

Having Enough Money for Today and Tomorrow

February 17, 2021

Michigan Technological University



**Great Lakes
Environmental
Infrastructure Center**

Environmental Finance Center for EPA Region 5



Our Presenter



Glenn Barnes

Director

Water Finance Assistance



Today's Agenda

- Recognize the costs of providing safe drinking water
- Identify which costs change with water production and which do not
- Describe how costs change over time
- Summarize state and federal loan programs



Poll Question

What type of organization do you represent?

- Utility serving 10,000 people or less
- Utility serving more than 10,000 people
- State or federal program
- Consultant or technical assistance
- Other

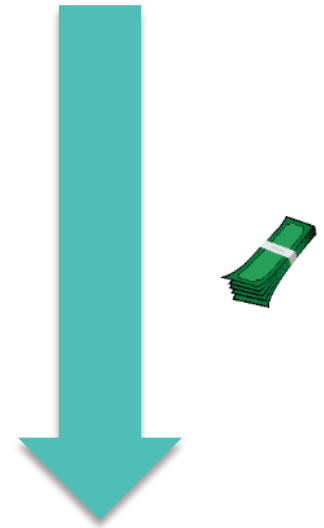
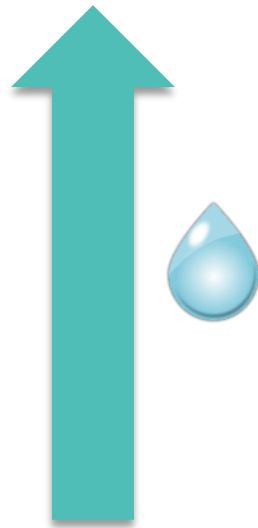
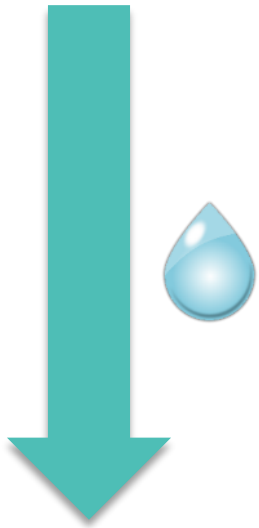


The Costs of Providing Safe Drinking Water

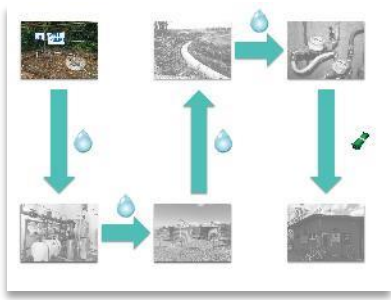




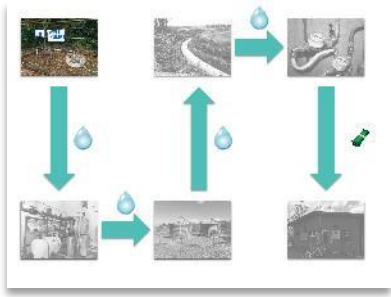


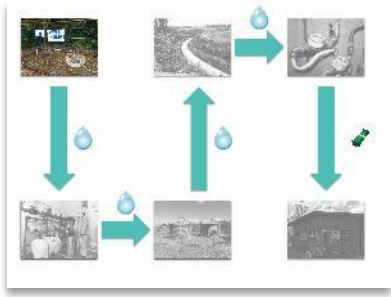


Water Source



Water Source





Water Source

INTER-GOVERNMENTAL AGREEMENT

BETWEEN

THE CITY OF POULSBO

AND

PUBLIC UTILITY DISTRICT NO. 1 OF KITSAP COUNTY

FOR WATER SALES

THIS AGREEMENT is made and entered into this 16th day of June, 1995, by and between the City of Poulsbo, a municipal corporation, hereinafter referred to as "City" and Public Utility District No. 1 of Kitsap County, hereinafter referred to as "PUD".

WHEREAS, pursuant to Chapter 54.04 RCW, the purpose of the PUD is to conserve the water resources of the county for the benefit of the people thereof, and to supply public utility service, including water for all uses; and

WHEREAS, pursuant to Chapter 54.16 RCW, the PUD may make survey, plans, investigations or studies for domestic and industrial water supply and for matters and purposes



Poll Question

What is your primary water source?

- Groundwater
- Surface water
- Purchased water
- A combination of sources



Infrastructure

- Well or surface water
- Intake pump
- Pumphouse or well house
- Fencing
- Backup generator



Expenses

- Withdrawal permit
- Water rights
- Electricity
- Water purchases

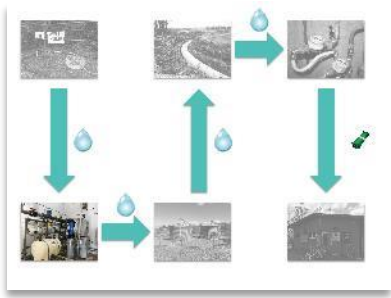


Human Inputs

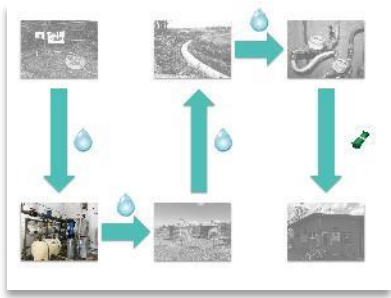
- Administrative
- Operations
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- Construction
- Lawyers



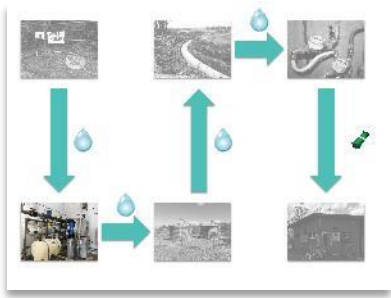
Treatment



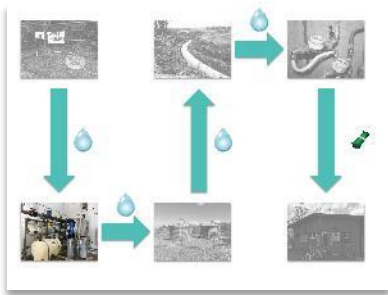
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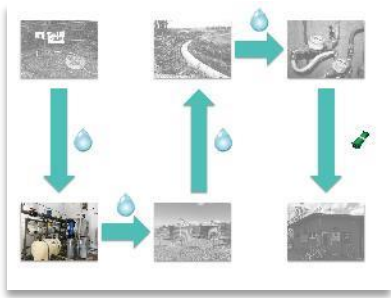
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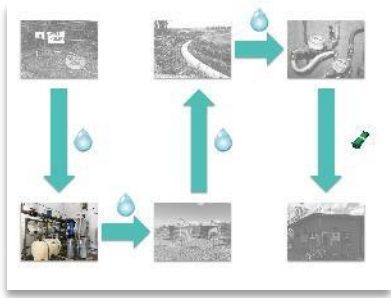
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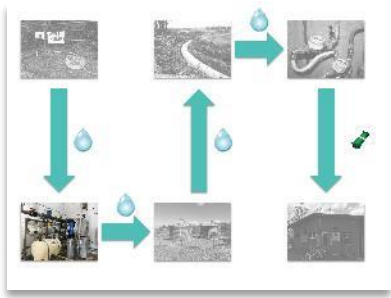
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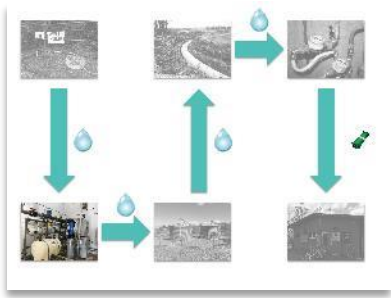
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Treatment



Treatment



Infrastructure

- Well or surface water
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- Chlorinator
- Filter tanks
- SCADA
- RO system/UV system
- Onsite energy generation
- Treatment plant building



Expenses

- Withdrawal permit
- Water rights
- Electricity
- Water purchases
- Chlorine
- Softeners
- Membranes
- Filters
- UV bulbs
- Mortgage on treatment plant
- Cybersecurity
- Property insurance
- Liability insurance
- Testing supplies
- Uniforms
- PPE
- Training
- Certification
- Professional dues

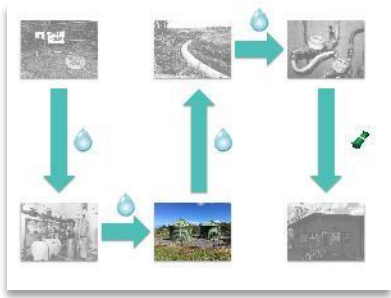


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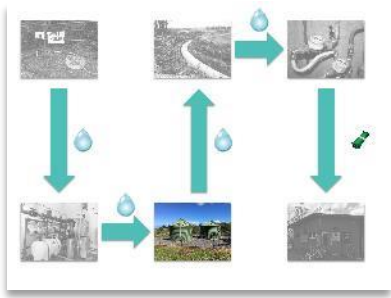
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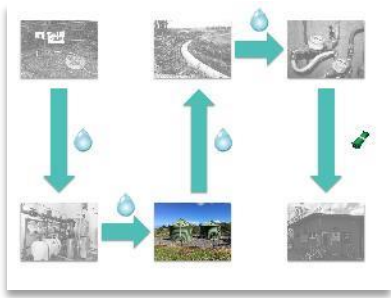
Storage



Storage



Storage



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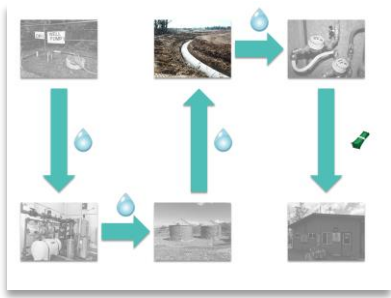


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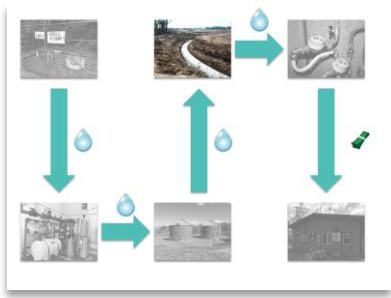
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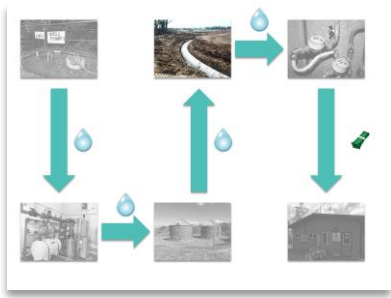
Distribution



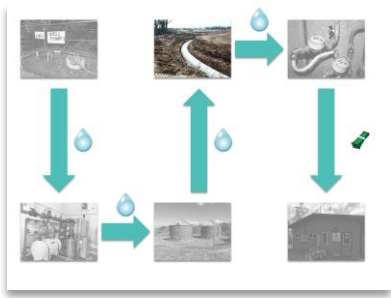
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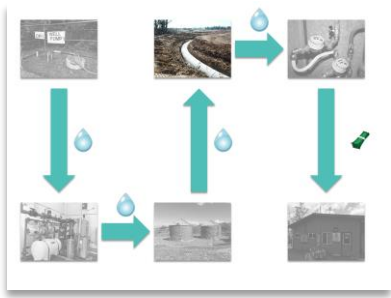
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Distribution



Distribution



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- Heavy machinery
- Vehicles
- Roads



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- Traffic cones, etc.
- Auto parts
- Tires
- Fuel
- GIS
- Leak detection

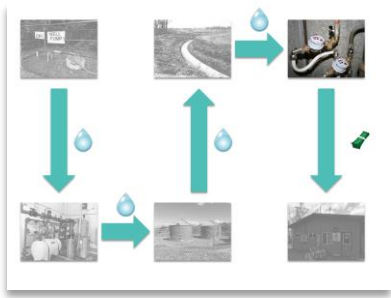


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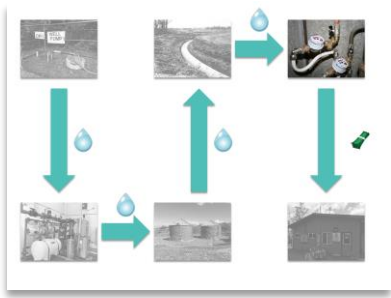
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- Road repair
- Mapping/GIS



Delivery



Delivery



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- Service lines
- Curb stops
- Meters



Expenses

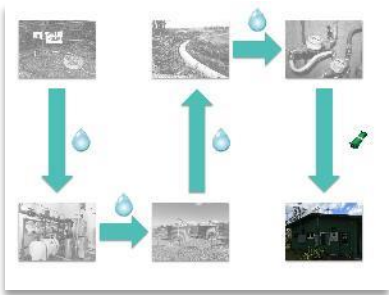
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Payment

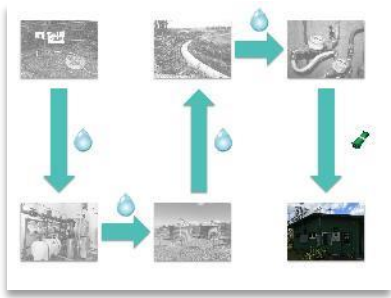
SERVICE ADDRESS:

ACCOUNT NUMBER	DATE BILL MAILED	SERVICE FROM	SERVICE TO	DAYS USED	DUE DATE	
1 100901	10/12/2020	10/1/2020	10/31/2020	30	10/31/2020	
PREVIOUS READING	PRESENT READING	UNITS USED	DESCRIPTION		AMOUNT DUE	
647	854	7	Previous Balance \$171.33 PAYMENT ** THANK YOU ** (\$171.33) MONTHLY SERVICE FEE \$87.43 Quantity @ \$7.9700/CCF \$55.79 MONTHLY SDWBA FEE \$26.02 PUC REGULATORY FEE \$2.42			
Metered use is from Sept 1-30 SDWBA=Safe Drinking Water Bond Act Thank you for your prompt payment.						
				AMOUNT DUE	AFTER DUE DATE	BY DUE DATE
					\$176.72	\$171.66

\$ 171.66 WILL BE DEDUCTED FROM YOUR BANK ACCOUNT ON 10/23/2020.



Payment



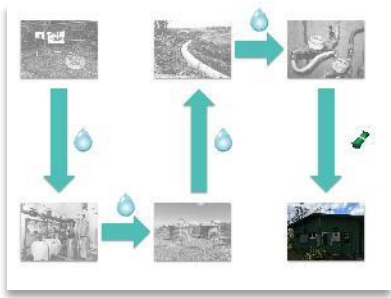
Poll Question

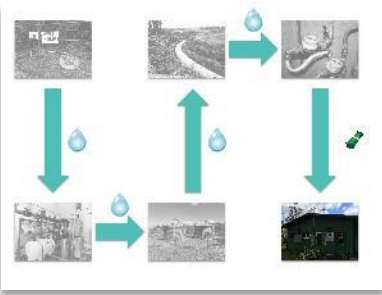
Do you include the cost of salaries and benefits for general government employees and the board in your budget and rates?

- Yes
- No



Payment





Payment

AWWA Free Water Audit Software: Worksheet

FWAS v6.0
American Water Works Association
Copyright © 2020. All Rights Reserved.

Water Audit Report for: **City of Asheville**
 Audit Year: **2020** | Jul 01 2019 - Jun 30 2020 | Fiscal

To access definitions, click the input

Click 'n' to add notes
 Click 'g' to determine data validity grade

To edit water system [go to start page](#)

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

Water Supplied Error Adjustments
 choose entry option:

WATER SUPPLIED

VOS	Volume from Own Sources	n g 9	7,439,150	MG/Yr	n g 4	volume 315,215	MG/Yr	under-registration	VOSEA
WI	Water Imported	n g n/a	0.000	MG/Yr					WIEA
WE	Water Exported	n g n/a	0.000	MG/Yr					WEEA

WATER SUPPLIED: 7,754,365 MG/Yr

AUTHORIZED CONSUMPTION

BMAC	Billed Metered	n g 8	5,409,823	MG/Yr					
BUAC	Billed Unmetered	n g n/a	0.000	MG/Yr					
UMAC	Unbilled Metered	n g 9	4,280	MG/Yr					
UUAC	Unbilled Unmetered	n g 10	90,120	MG/Yr		custom 90,120	MG/Yr		

AUTHORIZED CONSUMPTION: 5,504,203 MG/Yr

WATER LOSSES 2,250,182 MG/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

SDHE	Systematic Data Handling Errors	n g 3	13,525	MG/Yr	0.25%	default			
CMI	Customer Metering Inaccuracies	n g 6	115,005	MG/Yr	2.08%	percent			under-registration
UC	Unauthorized Consumption	n g 3	13,525	MG/Yr	0.25%	default			

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 142,054 MG/Yr

Real Losses

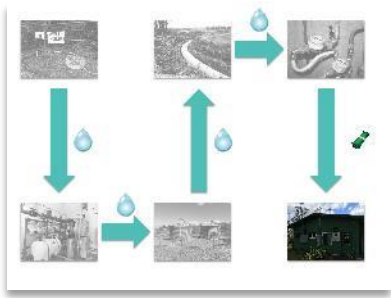
Real Losses: 2,108,108 MG/Yr

WATER LOSSES: 2,250,182 MG/Yr

NON-REVENUE WATER



Payment



**Cricklewood Drive
Main Replacement**

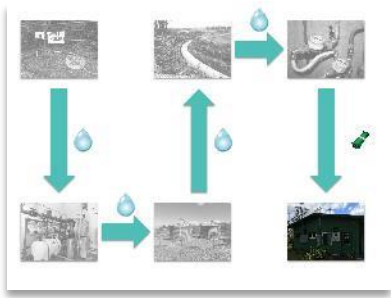
- First phase completed in 2017 (Fullerton Ave to Wilco Lane)
- Phase 2: Wilco Lane to Red Cricklewood Drive
- Replacing 3,000 feet of 36 year old 8" cast iron pipe with 12" ductile iron pipe
- Third phase is scheduled to be done in 2021 from to 400 Cricklewood Drive

**Pugh Street
Main Break**

• Proposed improvements to Pugh St



Payment



Infrastructure

- Well or surface water
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- Curb stops
- Meters
- Office



Expenses

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- Lab testing
- Meter testing
- Office overhead
- Printing
- Postage
- Billing software
- Bank fees
- Credit card processing fees
- Website
- Computers
- Office supplies
- Annual financial audit
- Reporting
- Planning & analysis
- Contingencies
- Debt service
- Utility commission
- Salaries
- Benefits
- Contract services

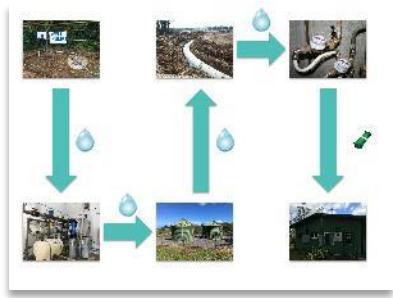


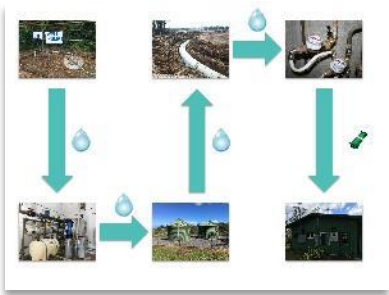
Human Inputs

- Administrative
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- Laboratory
- Line repairs
- Traffic conducting
- Vehicle maintenance
- Heavy equipment maintenance
- Road repair
- Mapping/GIS
- Meter reading
- Billing
- Customer service
- Budgeting
- Board and management
- Human resources



We made it!!!!





Except...



Poll Question

Are there costs identified here that you are not including in your budget right now?

- Yes
- No



How Costs Change



In general...



In general...

Costs go up over time



In general...

Costs go up over time

...but not necessarily
at the same rate



Expenses Based on Volume of Water Produced

- Withdrawal permit
- Water rights
- Electricity
- Water purchases
- Chlorine
- Softeners
- Membranes
- Filters
- UV bulbs
- Mortgage on treatment plant
- Cybersecurity
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Expenses Based on Number of Customers*

- Withdrawal permit
- Water rights
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Projecting Expenses

- Identify all expenses related to the utility
- Project the expenses over 3 to 5 years—uniform increases, or even better an individual multiplier for each line item
- Capital investment based on asset management plan and CIP, ideally



Projecting Expenses

- Identify all expenses related to the utility
- Project the expenses over 3 to 5 years—uniform increases, or even better an individual multiplier for each line item
- Capital investment based on asset management plan and CIP, ideally
- Reserve targets



The Big Question

Are *current* rates
adequate to cover
future costs and
reserve targets?





**Where the money
comes from for
these costs**



Miscellaneous Income



Rates

- Join us for the second webinar in this series!
- Rate Design and Pricing
Wednesday, March 17
2 pm ET



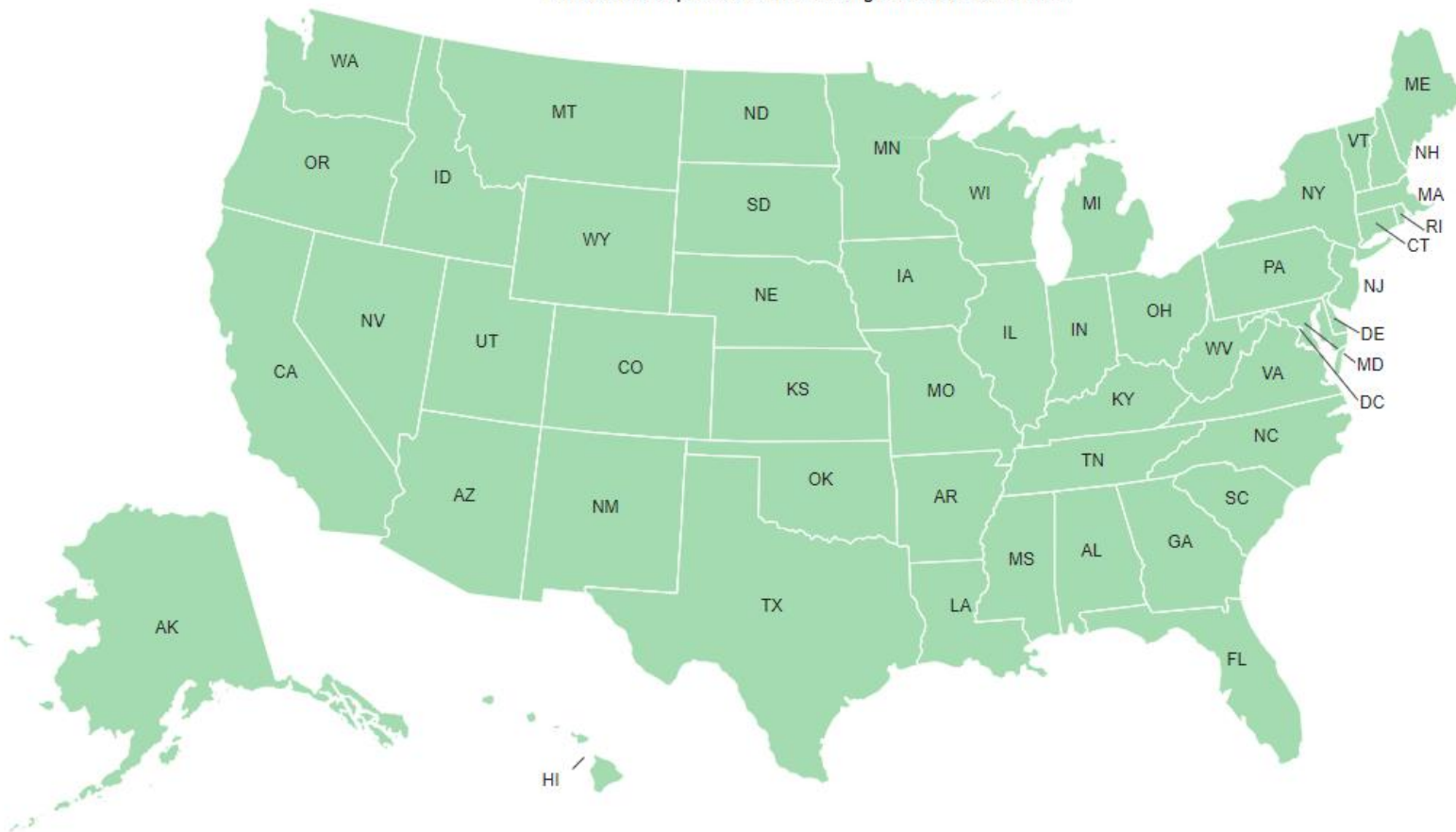
Available Loan & Grant Programs



Funding Sources by State or Territory

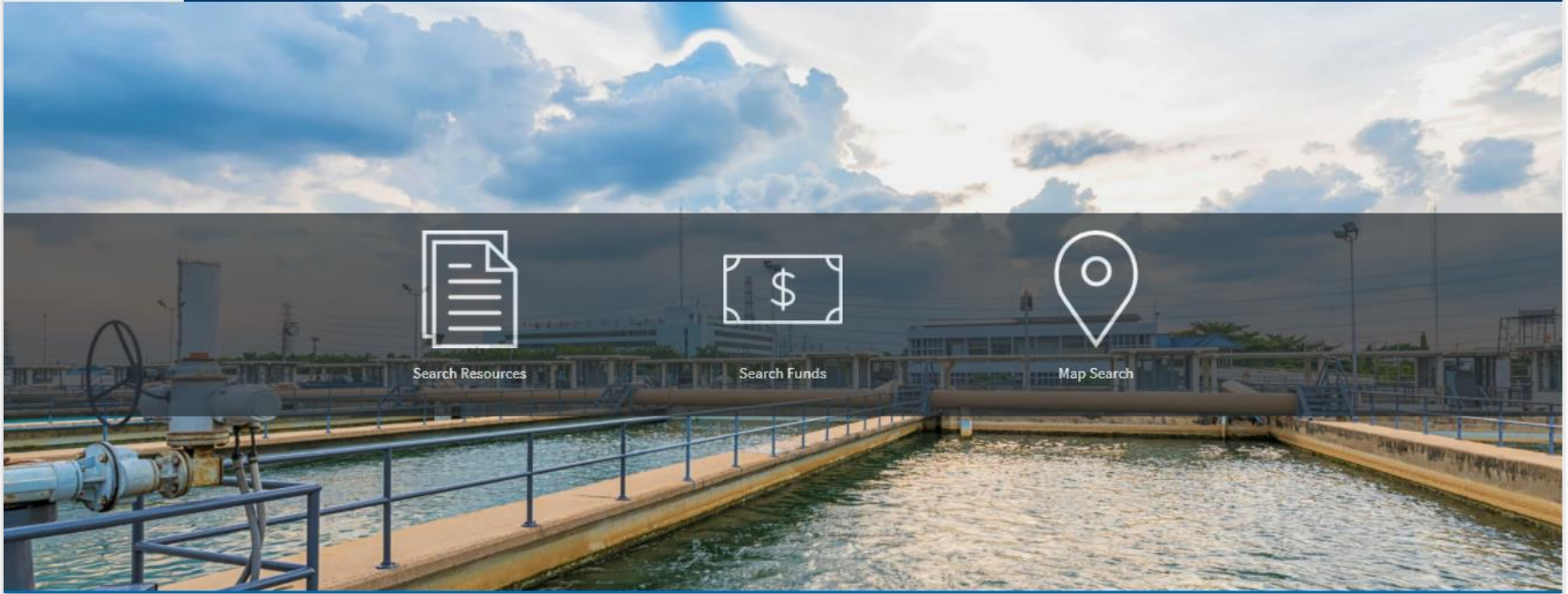
Note: Some states or territories may have additional resources listed below the map.

Click on the map below to view funding sources for each state:





Water Finance Clearinghouse



Drinking Water State Revolving Fund

- Funded by U.S. Environmental Protection Agency and administered by states
- Interest rates from 0 percent to market rate
- Terms up to 30 years



Water Infrastructure Finance and Innovation Act (WIFIA)

- Loans made by the U.S. Environmental Protection Agency
- For utilities that serve more than 25,000 people, the minimum project size for a WIFIA loan is \$20 million
- For utilities that serve 25,000 people and fewer, the minimum project size is \$5 million
- Can only cover 49 percent of the total project cost



Water and Waste Disposal Loan and Grant



- Administered by U.S. Department of Agriculture
- For utilities that serve 10,000 or fewer people
- Interest rates market rate or below
- Loan terms up to 40 years



Community Development Block Grant



- Administered by the U.S. Department of Housing and Urban Development
- Larger “entitlement” communities receive an annual block grant based on a formula
- Smaller communities can apply to the state for grants



Poll Question

Did you learn something new and useful on today's webinar?

- Yes
- No



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