

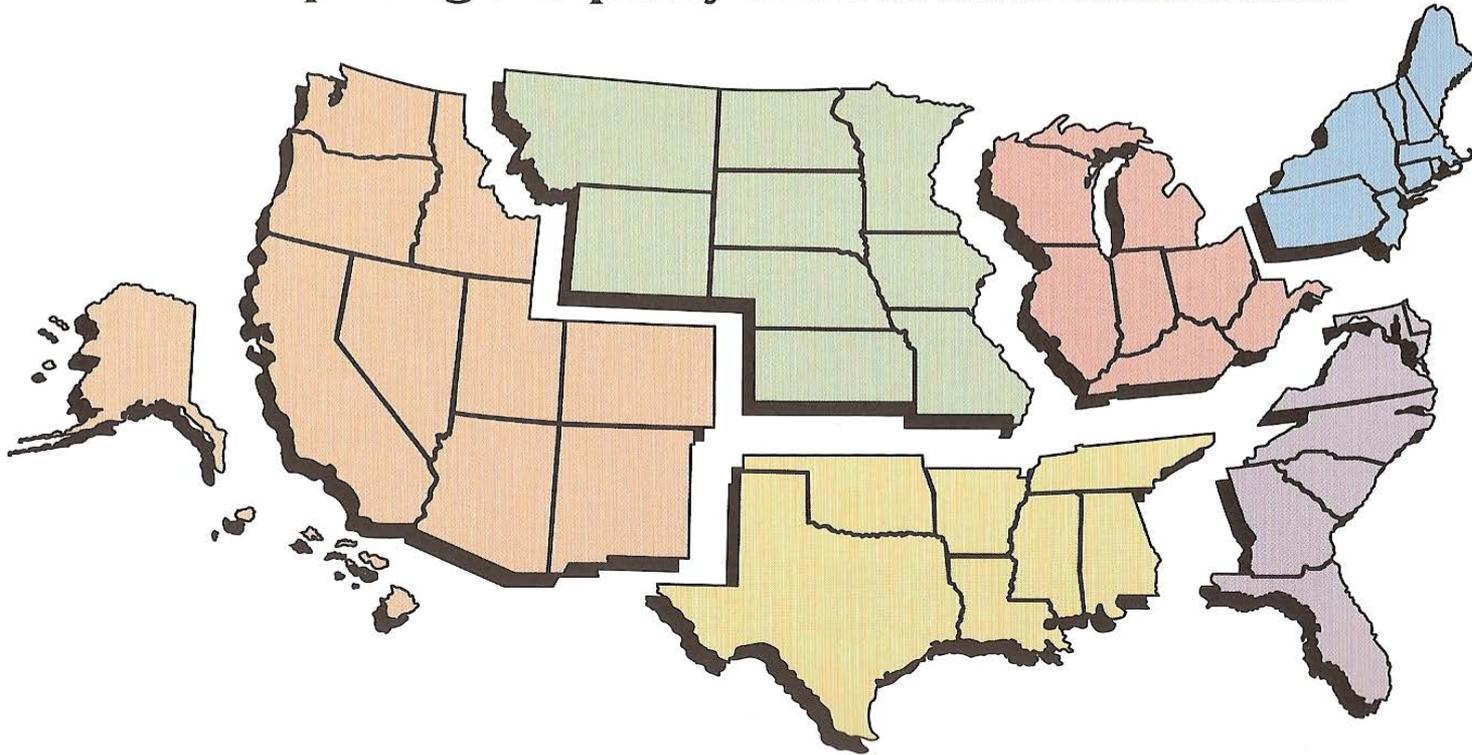


Welcome



The Rural Community Assistance Partnership

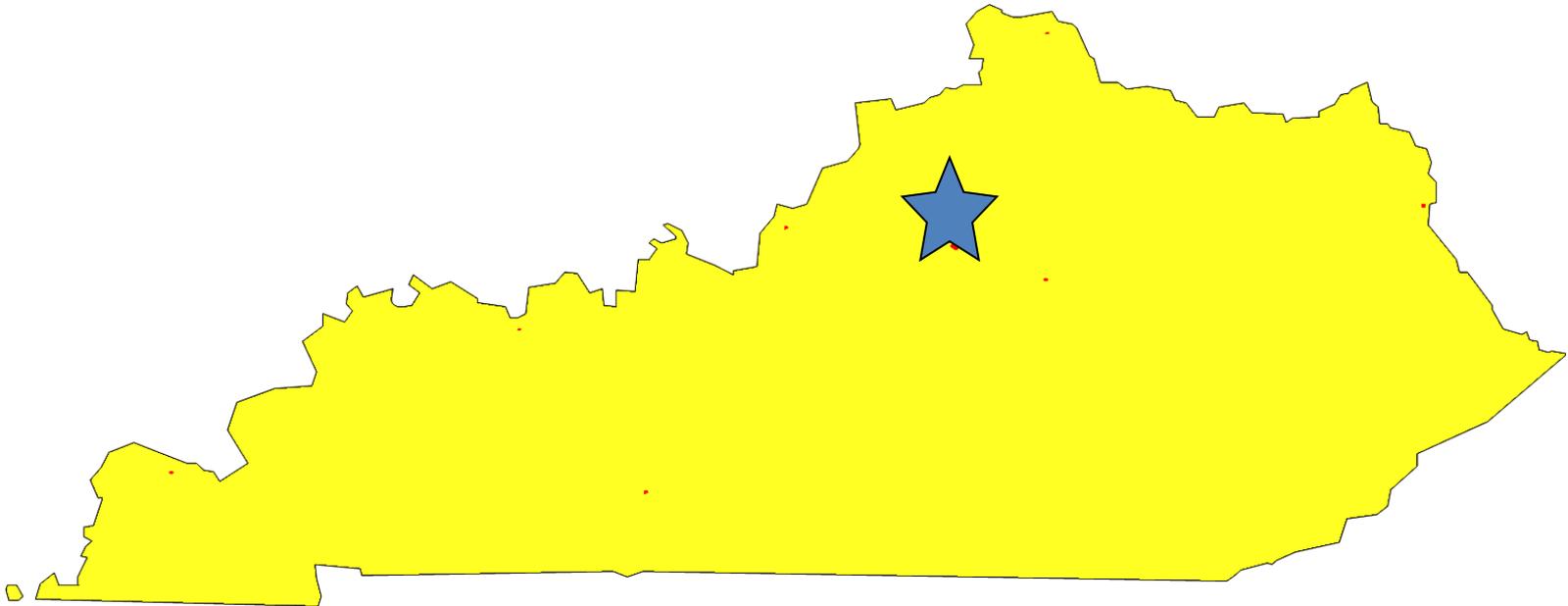
Improving the quality of life in rural communities



Kentucky RCAP



Is administered by Community Action
Kentucky.





Objectives

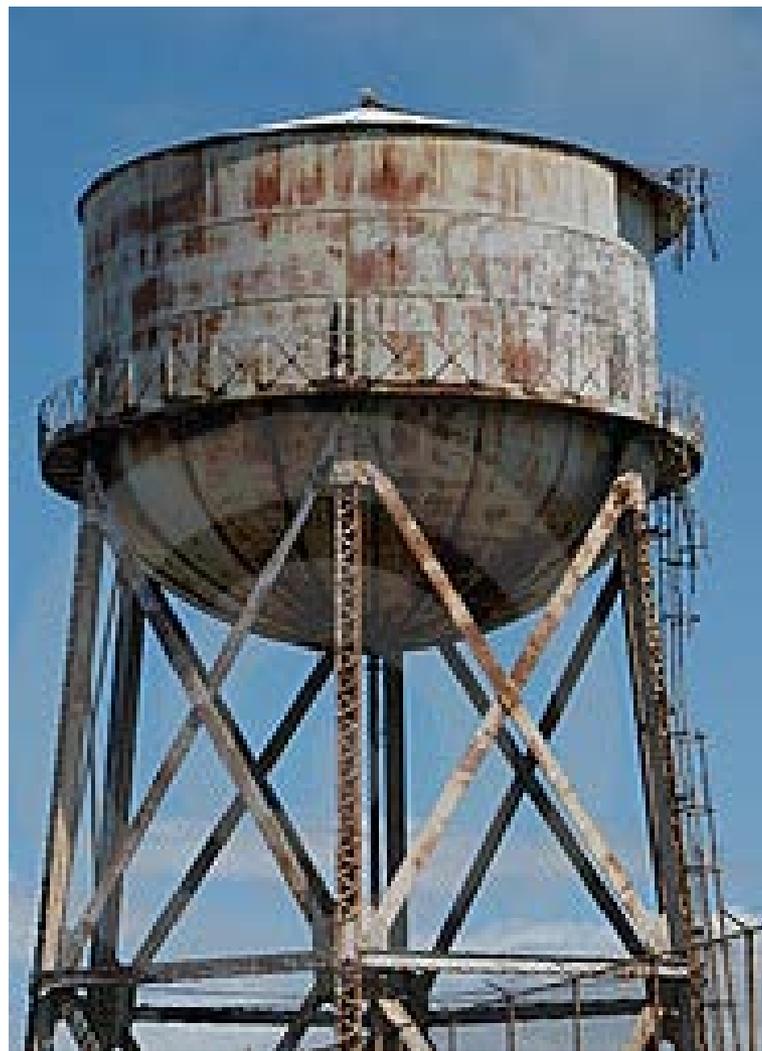
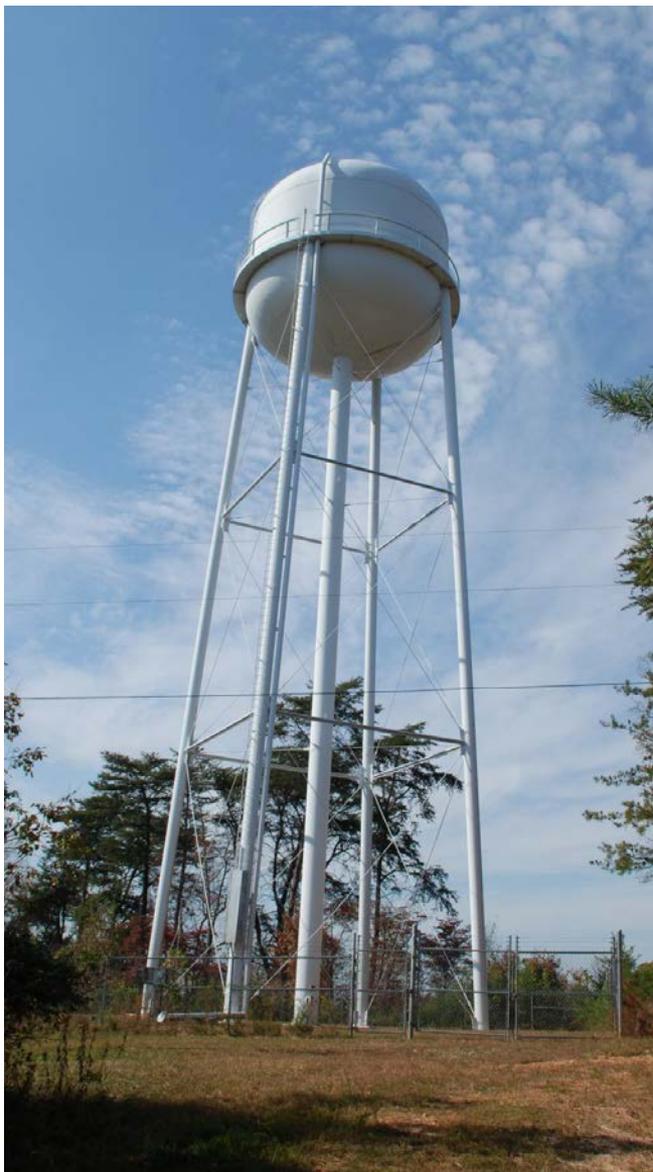


- Understand what an asset management plan is and how it is used to prepare the annual budget.
- Understand budget requirements.
- Know where to find resources for an asset management plan and budget.



Asset Management

i.e. Planning and Caring for Important Stuff





Asset Management



A **planning process** that ensures that you get the **most value from each of your assets** and have the **financial resources** to rehabilitate and replace them when necessary.



Benefits of an Asset Management Plan



- Reduces costly repairs – fewer emergency repairs
- Improves customer service – fewer service interruptions
- Protect public health and maintain compliance
- Increases knowledge of system – reduce dependence on expensive consultants
- Prioritizes projects and provides time to explore funding sources
- Shows lenders you are a good credit risk
- **Saves \$\$\$ over time**

Scenario #1

Maintenance: **NONE**

Useful Life: **50,000 Miles**

Cost per Mile: **\$0.44**

Scenario #2

Maintenance: **BASIC**

Useful Life: **150,000 Miles**

Cost per Mile: **\$0.15**

Scenario #3

Maintenance: **PREVENTIVE**

Useful Life: **200,000 Miles**

Cost per Mile: **\$0.11**



Base Price:

\$22,000



Life Cycle Cost



The total cost of owning and operating an asset over its useful life.

- The goal of Asset Management is to achieve the lowest possible life cycle cost
- Reducing the total life cycle cost will require careful maintenance and timely renovation/rehabilitation
- Asset Management may cost money in the short-term but will pay big long-term dividends



Asset Management Process

1. Take an inventory
2. Prioritize your assets
3. Develop an asset management plan
4. Implement your asset management plan
5. Review and revise your plan annually

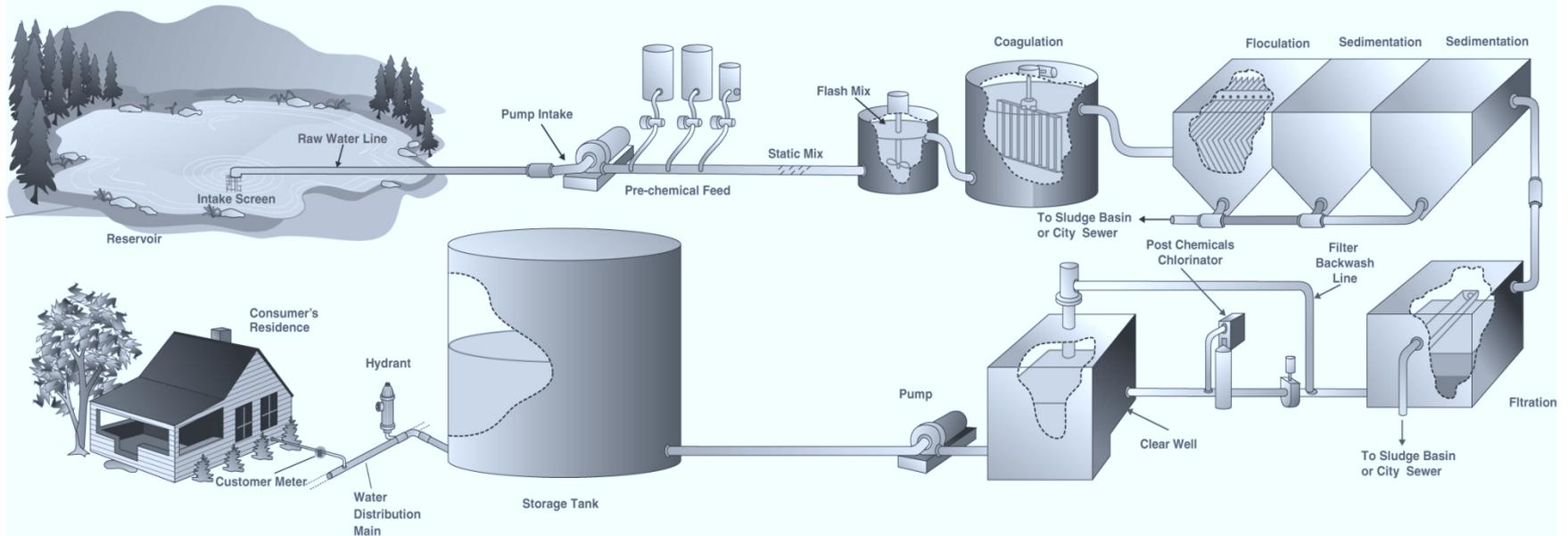


Knowledge Test

What Assets are in water and wastewater systems?

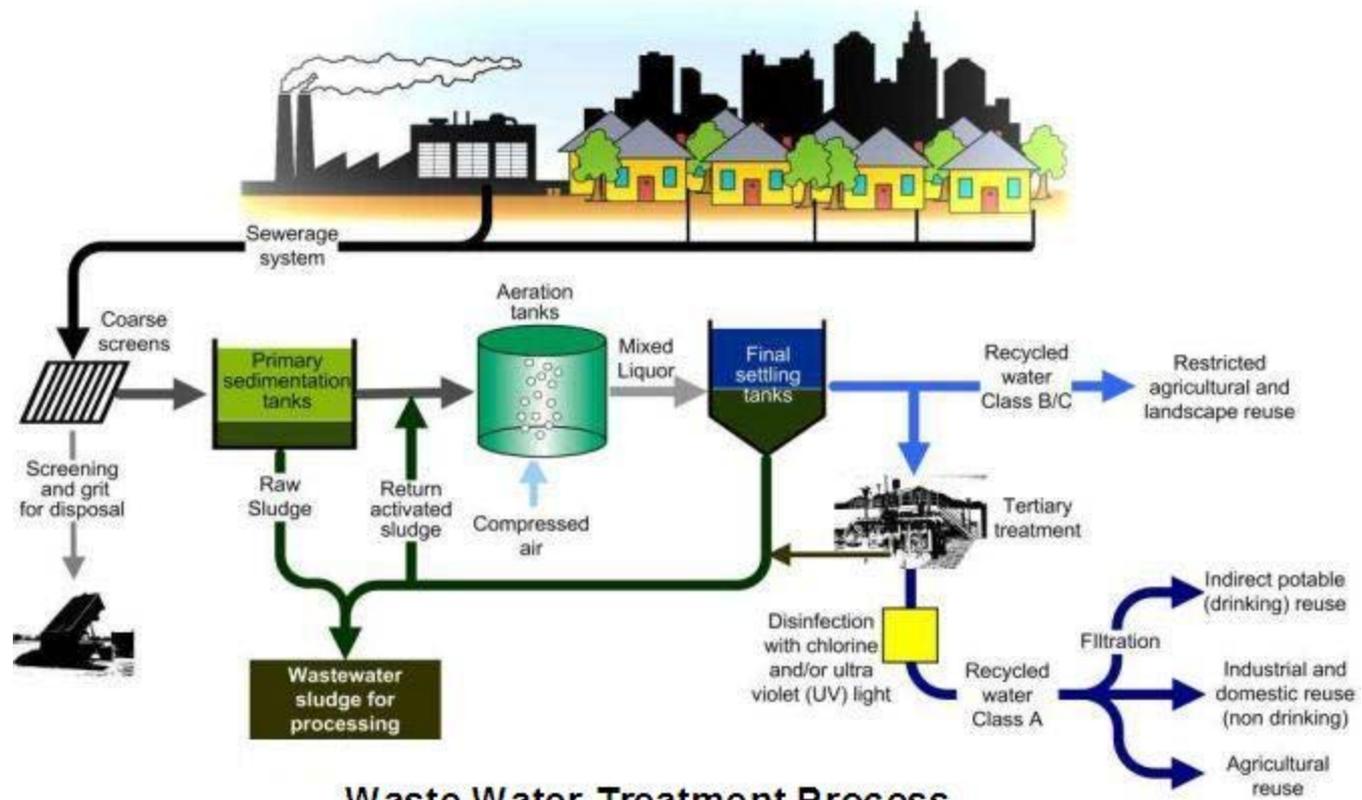
Water Treatment

Drinking Water Treatment Process



Source: National Environmental Services Center

Wastewater Treatment



Waste Water Treatment Process



Step One: Information Needed When Inventorying Assets:

- Age
- Condition
- Service History
- Useful Life

Asset Inventory



Name, Age, Condition, Service History, Useful Life



Asset Inventory

Name, Age, Condition, Service History, Useful Life



Asset Inventory

Name, Age, Condition, Service History, Useful Life



Asset Inventory



Name, Age, Condition, Service History, Useful Life





What is the useful life for
each of your assets?



System Inventory Worksheet



Date Worksheet completed/Updated:

| Asset | Useful Life | Condition | Service History | Adjusted Useful Life | Age | Remaining Useful Life |
|-----------------------|--------------------|------------------|------------------------|-----------------------------|------------|------------------------------|
| Treatment Plant | 40 | Good | Rehab (2005) | 40 | 7 | 33 |
| Lift Station | 30 | Good | | 30 | 5 | 25 |
| Electrical Components | 10 | Some corrosion | Rehab (2004) | 10 | 9 | 1 |
| Valves (45) | 40 | Unknown | 6 valves don't work | 40 | 9 | 31 |
| 6-inch (PVC) | 40 | Unknown | | 40 | 9 | 31 |
| 4-inch (PVC) | 40 | Unknown | | 40 | 9 | 31 |
| 2-inch (PVC) | 40 | Unknown | Repair breaks (2/yr) | 40 | 9 | 31 |



Step Two: Prioritizing Assets



- Which assets are critical to sustained performance?
- How does it fail?
- How can it fail?
- What is the likelihood of failure?
- What does it cost to repair?
- What are the consequences of failure?

Prioritization Worksheet



Date Worksheet Completed/Updated:

| Asset | Remaining Useful Life | Importance | Redundancy | Priority (1 is high) |
|-----------------------|------------------------------|----------------------|-----------------------------------|-----------------------------|
| Treatment Plant | 33 | Needed for service | No redundancy | 1 |
| Pump Station | 25 | Needed for service | No redundancy | 1 |
| Electrical Components | 1 | Needed for control | No redundancy-corrosion | 1 |
| Valves (45) | 31 | Needed for isolation | Other valves, but some don't work | 2 |
| 6-inch (PVC) | 31 | Needed for delivery | No redundancy | 3 |
| 4-inch (PVC) | 31 | Needed for delivery | No redundancy | 3 |
| 2-inch (PVC) | 31 | Needed for delivery | No redundancy | 3 |



Step Three: Developing an Asset Management Plan



- How much will it cost to rehabilitate and replace my assets?
- When will action be required on my assets?
- What preventative maintenance programs are in place for my assets?



Step Four: Implementing Your Asset Management Plan

- What budget reserves will I need for maintaining my assets?
- What is the demand for my services from my stakeholders?
- What do regulators require?
- What is my performance?

Required Reserve Worksheet



Date Worksheet Completed/Updated:

| Asset (list highest to lowest priority) | Activity | Years until action needed | Cost (s) | Reserve required current year |
|--|---------------------------------------|----------------------------------|-----------------|--------------------------------------|
| Treatment Plant | Replace | 33 | \$1,200,00 | \$36,363 |
| Pump Station | Replace | 25 | \$150,000 | \$6,000 |
| Electrical Components | Replace with controller | 1 | \$2,000 | \$2,000 |
| Valves | Replacement (54 valves at \$500 each) | 31 | \$22,500 | \$726 |
| Pipe: 6-inch (PVC) | 3600 ft. at \$20/ft. | 31 | \$72,000 | \$2,323 |
| 4-inch (PVC) | 9500 ft at \$20/ft. | 31 | \$190,000 | \$6,129 |
| 2-inch (PVC) | 2000ft. at \$20/ft. | 31 | \$40,000 | \$1,290 |

Total reserve in the current year: \$54,831



Step Five: Reviewing & Revising Your Asset Management Plan



- What are the processes for reviewing and updating my asset programs and plans?
- What are my best long-term funding/planning strategies?

Paying for it all

- In most cases, it is not realistic or prudent to expect publicly owned systems to fund capital replacement 100% from reserves.
- Identify which items will be funded 100% from reserves, and which items will be funded in part using other sources (primarily loans).
- The useful life of any items that are funded using other sources (loans, bonds) should meet or exceed their terms (i.e. a 20-year loan should not fund equipment with a useful life of 15 years).



Asset Management Process

1. Take an inventory
2. Prioritize your assets
3. Develop an asset management plan
4. Implement your asset management plan
5. Review and revise your plan annually



Who needs to be involved with preparing the asset management plan?

Unexpected Scenario!

Replacement

- Cost: **\$22,000**
- Useful Life: **200,000 Miles**
- Cost per Mile: **\$0.11**



Rehabilitate

- Cost: **\$3,000**
- Useful Life: **60,000 Miles**
- Cost per Mile: **\$0.05**





Software

- CUPSS for water and wastewater
- CAP Finance – for water and wastewater, routine repair and inspection schedules not included
- TEAMS – for wastewater only, comprehensive but less user friendly

All of these programs are free!

CUPSS Check-up Program for Small Systems



CUPSS Check-Up Program for Small Systems
Set-up | Switch Utility | Create User | Help | Exit

Check-Up Program for Small Systems
Fill Your CUPSS
Search

My Home

My Inventory

My O & M

My Finances

My Check-up

My CUPSS Plan

Welcome Back Joe, Asset Management for Virginia Water Authority

Welcome Back Joe. **What would you like to do today?** [\[General Review\]](#)

Do Some Training

Enter a New Task or Work Order

Create or Update My Schematic

Search Asset and Maintenance Data

Create or Update My Inventory

Enter My Finances

Print My Check-Up Reports

Work on My CUPSS Plan

My Calendar

Mouse over the tasks to view information

| August 2007 | | | | | | |
|-------------|----|----|----|----|----|----|
| S | M | T | W | T | F | S |
| 29 | 30 | 31 | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | 1 |

My Messages and Alerts

[Review]

Pop-Up Messages Are Off Click To Turn On

| | |
|-----------------------|-----|
| CUPSS Plan Ticker | 50% |
| Tasks Past Due | 7 |
| Assets Needing Update | 5 |
| A Work Order Due | 2 |

U.S. Environmental Protection Agency

CAP Finance

Asset Management Software for Water and Wastewater Utilities



A screenshot of a Windows XP desktop environment. The desktop background is black. On the left side, there is a vertical taskbar with icons for "My Computer", "My Documents", "BSU Network", "Recycle Bin", and "My Briefcase". The main area of the screen is occupied by a splash screen for "capFinance". The splash screen has a light green background and features a central image of a waterfall and a red fire hydrant. Overlaid on this image is a green and blue circular logo with the text "capFinance". To the right of the logo, the text reads: "An Integrated Capital Asset Inventory and Reinvestment Analysis Tool for Drinking Water Systems." Below this, it says "Press any key to continue." At the bottom of the splash screen, it says "Developed by..." followed by the logo for the "Environmental Finance Center" at "Boise State University". The logo for the Environmental Finance Center includes a stylized building and the text "BOISE STATE UNIVERSITY Civil Engineering". At the very bottom of the screen, there is a taskbar with various application icons and a system tray showing the time as "8:58 AM".



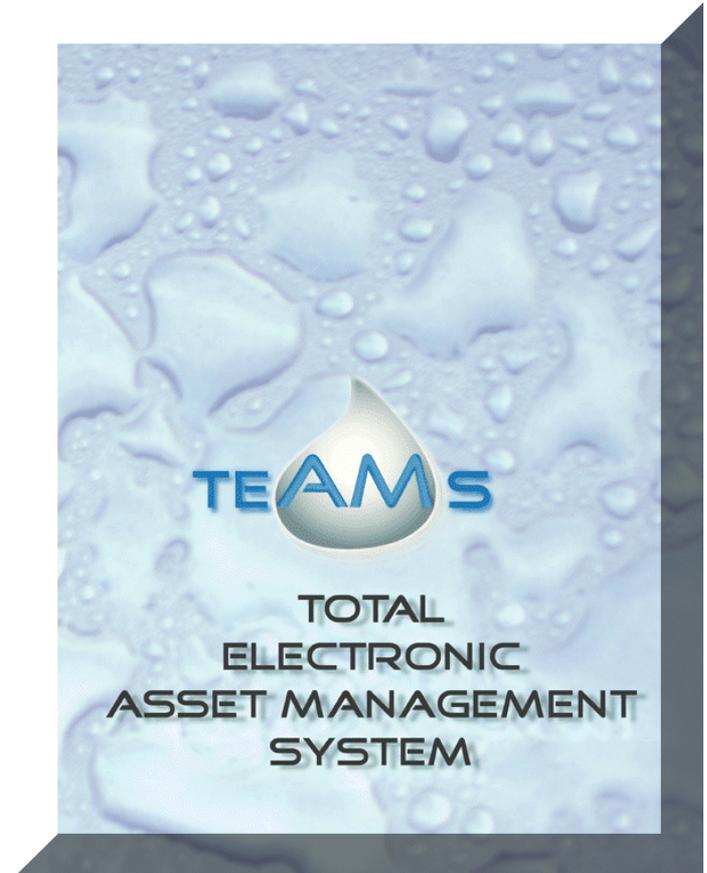
TEAMS

Total Electronic Asset Management System

Asset Management Software for Wastewater Systems



- Comprehensive maintenance scheduling, asset management and budgeting tool
- Requires Microsoft Office software
- Developed by Maryland Center for Environmental Training
- Go to <http://www.mcet.org/Technical/environment/teamsAM.html>





Budgeting

What is a Budget?

Expenses + Future = Revenue (Income)

Adopting the Budget



Annual budgets are required every year by all funding agencies, PSC, DOW, **and KRS 65.065.**

Review the budget on a monthly basis.

Wildcat County Water District
Monthly Financial Report



| | 2013 Budget | YTD Actuals | Balance |
|--|----------------|-------------------|-------------------|
| Revenues | | | |
| Water Sales | 670,000 | 167,500 | 502,500 |
| Tap On Fee | 32,500 | 1,200 | 31,300 |
| Interest Income | 353 | 87 | 266 |
| Total Revenues | 702,853 | 168,787 | 534,066 |
| Expenses | | | |
| Water Purchased | 225,000 | 36,000.00 | 189000.00 |
| Water Analysis | 3,650 | 912.50 | 2737.50 |
| Salaries (Staff) | 145,019 | 36,254.63 | 108763.88 |
| Salaries (Commission) | 18,000 | 4,500.00 | 13500.00 |
| Health Insurance | 46,500 | 11,625.00 | 34875.00 |
| Liability Insurance | 11,500 | - | 11500.00 |
| Life Insurance | 100 | - | 100.00 |
| Retirement | 27,394 | 7,967.53 | 19426.47 |
| Taxes | 15,000 | 3,750.00 | 11250.00 |
| Contract Labor | 4,500 | - | 4500.00 |
| Utilities | 43,000 | 10,750.00 | 32250.00 |
| Rent - Water Towers | 4,300 | 1,075.00 | 3225.00 |
| Transportation | 30,820 | 7,705.00 | 23115.00 |
| Supplies | 25,500 | 4,600.00 | 20900.00 |
| Maintenance | 4,200 | 133.00 | 4067.00 |
| Equipment | 2,100 | 300.00 | 1800.00 |
| Equipment Rental | 1,000 | - | 1000.00 |
| License & Permits | 300 | - | 300.00 |
| Travel | 1,000 | 25.00 | 975.00 |
| Office Expense | 5,200 | 1,300.00 | 3900.00 |
| Telephone | 6,000 | 1,500.00 | 4500.00 |
| Postage | 4,900 | 1,225.00 | 3675.00 |
| Legal & Accounting | 6,100 | 4,500.00 | 1600.00 |
| Professional Fees | 9,500 | 6,000.00 | 3500.00 |
| Dues & Subscriptions | 600 | 150.00 | 450.00 |
| Software Support | 1,200 | 300.00 | 900.00 |
| Uniforms | 2,000 | 500.00 | 1500.00 |
| Bank Service Charge | 50 | 12.50 | 37.50 |
| Bad Accounts | 3,100 | 775.00 | 2325.00 |
| Miscellaneous | 120 | 30.00 | 90.00 |
| Total O & M Expense | 647,653 | 141,890.15 | 505,762.85 |
| Debt Service Requirements | | | |
| RD (Principal and Interest) | 14,974 | 0 | 14974 |
| KIA (Principal, Interest and Admin Fees) | 18,026 | 0 | 18026 |
| Reserve Accounts | | | |
| Short Lived Asset | 19,200 | 4,800 | 14400 |
| RD Reserve | 1,500 | 375 | 1125 |
| KIA Reserve | 1,500 | 375 | 1125 |
| Total Reserve | 22,200 | 5,550 | 16650 |
| Net Income (Loss) | - | 21,347 | |



KRS 65.065(1)

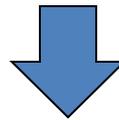
- Must prepare a budget annually.
- Submit the budget to the fiscal court in the county in which it is located.
- Budget is not effective until filed with the fiscal court.
- **NO** monies may be expended **from any funds or any sources** except in accordance with a filed budget.

KRS 65.065(1)

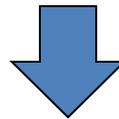


If a district fails to file within 30 days of the start of **the district's fiscal year**:

Fiscal Court



District



Prevent Spending

Who prepares the budget?

Ideally - a committee

- Members of the governing body
- Clerk
- Manager
- Operator
- Consultants



All too often, the clerk or secretary is directed to prepare it without input from the governing body.

Benefits of a Budget

- Helps to reduce unnecessary costs
- Determines if costs are being incurred appropriately
- Controls spending
- Ensures accountability
- Improves the ability to anticipate costs



What does PSC deem to be
reliable and accurate in
determining expenses for the
upcoming budget?



Data based **actual**
expenses...and additional
known and measurables...



| | <u>2009</u> | <u>2010</u> | <u>2011</u> | <u>2012</u> | <u>Avg</u> | <u>2013 Budget</u> |
|-----------------------------------|----------------|----------------|-----------------|----------------|----------------|--------------------|
| Income: | | | | | | |
| Water Sales | 251,251 | 271,924 | 252,994 | 250,080 | 256,562 | 256,500 |
| Misc Income | 20,142 | 9,816 | 12,316.90 | 15,850.52 | 14,531 | 14,500 |
| Interest Income | 4,631 | 3,898 | 1,959 | 1,112 | 2,900 | 1,500 |
| Total Income | 276,024 | 285,638 | 267,269 | 267,043 | 273,993 | 272,500 |
| O & M Expense: | | | | | | |
| Purchased Water | 62,300 | 62,655 | 79,302 | 72,544 | 69,200 | 70,000 |
| Salaries & Wages | 69,180 | 71,439 | 66,761 | 60,185 | 66,891 | 67,000 |
| Employee Pension & Benefits | 13,833 | 16,617 | 11,663 | 11,277 | 13,347 | 13,500 |
| Payroll Tax Expense | 9,627 | 7,639 | 6,096 | 5,760 | 7,281 | 7,300 |
| Contractual Services | 26,383 | 31,886 | 33,400 | 18,773 | 27,611 | 30,000 |
| Insurance | 7,924 | 7,745 | 7,315 | 8,191 | 7,794 | 7,800 |
| Office Expense | 9,349 | 12,872 | 9,725 | 11,200 | 10,786 | 10,800 |
| Telephone/Utilities | 9,777 | 11,029 | 12,014 | 12,657 | 11,369 | 12,700 |
| Materials & Supplies | 21,001 | 12,120 | 19,774 | 8,228 | 15,281 | 16,000 |
| Repairs & Maintenance | 204 | 149 | 3,539 | 1,199 | 1,273 | 3,000 |
| Transportation Expense | 7,068 | 9,228 | 13,654 | 13,267 | 10,804 | 15,000 |
| Water Testing | 3,218 | 1,898 | 2,373 | 1,896 | 2,346 | 2,500 |
| Misc Expense | (146) | 1,196 | 392 | 459 | 475 | 500 |
| Pass Through Taxes | | | | 8,281 | 8,281 | |
| O & M Total Expense | 239,717 | 246,472 | 266,008 | 233,916 | 246,528 | 256,100 |
| Debt Service Expense: | | | | | | |
| Debt Service Payment | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 | 15,000 |
| Reserve Requirement | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 |
| Debt Service Total Expense | 16,200 | 16,200 | 16,200 | 16,200 | 16,200 | 16,200 |
| Net Income (Loss) | 20,107 | 22,966 | (14,939) | 16,927 | 11,265 | 200 |



What are the Revenues in a water/wastewater system?

Two Types of Income

Operating Revenue

- Water/Wastewater Service
- Non reoccurring Fees: Connection Fees, Late payments, penalties, and reconnection fees

Nonoperating Revenue

- Interest on checking accounts
- Interest on reserve accounts
- Forfeited deposits
- Providing services for other utilities



What are the expenses of a water/wastewater system?



Typical Expenses

- Employee Salaries
- Utilities
- Pipe
- Repair Parts
- Insurance
- Equipment Leases
- Gasoline
- Debt Payments
- Postage
- Benefits
- Frequency of Repairs
- Professional Services (audits, legal, engineering, etc.)
- Vehicle Insurance
- Laboratory Testing
- Chemicals
- Purchased Water/Landfill Fees

Expenses



- Debt Service Payments
- Reserve Accounts
- Operation and Maintenance Expenses



Reserve Accounts

- Depreciation/Reserve Account (RD & KIA)
- Short Lived Asset Account (Replacement Fund Reserves)
- Emergency Operating Reserves

Budgeting vs. Accounting



- Budgeting is a plan of expenditures and forecast of revenues.
- Accounting is recording actual revenues and expenditures – information used to help prepare the next budget.
- Poor accounting practices make it difficult to prepare good budgets.

Five Points of Budget Development



- Establishing required Debt Service levels.
- Establishing System Financial Reserve levels.
- Estimating the full cost of operating your system for one full year.
- Estimating system revenue for water and/or wastewater services.
- Adjusting revenues to cover estimated expenses.

Wildcat County Water District

2013 Budget



| | 2013 Budget |
|--|----------------|
| Revenues | |
| Water Sales | 670,000 |
| Tap On Fee | 32,500 |
| Interest Income | 353 |
| Total Revenues | 702,853 |
| Expenses | |
| Water Purchased | 225,000 |
| Water Analysis | 3,650 |
| Salaries (Staff) | 145,019 |
| Salaries (Commission) | 18,000 |
| Health Insurance | 46,500 |
| Liability Insurance | 11,500 |
| Life Insurance | 100 |
| Retirement | 27,394 |
| Taxes | 15,000 |
| Contract Labor | 4,500 |
| Utilities | 43,000 |
| Rent - Water Towers | 4,300 |
| Transportation | 30,820 |
| Supplies | 25,500 |
| Maintenance | 4,200 |
| Equipment | 2,100 |
| Equipment Rental | 1,000 |
| License & Permits | 300 |
| Travel | 1,000 |
| Office Expense | 5,200 |
| Telephone | 6,000 |
| Postage | 4,900 |
| Legal & Accounting | 6,100 |
| Professional Fees | 9,500 |
| Dues & Subscriptions | 600 |
| Software Support | 1,200 |
| Uniforms | 2,000 |
| Bank Service Charge | 50 |
| Bad Accounts | 3,100 |
| Miscellaneous | 120 |
| Total O & M Expense | 647,653 |
| Debt Service Requirements | |
| RD (Principal and Interest) | 14,974 |
| KIA (Principal, Interest and Admin Fees) | 18,026 |
| Reserve Accounts | |
| Short Lived Asset | 19,200 |
| RD Reserve | 1,500 |
| KIA Reserve | 1,500 |
| Total Reserve | 22,200 |
| Net Income (Loss) | - |



Quiz



Questions:

How many loans do you have?

List them.

What are the terms of each?

How much do you owe on each?



What can we do to balance
the budget without **raising**
rates?

Ways to Help Balance the Budget Without Raising Rates



- Collect overdue accounts.
- Make sure your cash registers (water meters) are working.
- Improve customer billing. (Make sure everyone who is receiving service is getting a bill.)
- Update fees, deposits, and service charges.
- Decrease non revenue water.

Non revenue water examples



Non revenue water examples



Ways to Help Balance the Budget Without Raising Rates



- Put your money to work. (Shop around for bank services.)
- Buy in quantity.
- Add new *paying* customers without adding new debt.
- Conduct an energy audit.

RCAP Audit Performance



RCAP Energy Audits – United States of America





Lean Utility Management



- Asset Management
- Budgeting
- Energy Audits
- Water Loss/Non Revenue Water
- Staffing

Rate Structure



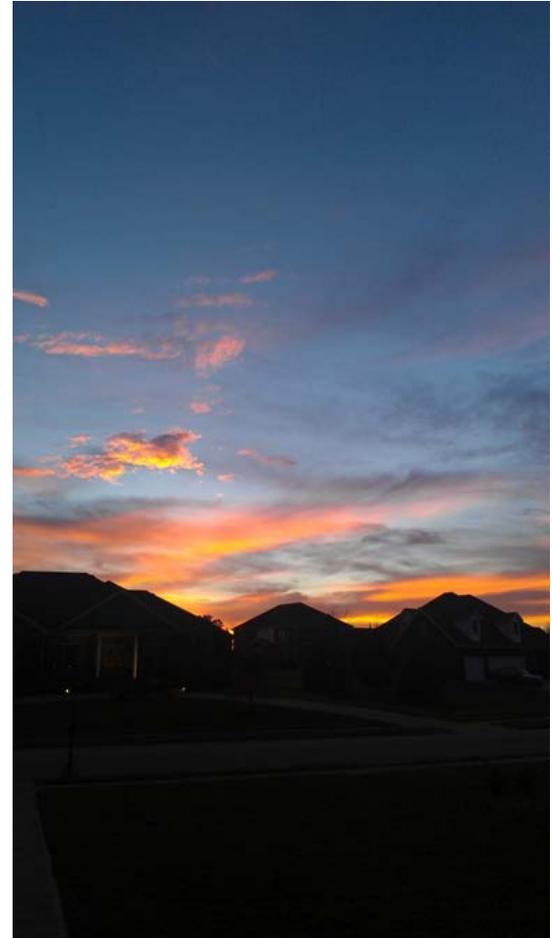
- Water: Rates must produce revenues to cover full cost of producing, treating, storing, and distributing water.
- Wastewater: Rates must provide revenue to cover full cost of collecting and treating wastewater.



Future??



Sometimes being a community leader is like parenting...the best decision is not always the most popular one.





**Kentucky Office
101 Burch Court
Frankfort, Kentucky 40601**

**(502) 875-5863
Fax (502) 875-5865**