\$ 144.15		\$ 138.60	\$ 120.17	\$ 258.77		\$ 402.92
23250	\$ 55.49	\$ 90.45	\$ 145.94		\$ 143.22	\$ 120.17	\$ 263.39		\$ 409.33

Rate Setting Thoughts

- Meter readings must be punctual
- Meters must be read properly
 - Are meters replaced after their expected useful life
 - Is there a line item in the budget for replacements?
 - Is there a process for calibrating meters?
- Regular rate increases are a MUST

SECTION 3.27 ANNUAL INCREASE OF RATES AND FEES

The following fees: Water and Sewer Service, Building Permit Fees, School Impact Fees, Fire Prevention and Life Safety Donations and Municipal Impact Fees as set forth by Village ordinance are subject to an annual increase to be applied by the Village Treasurer by May 1 of each year using the following prescribed formula:

The above rates and Fees will be increased by the amount of the percentage increase of the Consumer Price Index (hereinafter defined) for the previous calendar year. Consumer Price Index ("CPI") means the U.S. City Averages for all Urban Consumers, All Items, (1982-1984=100) of the United States Bureau of Labor Statistics. The CPI for any calendar year shall be determined by averaging the monthly indices for that year. If the Bureau of Labor Statistics substantially revises the manner in which the CPI is determined, an adjustment shall

What is the right rate structure?

Upcoming Trainings

Federal Award Compliance

July 2, 2025 / 11:00-1:00 pm EST

Asset Management and Capital Improvement Plans

July 21, 2025 / 2:00-4:00 pm EST

Why Project Expenses?

August 6, 2025 / 11:00-1:00 pm EST

Creative Uses of SRFs

August 18, 2025 / 2:00-4:00 pm EST

For more information and to register visit:

<https://efcnetwork.org/event/virtual-office-hours-ask-me-anything-srf-technical-assistance-open-discussion/>

Community Finance Team

<https://www.quantifiedventures.com/community-finance>



Ashley Lucht

- *Community Finance Team*
- Former Director of Capital Planning at the Vermont Municipal Bond Bank
- Former DWSRF Project Manager for the State of Vermont

- Contact me:



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