NEWEA 2022 SPRING MEETING & EXHIBIT

Where Do We Begin to Spend All This Money?

Prioritizing Capital Expenditures with Asset Management

Tuesday May 24, 2022

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Tighe&Bond

INTRODUCTIONS

Show of hands or head nod….

- Role (Municipality, State Agency, Consultant / Vendor)?
- Utility size (Small, Medium, Large)?
- Experience with Asset Management?
- Do you have a 5yr capital plan in place?

OUTLINE

- What is Risk-Based Asset Management?
- Prioritizing Assets
- Developing Recommendations
- Rate Evaluation & Modeling
- Asset Management Deliverables
- New England Asset Management Funding

WHAT IS ASSET MANAGEMENT?

"Asset management is **maintaining** a desired **level of customer service** for **what you want your assets** to provide at **the lowest life cycle cost**"

Replace a **reactive** system O&M approach with a **planned** program

WHAT IS ASSET MANAGEMENT?

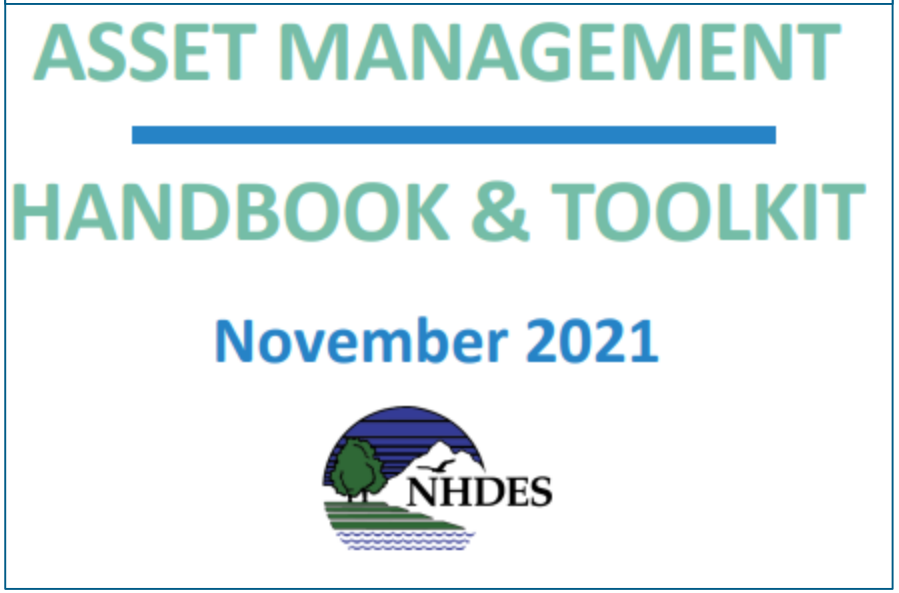
"Asset management is **maintaining** a desired **level of customer service** for **what you want your assets** to provide at **the lowest life cycle cost**"

Asset Management Encompasses:

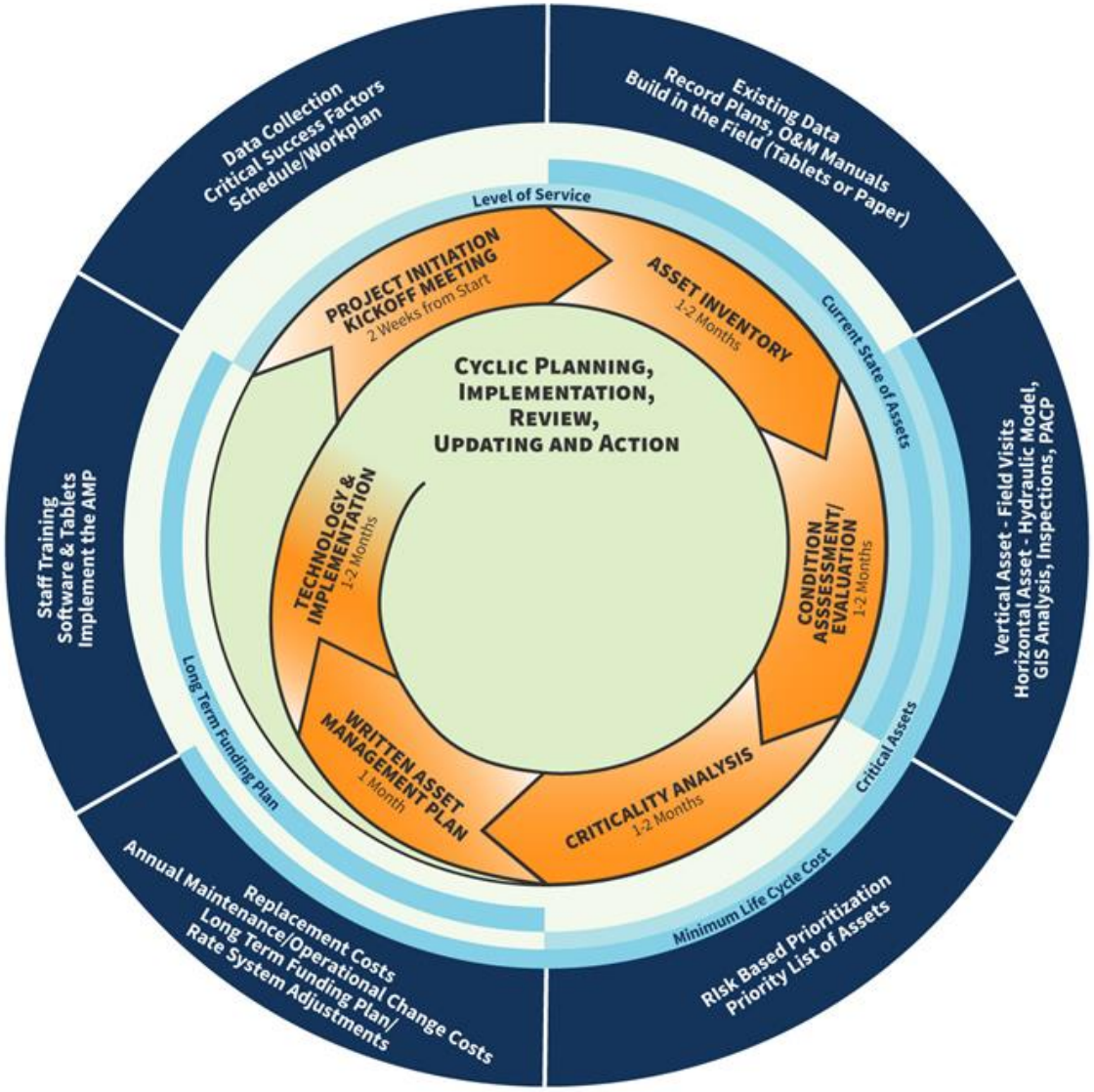
- Capital Improvement Plans (CIPs)
- Fiscal Sustainability Plans (FSPs)
- Facilities / Equipment / Pipeline Evaluations
- Mapping (GIS)
- Daily Operation and Maintenance Activities
- Work Orders and Fleet Management

TOOLS: EPA'S ASSET MANAGEMENT BEST PRACTICES GUIDE

- **EPA's Asset Management Best Practices Guide**
  - https://nepis.epa.gov/Exe/ZyPDF.cgi/P1000LP0.PDF?Dockey=P1000LP0.PDF
- **NHDES Asset Management Handbook & Toolkit**
  - https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/wd-21-04.pdf



ASSET MANAGEMENT FRAMEWORK



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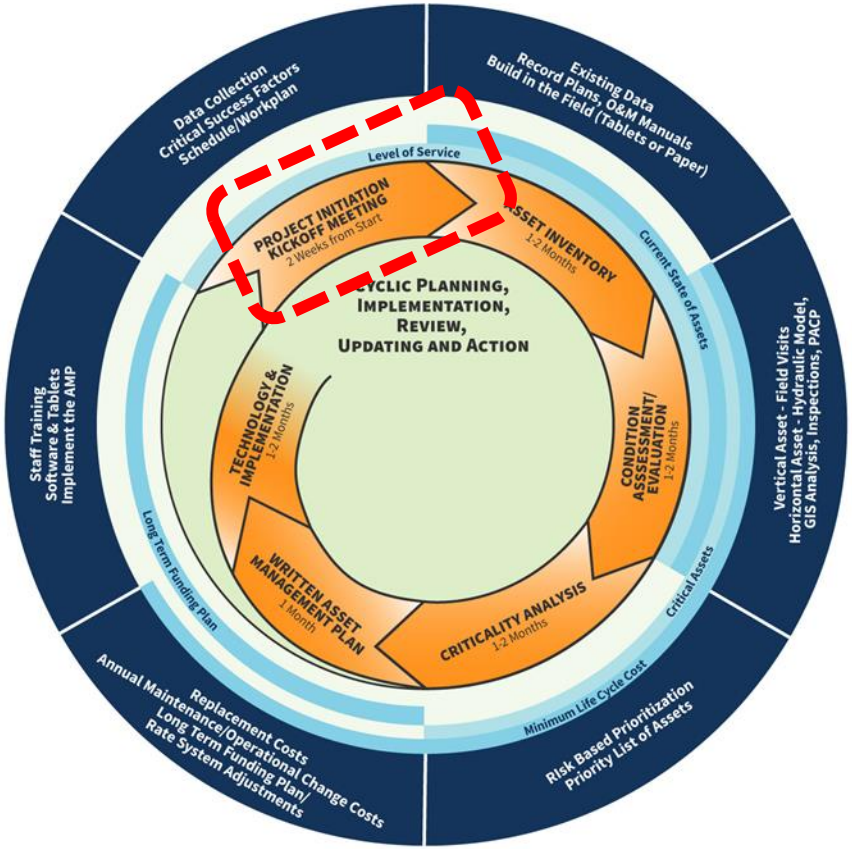
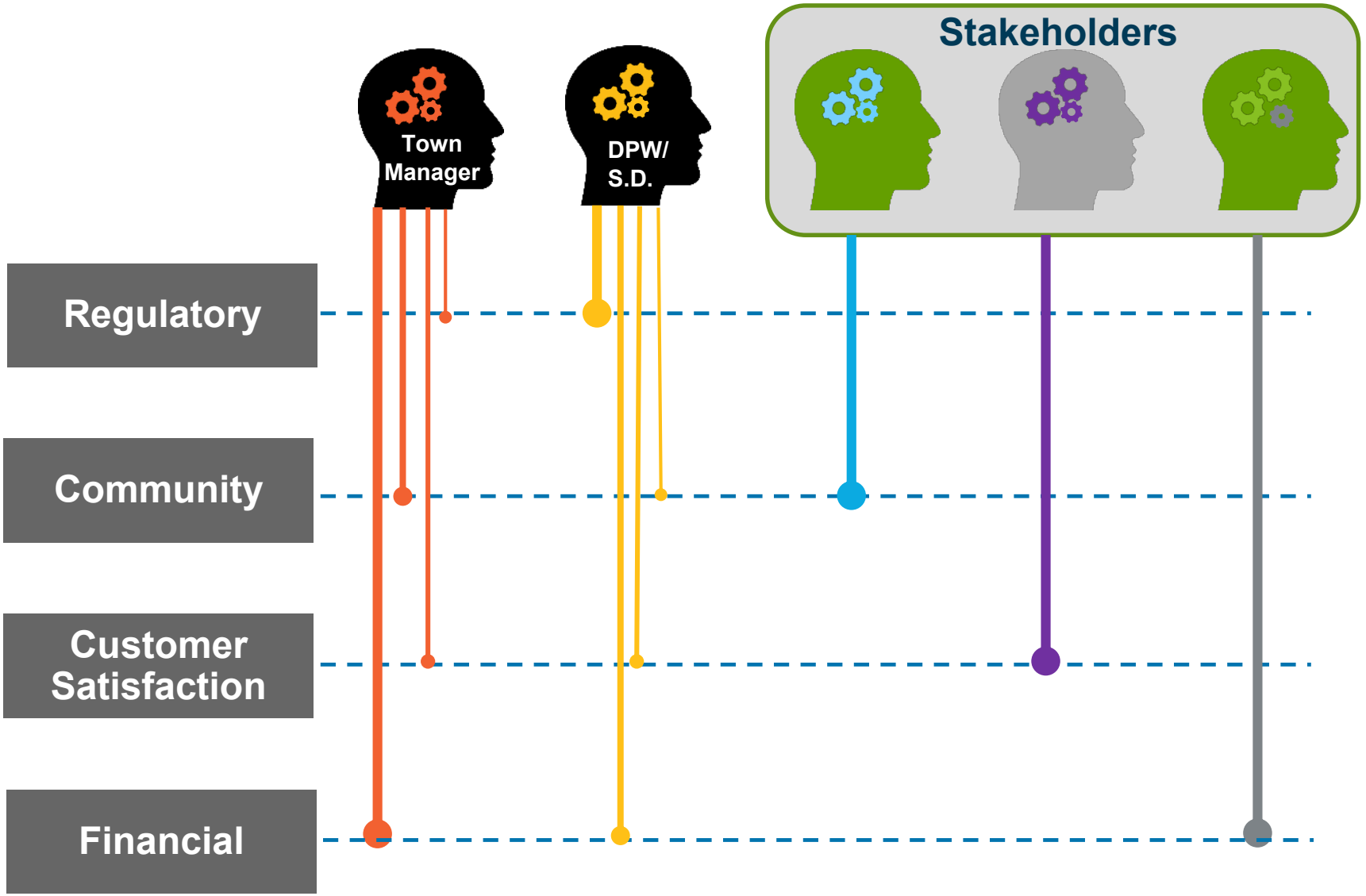
1. KICKOFF, LEVEL OF SERVICE



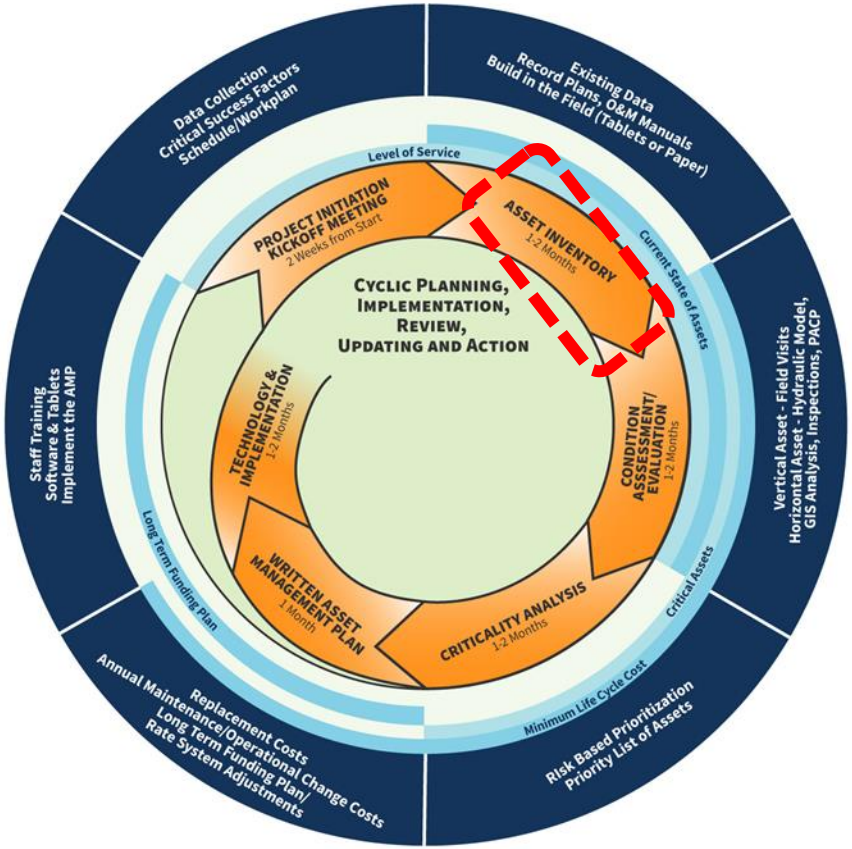
- **Level of Service**
  - How assets will perform over long-term
  - Sets expectations
  - Set framework for spending decisions

- **“infrastructure is only as valuable as the service it provides to the community”**
  ~ NHDES Asset Management Handbook

INCLUDING STAKEHOLDERS BUILDS SUPPORT



2. BUILD AN ASSET INVENTORY

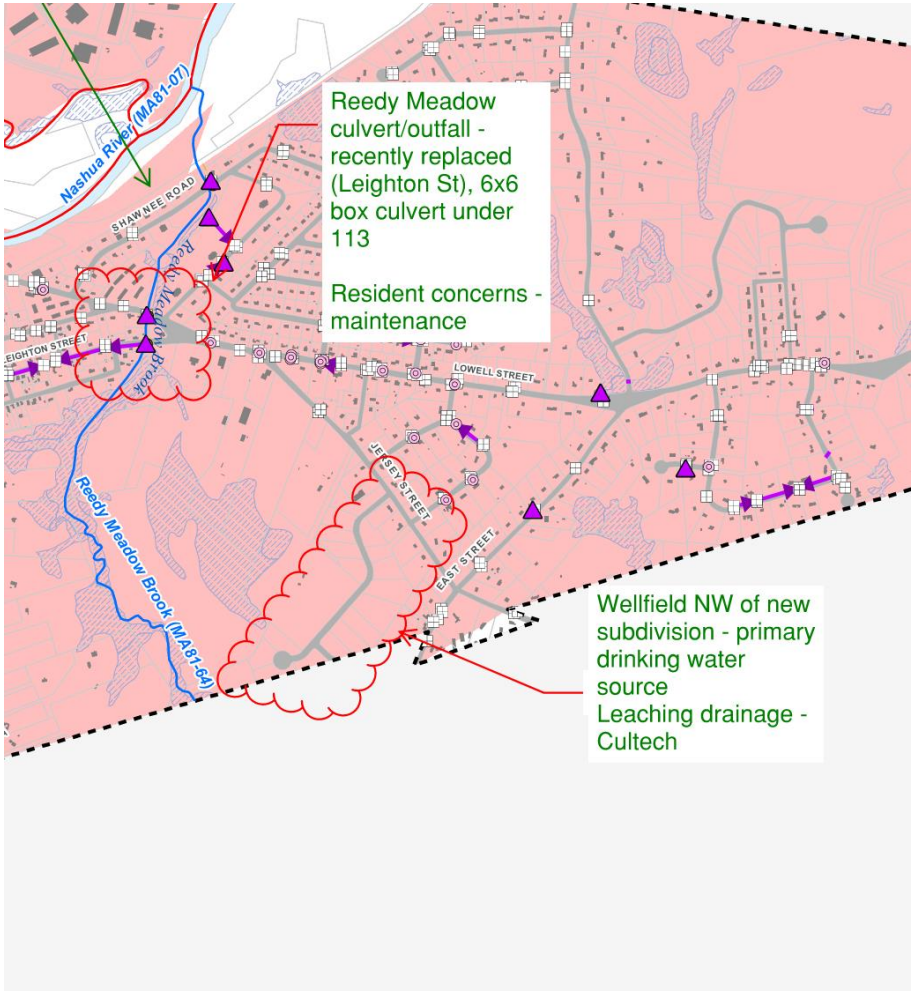


- **Preliminary Inventory**
- **Existing information**
  - GIS
  - Record plans
  - Manuals
  - Staff knowledge

3. CONDITION ASSESSMENT & EVALUATION

- **Vertical** (facilities, equipment)
  - Full site evaluation
  - All disciplines
- **GIS tools – Survey123**
  - Probability of Failure
  - Consequence of Failure
- **Conversations with Operators and Field Staff is Key!**

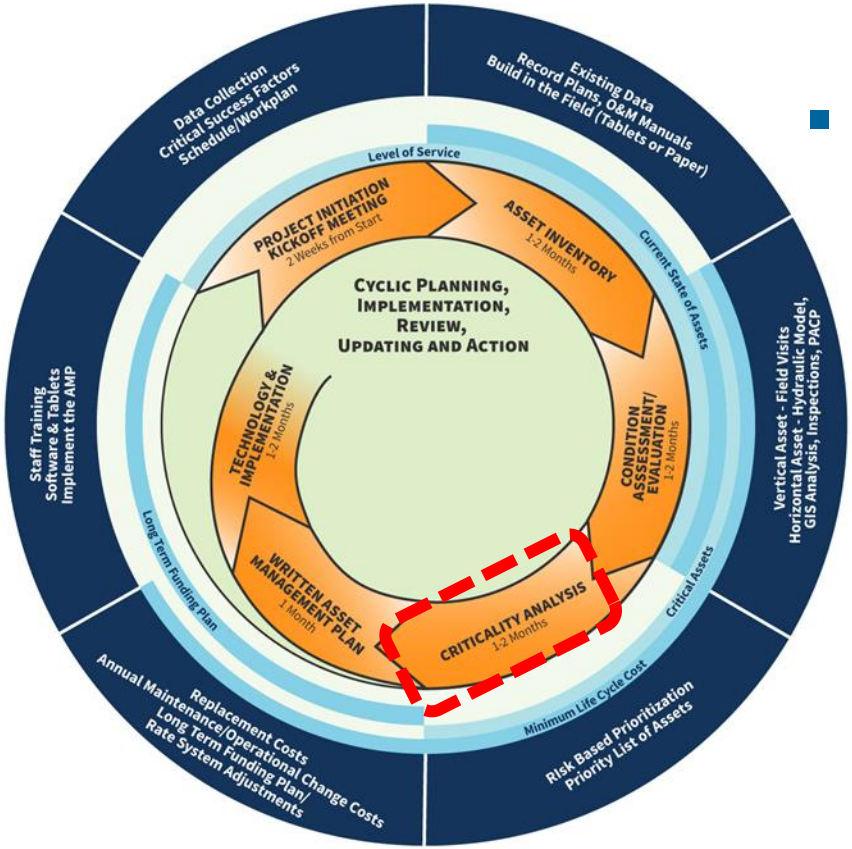
3. CONDITION ASSESSMENT & EVALUATION



- **Horizontal** (Pipes, Buried Infrastructure)
  - Hydraulic Modelling
  - CCTV
  - Break History
  - Leak Detection

- **Again…Conversations with Operators and Field Staff is Key to Capture Institutional Knowledge!**

4. CRITICALITY ANALYSIS



- **Risk-Based Prioritization**
  - **Probability of Failure (PoF)**
    - How likely is the asset to fail?
  - **Consequence of Failure (CoF)**
    - What happens if it fails?

4. CRITICALITY ANALYSIS – POF SCORING METRICS

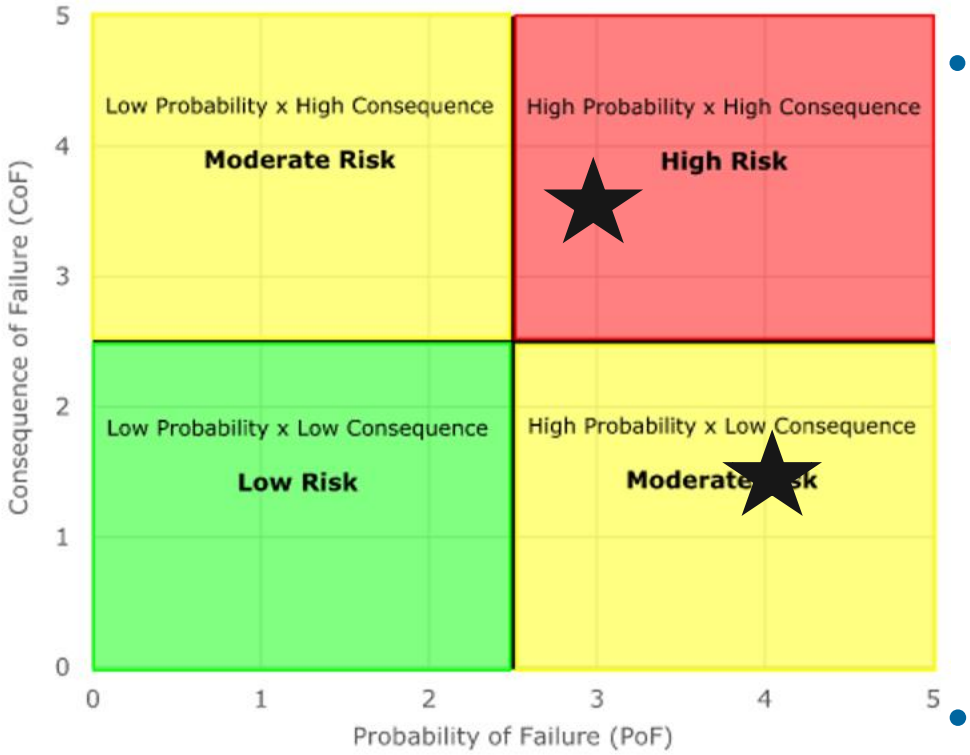
Metric	Excellent 1	Good 3	Moderate 5	Poor 7	Very Poor 9	Failing 10
Performance:	Is it meeting performance requirements?					
Availability:	Is it out of service for long periods of time? Availability of parts & trained staff					
Reliability & Maintenance:	Is maintenance preventative or is the asset continuously breaking down?					
Physical Life Consumed:	% = Asset Age / Expected Service Life					
Direct Observation:	Overall asset function based on direct observation and knowledge from staff					

4. CRITICALITY ANALYSIS – COF SCORING METRICS

Sewer Pump Station Odor Control

- **More subjective to each community**
- **Refer to Level of Service Goals**
- **Potential CoF Criteria:**
  - Impacts to operate the system effectively
  - Impacts to users
  - Impacts to environment
  - Safety factors
  - Cost of emergency repair

4. CRITICALITY ANALYSIS – RISK ANALYSIS



Facility	Quantity	Asset	Asset Type	Install Year	Total Replacement Cost	Overall POF Score	Overall COF Score	Risk Score	Overall Risk	Equipment Notes
Pump Station 1	1	Exhaust Fan (centrifugal)	HVAC/Plumbing	1979	$ 500	9	4	36	Medium	Bathroom fan
Pump Station 1	1	Exhaust Fan (centrifugal)	HVAC/Plumbing	1979	$ 25,000	9	4	36	Medium	
Pump Station 1	3	Extended Shaft Centrifugal Pumps	Pumping Equipment	1979	$ 336,500	7.2	10	72	High	Chicago Pumps 40 HP, 2590 gpm @ 38 ft TDH. Replace with Dry Pit Centrifugal Pump
Pump Station 1	3	Exterior Double Metal Door	Structural	1976	$ 24,800	5.2	5	26	Low	
Pump Station 1	3	Fan Stop Pushbutton	Electrical Equipment	1979	$ 1,500	4.8	9	43	Medium	
Pump Station 1	1	Float Level Indicator System	Instrumentation/ Controls	1979	$ 3,300	4.8	8	38	Medium	
Pump Station 1	1	Furnace	HVAC/Plumbing	1979	$ 5,000	5.2	4	21	None	
Pump Station 1	1	Generator	Electrical/Emergency Power	2016	$ 80,000	1.2	10	12	None	Kohler, model # 150REOZJF, serial # SGM32GL8H, 154KW, 277/480V
Pump Station 1	1	Generator Exhaust	HVAC/Plumbing	1979	$ 4,000	3.2	4	13	None	
Pump Station 1	1	Gravity Intak	HVAC/Plumbing	1979	$ 1,500	5.2	4	21	None	
Pump Station 1	1	Grinder Control Panel	Electrical Equipment	1979	$ 4,500	4	9	36	Medium	Muffin Monster, model # PC2200, serial # 103272-2-1, 5HP motor
Pump Station 1	1	Junction Box	Electrical Equipment	1979	$ 500	6.4	9	58	Medium	There is damaged control wiring in a junction box at the station. Demolish and replace damaged control wiring and upgrade control system as is required.
Pump Station 1	1	JWC Muffin Monster Influent Channel Grinder	Treatment	2021	$ 123,000	2	7	14	None	Note: Condition based on 2015 CIP & discussion with staff. Muffin Monster will be replaced in 2021.
Pump Station 1	1							32	Low	Install Gas Detection Equipment in wet and dry well
Pump Station 1	1							50	Medium	Furnish Mechanical Chain Hoist Mechanical for Wet Well and Dry Well, and a Portable / Adjustable Gantry Crane.
Pump Station 1	1							40	Medium	
Pump Station 1	2							13	None	
Pump Station 1	1							42	Medium	Note: Condition based on 2015 CIP & discussion with staff, wet well was not accessible at time of 2021 site visit
Pump Station 1	1							58	Medium	There is evidence that rodents are living inside of the MCC. Clear the pump station of rodents and ensure proper protection against pests throughout the station.
Pump Station 1	1							43	Medium	
Pump Station 1	1							16	None	
Pump Station 1	1							45	Medium	
Pump Station 1	1	Pne						38	Medium	Bubblers phased out as level transducers are installed
Pump Station 1	1	Pr						24	None	
Pump Station 1	200							21	None	
Pump Station 1	600	Re						21	None	
Pump Station 1	1							64	High	Note: Condition based on 2015 CIP & discussion with staff
Pump Station 1	1							16	None	
Pump Station 1	1							14	None	
Pump Station 1	1							58	Medium	Replace with 8" Magnetic Flow Meter
Pump Station 2	3							76	High	
Pump Station 2	3							76	High	
Pump Station 2	3							76	High	
Pump Station 2	1							76	High	
Pump Station 2	1							76	High	
Pump Station 2	1	Aluminum Stairs	Structural	1976	$ 33,000	3.6	5	18	None	

Overall POF Score	Overall COF Score	Risk Score	Overall Risk
9	4	36	Medium
9	4	36	Medium
7.2	10	72	High
5.2	5	26	Low
4.8	9	43	Medium
4.8	8	38	Medium
5.2	4	21	None
1.2	10	12	None

Sum of Total Replacement Cost	Risk Score				
Pump Station	Immediate (0 years)	High (1-5 years)	Medium (6-10 years)	Low (11-20 years)	None (20+ years)	Grand Total
Pump Station 1	**$38,500**	**$631,200**	**$249,200**	**$162,800**	**$353,800**	**$1,435,500**
Electrical Equipment	$ 38,500		$ 111,800			$ 150,300
Electrical/Emergency Power					$ 88,400	$ 88,400
HVAC/Plumbing			$ 28,500	$ 34,200	$ 46,500	$ 109,200
Instrumentation/ Controls			$ 49,700		$ 1,700	$ 51,400
Piping and Valve		$ 294,700				$ 294,700
Pumping Equipment		$ 336,500				$ 336,500
Structural			$ 55,100	$ 128,600	$ 94,200	$ 277,900
Treatment			$ 4,100		$ 123,000	$ 127,100
Pump Station 2	**$38,500**	**$753,800**	**$264,000**	**$194,300**	**$428,800**	**$1,679,400**
Electrical Equipment	$ 38,500		$ 161,400			$ 199,900
Electrical/Emergency Power					$ 125,000	$ 125,000
HVAC/Plumbing			$ 1,000	$ 34,400	$ 76,500	$ 111,900
Instrumentation/ Controls			$ 59,600		$ 1,700	$ 61,300
Piping and Valve		$ 363,200				$ 363,200
Pumping Equipment		$ 390,600				$ 390,600
Structural			$ 37,900		$ 225,600	$ 263,500
Treatment			$ 4,100	$ 159,900		$ 164,000
Pump Station 3	**$38,500**	**$325,800**	**$204,000**	**$137,200**	**$158,500**	**$864,000**
Electrical Equipment	$ 38,500		$ 109,000			$ 147,500
Electrical/Emergency Power					$ 10,000	$ 10,000
HVAC/Plumbing				$ 58,400	$ 44,500	$ 102,900
Instrumentation/ Controls			$ 53,000		$ 1,700	$ 54,700
Piping and Valve		$ 160,300				$ 160,300
Pumping Equipment		$ 165,500				$ 165,500
Structural			$ 37,900	$ 13,200	$ 102,300	$ 153,400
Treatment			$ 4,100	$ 65,600		$ 69,700
Grand Total	**$ 115,500**	**$ 1,710,800**	**$ 717,200**	**$ 494,300**	**$ 941,100**	**$ 3,978,900**

GROUPING CONSTRUCTION PROJECTS

- **Vertical Projects**
  - Specific Projects from Owner
  - Location (facility, building, room)
  - Category (Process, Electrical, HVAC, Structural…)
  - Criticality Risk
  - Budget (scalable based on community needs)

	A	C	D	E	H	I
1	**Project**	**Facility**	**Building**	**Room**	**Category**	**Asset Type**
343	Aeration Tank Upgrades	WPCF	Yard	Aeration Tank No. 1	Electrical	Treatment - Clarifier & Aeration

- **Horizontal Projects**
  - Location
  - Material (AC, VCP)
  - Cost

Description	Estimated Cost (2021)[1]	Escalated Cost	Start Year
New Truck 1	$ 55,000	$ 60,000	2022
Solids Handing Upgrades - Centrifuge	$ 2,225,000	$ 2,370,000	2023
Electrical Upgrades at WWTP	$ 300,000	$ 320,000	2023
Roof Replacement, WWTP, PS 1-4	$ 3,000,000	$ 3,180,000	2023
Solids Handing Upgrades - Thickeners	$ 2,000,000	$ 2,120,000	2023
Pump Station Upgrades - Immediate	$ 400,000	$ 430,000	2023
Sewer Investigations	$ 250,000	$ 270,000	2023
New Truck 2	$ 55,000	$ 60,000	2023
Siphon Replacement	$ 3,520,000	$ 3,850,000	2024
New Vactor Truck	$ 500,000	$ 520,000	2024
Gaseous Chlorine Replacement	$ 1,000,000	$ 1,130,000	2025
WPCF Upgrades - High Risk	$ 500,000	$ 560,000	2025
Pump Station Upgrades - Category A	$ 3,000,000	$ 3,380,000	2025
Sewer Rehab - Phase 1	$ 4,000,000	$ 4,510,000	2025
Pump Station Upgrades - Category B	$ 1,600,000	$ 1,860,000	2026
Sewer Rehab - Phase 2	$ 4,000,000	$ 4,640,000	2026
System wide SCADA Implementation	$ 1,000,000	$ 1,230,000	2028
WPCF Upgrades - Medium Risk	$ 1,500,000	$ 1,840,000	2028
NPDES Upgrades	$ 3,000,000	$ 3,000,000	2029
NPDES Upgrades	$ 42,000,000	$ 42,000,000	2030
Screw Pump Replacement	$ 1,500,000	$ 2,020,000	2031
Pump Station Upgrades - Category C	$ 1,500,000	$ 2,020,000	2031
Total	**$ 76,905,000**	**$ 81,370,000**	

[1]Estimate Costs include installation, 10% Contractor overhead and profit, 15% general conditions and 40% engineering and contingency. Budgetary costs are based on the 2021 ENR 20-City National Average Construction Cost Index of 12133.

RATE FUNDAMENTALS

Rate Setting Principals & Goals

1 *Recover full cost of service*

All Requirements Met

Fully Staffed

Proactive Repair & Maintenance

2 *Distribute costs equitably*

Residential - vs - Non-Residential

Large Households - vs - Small Households

Essential Use - vs - Discretionary Use

3 *Provide revenue stability & resource protection*

Usage Trends

Rate Design

Permit Limits

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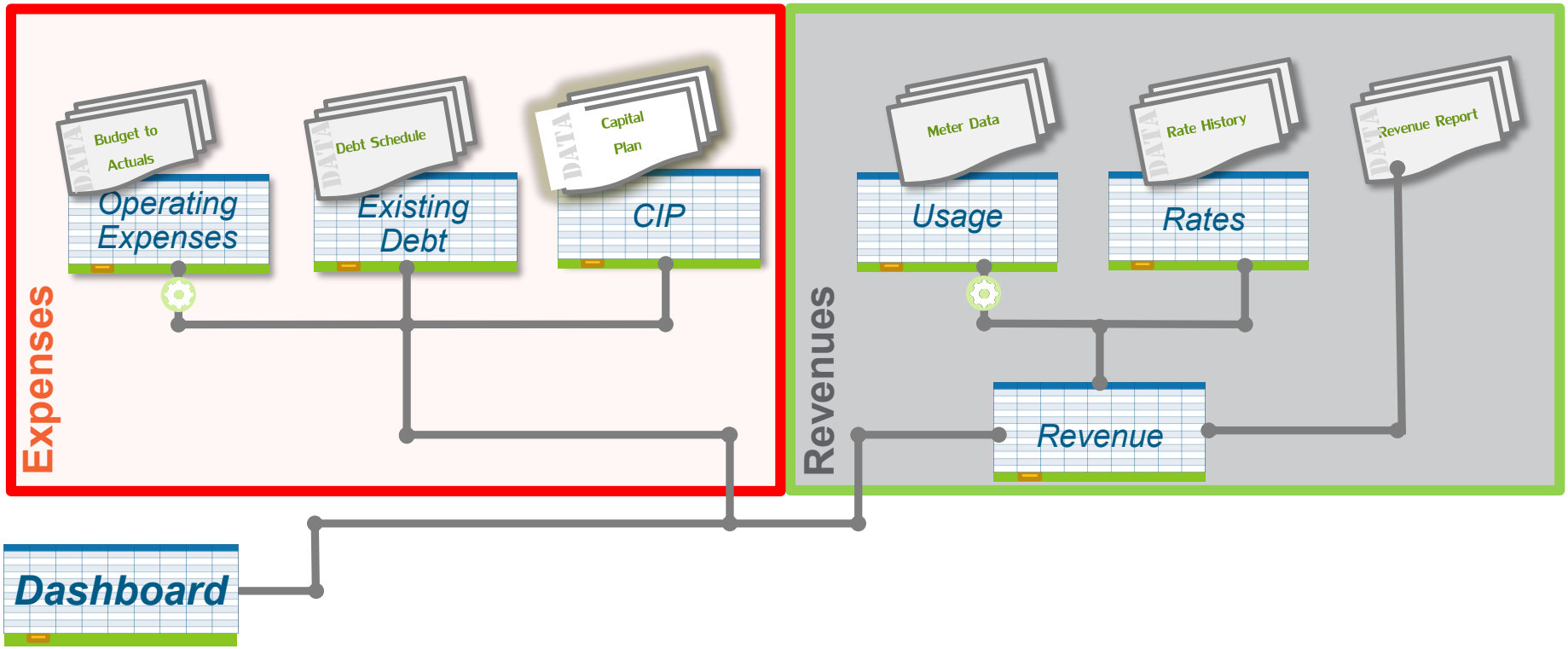
RATE MODEL OVERVIEW

1. Project expenses

2. Project revenues



3. Calculate net revenue

4. Adjust rates to maintain fund balance

5. Calculate user costs

6. Evaluate equity

7. Evaluate affordability

Capital expenses are the biggest driver of rate increases

PROJECTING EXPENSES

Sewer Utility Rate Dashboard

Town of Palmer

Sewer Utility Financial Model

	Budget FY21	Budget FY22	Projected FY23	Projected FY24	Projected FY25	Projected FY26	Projected FY27	Projected FY28	Projected FY29	Projected FY30	Projected FY31
Operating Expenses											
WWTP Salaries	$ 1,061,482	$ 1,095,605	$ 1,133,951	$ 1,173,639	$ 1,214,717	$ 1,257,232	$ 1,301,235	$ 1,346,778	$ 1,393,916	$ 1,442,703	$ 1,493,197
WWTP Sludge Hauling	$ 558,000	$ 603,000	$ 624,105	$ 452,164	$ 467,990	$ 484,369	$ 501,322	$ 518,869	$ 537,029	$ 555,825	$ 575,279
WWTP Expenditures	$ 240,500	$ 245,500	$ 254,093	$ 262,986	$ 272,190	$ 281,717	$ 291,577	$ 301,782	$ 312,345	$ 323,277	$ 334,591
WWTP Utilities	$ 207,000	$ 208,000	$ 215,280	$ 222,815	$ 230,613	$ 238,685	$ 247,039	$ 255,685	$ 264,634	$ 273,896	$ 283,483
Indirect Expenses	$ 104,126	$ 106,327	$ 110,048	$ 113,900	$ 117,887	$ 122,013	$ 126,283	$ 130,703	$ 135,278	$ 140,012	$ 144,913
Sewer Maintenance	$ 142,693	$ 80,000	$ 82,800	$ 85,698	$ 88,697	$ 91,802	$ 95,015	$ 98,340	$ 101,782	$ 105,345	$ 109,032
Sewer Labor	$ 32,000	$ 32,000	$ 33,120	$ 34,279	$ 35,479	$ 36,721	$ 38,006	$ 39,336	$ 40,713	$ 42,138	$ 43,613
Sewer Labor	**$ 2,345,801**	**$ 2,370,432**	**$ 2,453,397**	**$ 2,345,481**	**$ 2,427,573**	**$ 2,512,538**	**$ 2,600,477**	**$ 2,691,494**	**$ 2,785,696**	**$ 2,883,196**	**$ 2,984,107**
Delta Previous	*2.2%*	*1.1%*	*3.5%*	*-4.4%*	*3.5%*	*3.5%*	*3.5%*	*3.5%*	*3.5%*	*3.5%*	*3.5%*
Capital Expenses											
Capital	$ 251,875	$ -	$ 415,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000	$ 35,000
Debt Service	$ 682,146	$ 683,737	$ 620,313	$ 344,896	$ 344,145	$ 343,367	$ 342,534	$ 341,650	$ 340,712	$ 339,745	$ 338,775
New Debt Service	$ -	$ -	$ 539,669	$ 847,147	$ 1,521,206	$ 1,978,553	$ 1,978,553	$ 2,194,562	$ 2,194,562	$ 2,194,562	$ 2,478,821
New Debt Service (NPDES)			$ -	$ -	$ -	$ -	$ -	$ -	$ 360,724	$ 2,592,672	$ 2,409,086
Subtotal	**$ 934,021**	**$ 683,737**	**$ 1,574,983**	**$ 1,227,044**	**$ 1,900,351**	**$ 2,356,920**	**$ 2,356,088**	**$ 2,571,212**	**$ 2,930,998**	**$ 5,161,979**	**$ 5,261,682**
Delta Previous	*-36.4%*	*-26.8%*	*130.3%*	*-22.1%*	*54.9%*	*24.0%*	*0.0%*	*9.1%*	*14.0%*	*76.1%*	*1.9%*
TOTAL EXPENSES	**$3,279,822**	**$3,054,169**	**$4,028,380**	**$3,572,525**	**$4,327,925**	**$4,869,459**	**$4,956,565**	**$5,262,706**	**$5,716,694**	**$8,045,175**	**$8,245,789**
Delta Previous	*-12.8%*	*-6.9%*	*31.9%*	*-11.3%*	*21.1%*	*12.5%*	*1.8%*	*6.2%*	*8.6%*	*40.7%*	*2.5%*
Turnbacks	$ 171,443										

Notes & Key Points

1. FY23 operating expenses are projected based upon current FY22 budget (next slide)
2. Capital expenses are from the CIP module
3. Debt Service is from Town's Debt schedule (*General Fund Subsidy included in debt vs. added as revenue*)
4. FY24 Sludge Hauling cost reduced by 30% to reflect increased sludge dewatering process efficiencies with one of the capital upgrades *(FY23 $2M Thickener Upgrade)*

PROJECTING EXPENSES

Expense Trending Analysis

Category	FY18 - FY21 Average Budget	Trend	% Change	Turn back	FY22 Budget	Escalator
WWTP Salaries	$ 973,664		5.9%	3.3%	$ 1,095,605	3.5%
Debt Service	$ 692,525		-1.4%	0.0%	$ 683,737	3.5%
WWTP Sludge Hauling	$ 575,363		0.9%	-3.2%	$ 603,000	3.5%
Capital	$ 261,875		76.4%	76.8%	$ -	3.5%
WWTP Expenditures	$ 251,780		-1.1%	2.5%	$ 245,500	3.5%
WWTP Utilities	$ 216,600		-3.8%	4.6%	$ 208,000	3.5%
Indirect Expenses	$ 101,135		2.0%	0.0%	$ 106,327	3.5%
Sewer Maintenance	$ 74,628		15.2%	37.1%	$ 80,000	3.5%
Encumbrance	$ 21,641			0.0%	$ -	3.5%
Sewer Labor	$ 24,260		37.8%	26.5%	$ 32,000	3.5%
Capital Encumbrance	$ 288,979		-33.3%	55.3%	$ -	3.5%
Grand Total	**$ 3,482,448**				**$ 3,054,169**	

Notes & Key Points

1. Evaluation based upon budget to actual reports
2. Escalators raised based upon current economic uncertainties

PROJECTING EXPENSES

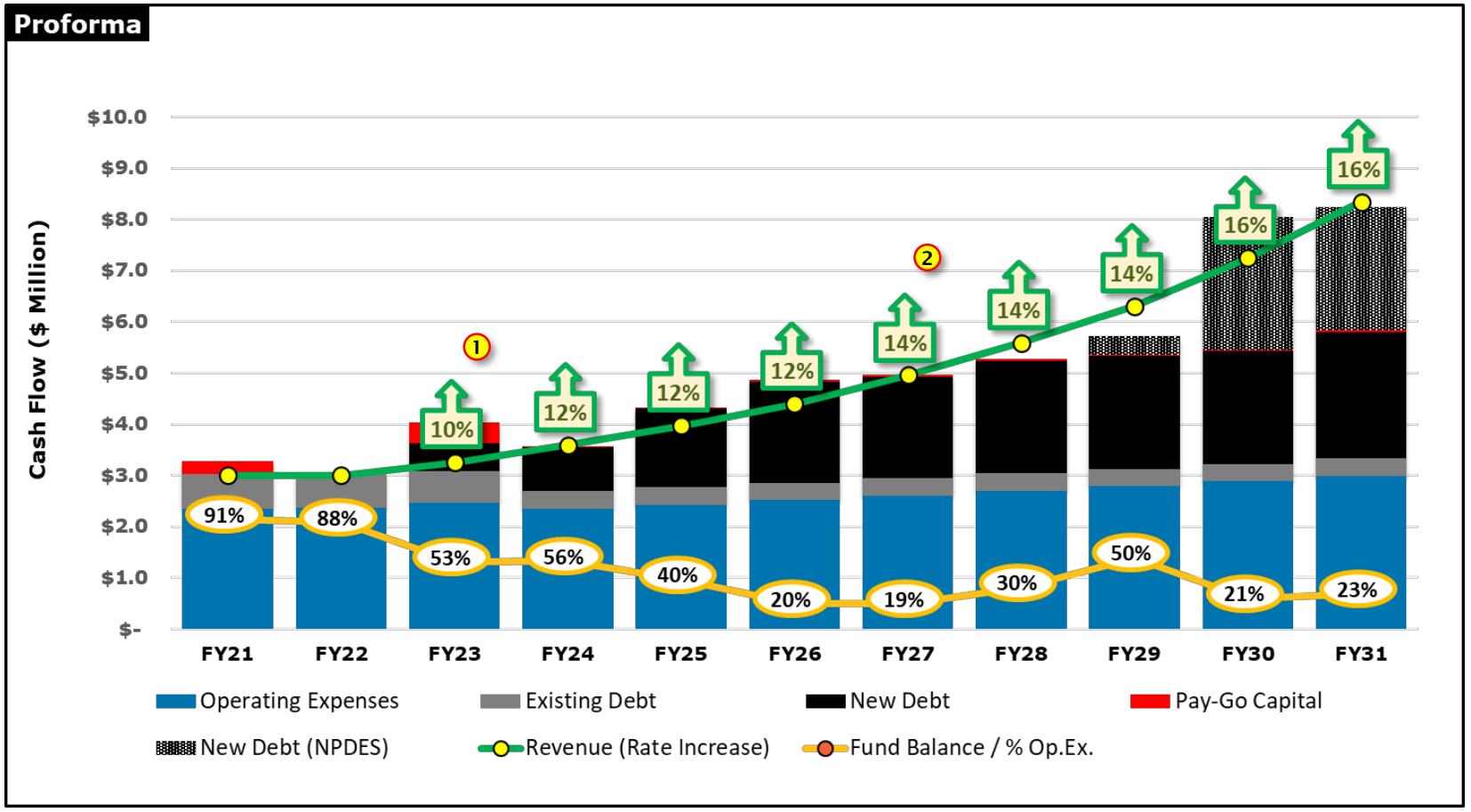
Capital Improvement Planner

ID	Source (1)	System	Scope	Description	Funding Source (2)	Interest Rate (3)	Estimated Cost	Cost Year	Escalated Cost	Start Year (4)	Term
24	Client	Enterprise	Vehicle	New Truck 1	Pay-Go		$ 55,000	2021	$ 60,000	2022	1
1	AMP	Treatment	Engineering	Solids Handing Upgrades - Centrifuge	Debt	3.5%	$ 2,225,000	2021	$ 2,370,000	2023	20
2	AMP	Treatment	Construction	Electrical Upgrades at WWTP	Pay-Go	--	$ 300,000	2021	$ 320,000	2023	1
3	AMP	Treatment	Eng.+Const.	Roof Replacement, WWTP, PS 1-4	Debt	3.5%	$ 3,000,000	2021	$ 3,180,000	2023	20
4	AMP	Treatment	Construction	Solids Handing Upgrades - Thickeners	Debt	3.5%	$ 2,000,000	2021	$ 2,120,000	2023	20
16	AMP	Collection	Eng.+Const.	Pump Station Upgrades - Immediate	Pay-Go		$ 400,000	2021	$ 430,000	2023	20
22	AMP	Collection	Eng.+Const.	Sewer Investigations	Pay-Go		$ 250,000	2021	$ 270,000	2023	20
25	Client	Enterprise	Vehicle	New Truck 2	Pay-Go		$ 55,000	2021	$ 60,000	2023	1
20	AMP	Collection	Eng.+Const.	Siphon Replacement	Debt	3.5%	$ 3,520,000	2021	$ 3,850,000	2024	20
28	Client	Collection	Vehicle	New Vactor Truck	Debt	3.5%	$ 500,000	2023	$ 520,000	2024	20
5	AMP	Treatment	Eng.+Const.	Gasseous Chlorine Replacement	Debt	3.5%	$ 1,000,000	2021	$ 1,130,000	2025	20
6	AMP	Treatment	Eng.+Const.	WPCF Upgrades - High Risk	Debt	3.5%	$ 500,000	2021	$ 560,000	2025	20
17	AMP	Collection	Eng.+Const.	Pump Station Upgrades - Category A	Debt	3.5%	$ 3,000,000	2021	$ 3,380,000	2025	20
21	AMP	Collection	Eng.+Const.	Sewer Rehab - Phase 1	Debt	3.5%	$ 4,000,000	2021	$ 4,510,000	2025	20
18	AMP	Collection	Eng.+Const.	Pump Station Upgrades - Category B	Debt	3.5%	$ 1,600,000	2021	$ 1,860,000	2026	20
23	AMP	Collection	Eng.+Const.	Sewer Rehab - Phase 2	Debt	3.5%	$ 4,000,000	2021	$ 4,640,000	2026	20
8	AMP	Treatment	Eng.+Const.	System wide SCADA Implementation	Debt	3.5%	$ 1,000,000	2021	$ 1,230,000	2028	20
9	AMP	Treatment	Eng.+Const.	WPCF Upgrades - Medium Risk	Debt	3.5%	$ 1,500,000	2021	$ 1,840,000	2028	20
26	NPDES	Treatment	Engineering	NPDES Upgrades (5)	Debt	3.5%	$ 3,000,000	2029	$ 3,000,000	2029	10
27	NPDES	Treatment	Construction	NPDES Upgrades	SRF	2.5%	$ 42,000,000	2030	$ 42,000,000	2030	30
10	AMP	Treatment	Eng.+Const.	Screw Pump Replacement	Debt	3.5%	$ 1,500,000	2021	$ 2,020,000	2031	20
19	AMP	Collection	Eng.+Const.	Pump Station Upgrades - Category C	Debt	3.5%	$ 1,500,000	2021	$ 2,020,000	2031	20
					Total		$76,905,000		$ 81,370,000		

Notes & Key Points

1. Project Driver
2. "Pay-Go" = funded via retained earnings, years' budget, SRF, ARPA or other grant program
3. Estimated, may be lower near-term or higher long-term.
4. Year the cost 'hits' the enterprise.
5. Cost for a future NPDES permit that requires Total Nitrogen and Total Phosphorus removal ($42M)

PROFORMA WITH RATE INCREASES



Notes & Key Points

1. Rate increases are applied to maintain a minimum fund balance of about 20%,
2. FY27 - FY29 are slightly higher to mitigate the FY30 rate increase (Nutrient Upgrade).

RATES AND CUSTOMER IMPACTS

Proposed Sewer Rates

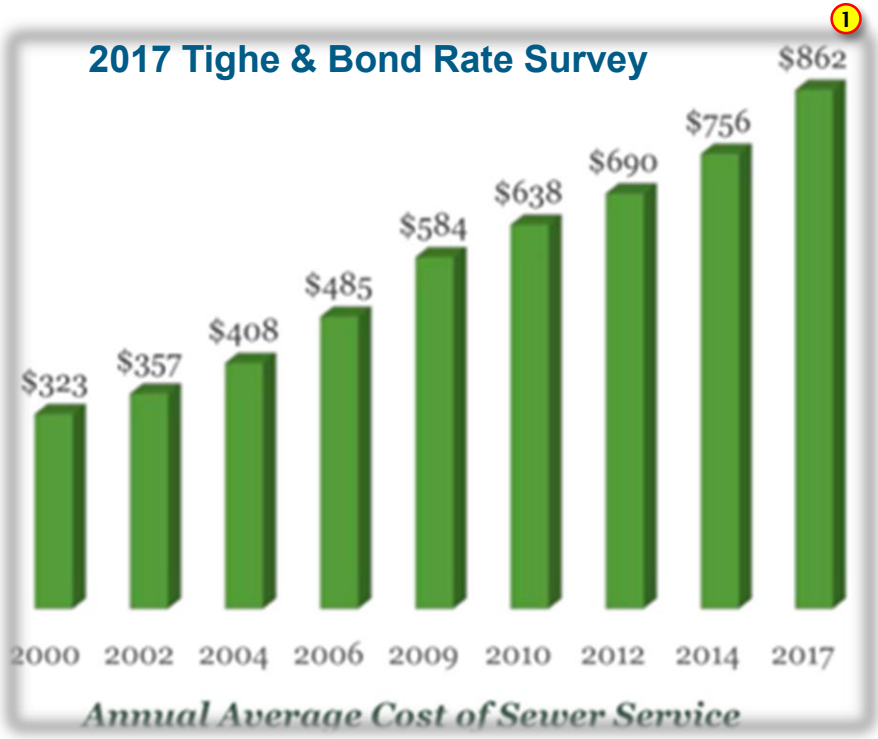
	Rate Increase		0%	10%	12%	12%	12%	14%	14%	14%	16%	
Description	Type	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Flat Fee	Semi-Annual	$247.00	$247	$272	$305	$342	$383	$437	$498	$568	$659	$764

Annual Cost (1 EDU)

Scenario	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31
Annual Cost	$ 494 (1)	$ 494	$ 544	$ 610	$ 684	$ 766	$ 874	$ 996	$ 1,136	$ 1,318	$ 1,528
Increase		*$ -*	*$ 50*	*$ 66*	*$ 74*	*$ 82*	*$ 108*	*$ 122*	*$ 140*	*$ 182*	*$ 210*

Notes & Key Points

1. The annual cost of sewer in Palmer in FY21 was 40% lower than the 2017 average cost of the 182 systems reporting.



ASSET MANAGEMENT PLAN DELIVERABLES

- Rate Evaluation / Rate Model
- Capital improvement recommendations
- Excel Based Inventory Database
- Hydraulic Model, GIS Maps, GIS Database, Tablets / Apps
- Implementation Plan, Communication Plan

FUNDING OPPORTUNITIES

- **NHDES**
  - **Clean Water SRF Principal / Loan Forgiveness**
    - Wastewater AMP: $30k - $180k
    - Stormwater AMP: $30k
    - Wastewater and/or Stormwater Planning Evaluations: $100k
    - Pre-Applications Due **June 1, 2022**
  - **Water System Sustainability Grant Program (2022-2023 cycle)**
    - $100k Grant for DW AMP
    - $20k Water Audit Grant
- **MassDEP**
  - **Asset Management Planning Grant Program**
    - Up to $150k grant for Wastewater / Stormwater / Drinking Water
    - 20% Cash Match / 20% In-Kind Services
    - Next Round of Funding Application Due: **August 19, 2022**
  - **Statewide GIS Mapping Program**
    - Water and Sewer System Mapping
    - Zero cost to communities

FUNDING OPPORTUNITIES

- **Connecticut**
  - Connecticut Clean Water Fund, CT Dept. Energy & Environmental Protection
  - Facility Plans, CIPs, AMPs for wastewater or combined sewer
- **Maine CWSRF**
  - CWSRF Fiscal Sustainability Plan (*Asset Management*)
    - Up to $50k Principal Forgiveness
    - 100% Match Required
- **Vermont**
  - VT Capacity Development and DWSRF Programs AM Planning Loans
    - Up to $50k in planning loan forgiveness DW AMP
    - 50% Cash Match

THANK YOU!

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