Closing America's Wastewater Access Gap: A Technical Assistance Community Initiative

2023 Onsite Wastewater Mega-Conference

EPA United States Environmental Protection Agency

USDA Rural Development
U.S. DEPARTMENT OF AGRICULTURE

Agenda

1. Initiative Overview
2. Pilot Community Examples
3. Discussion on Challenges/ Lessons Learned
4. Useful Resources
5. Questions/Panel Discussion

Disclosures

The comments and opinions made in this presentation are those of the presenter and not of NOWRA or the Mega-Conference sponsors.

Scenarios and best practices identified in this talk may not be applicable to each community, technical assistance is an individualized practice.

Panel Members

1. Zachary Lowenstein, Program Manager, U.S. EPA
2. Michael Mezzacapo, Physical Scientist, U.S. EPA
3. Dolores Maratita, Community Programs Specialists, USDA-RD
4. Steven Berkowitz, PE, Technical Assistance Provider, SERCAP
5. Megan Boland, PhD, Senior Research Analyst, MDB, Inc.
6. Omid Barr, Environmental Research Specialist, MDB, Inc.

Initiative Overview

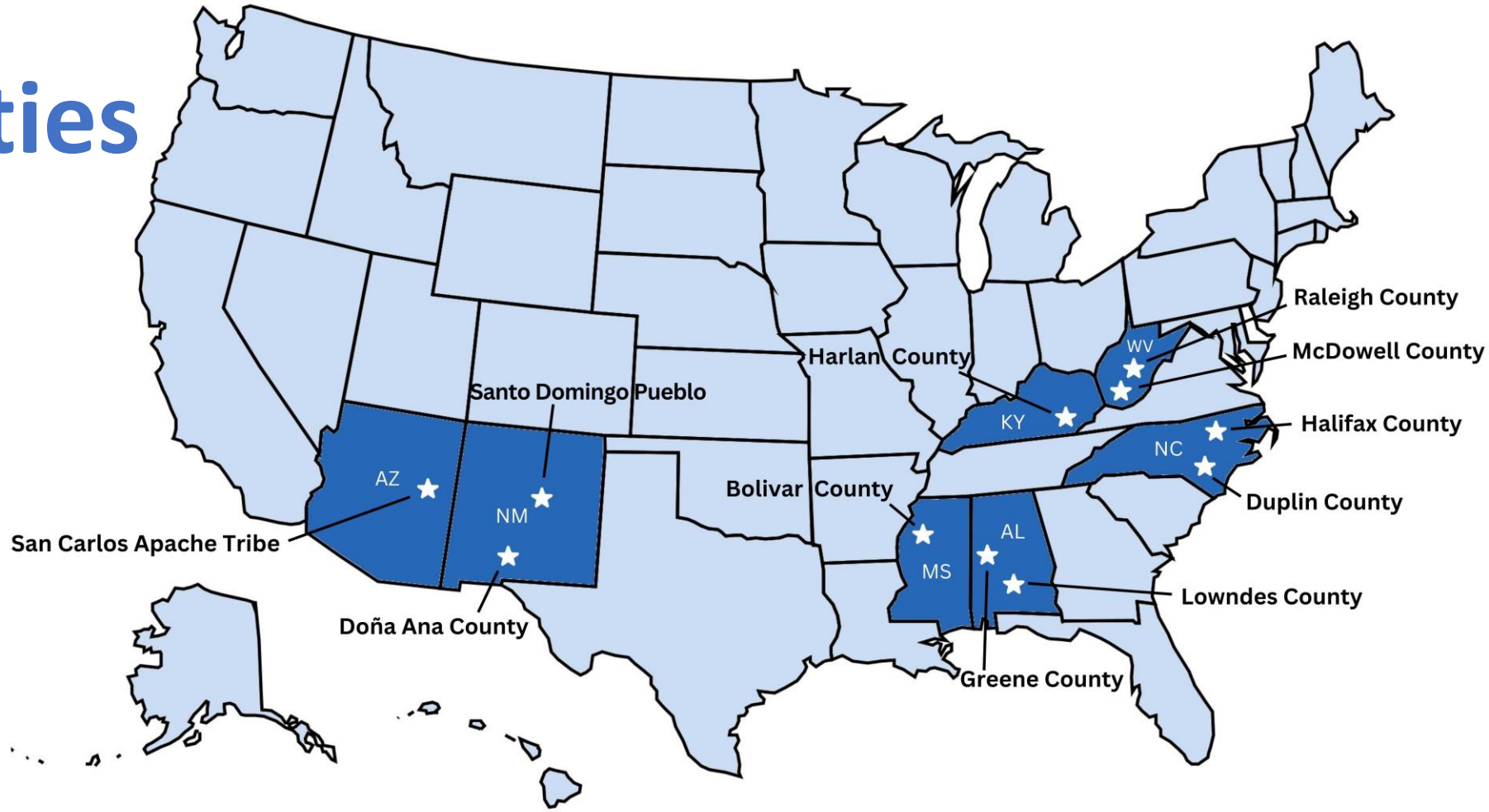
- EPA and USDA, in collaboration with communities, leverage technical assistance resources to help underserved rural areas and tribes pursue funding to address their wastewater challenges.

  → ~$2 billion in grant and loan program funding from USDA-RD (provided via annual appropriations)

  → ~$11.7 billion via Clean Water State Revolving Funds (49% available as grants or principal forgiveness)

The Bipartisan Infrastructure Law (BIL) presents historic opportunity to invest in communities

11 Pilot Communities & Tribal Nations



Why is this important?

- Many rural communities and tribes struggle to provide adequate sanitation services to their residents and operate and maintain new infrastructure without support

- An estimated 2.2 million people in the U.S. lack basic running water and indoor plumbing in their homes

What is unique about this pilot?

- Federal government has direct role with communities/tribes and partnering with Technical Assistance (TA) providers
- Pilot aims to identify and address persistent barriers to assisting underserved communities and tribes
- Brings together many partners/experts aligned on a single goal
- Builds long-term capacity and roadmaps for future challenges

Deliverables

1. Community Wastewater Assessment

2. Community Solutions Plan

3. Preparation for Funding Application *

III. Built Environment Assessment **Purpose**: Briefly identify and summarize existing infrastructure, public health issues, housing issues, and economic development issues that might impact the development of new future wastewater infrastructure. This includes investigating the extent of available information and in what format it exists.		
Existing utilities	**What is the location of existing sewer and water utilities serving properties in the area?** Distance and capacities of existing sewer facilities to expand collection systems and wastewater treatment facility treatment and discharge; considerations for Responsible Management Entity (RME) role. Show areas covered by wastewater treatment facility collection systems.	☐
	Are there any existing shared or cluster systems? If so, determine condition and ability to expand.	☐
	What is the location and number of existing onsite wastewater treatment systems? If not known, propose means to collect this information.	☐
	What inventory of onsite wastewater treatment system types are typical for area, age, and status for meeting current minimum standards? Contact the local health department to collect permit information and ask general questions about the different types of systems present within the community (i.e., are they all in similar condition and state of compliance).	☐
	Any other utilities serving this area, such as stormwater or waste disposal sites, that may have impact on the project? Percent impervious surfaces and known stormwater problems.	☐
	What are the local drinking water or surface water protection areas that may impact potential cluster system sites? E.g., source water protection areas can impact cluster system site potentials.	☐
	Where is the nearest public water system? Is the area of interest served by one or more community public water systems?	☐
	Are there any existing drinking water wells? Are the properties served by individual drinking water wells? If so, what are the well types: bedrock wells, gravel wells and springs. Does the well have a safety seal? Are there any private well data or studies? Note proximity (estimated distance) of drinking water wells to onsite wastewater systems.	☐
Public health issues	**Are there known failed onsite wastewater treatment systems, public health diseases, or health impacts related to inadequate onsite wastewater treatment systems?** This can include failure to accept wastewater into soil treatment area, structural deficiencies (inadequate construction materials or evidence of system collapse), frequent need for servicing, or surface wastewater breakout.	☐
	Has a formal Septic Survey inspection been conducted in the area?	☐
	Are there any existing environmental and public health data that can be utilized in support of the project?	☐

Example page from Community Wastewater Assessment template

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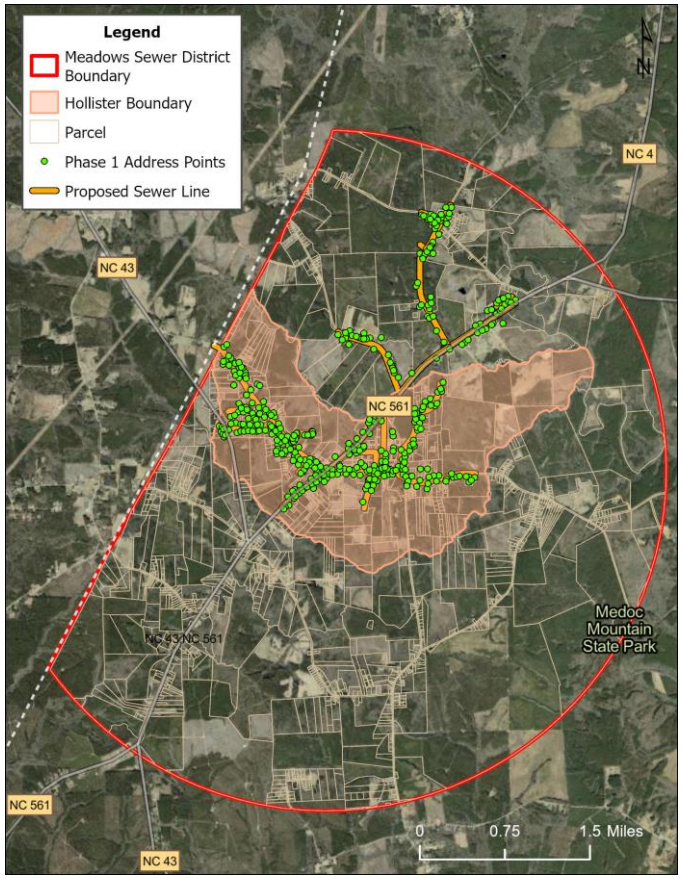
* Depending on community timeline, needs, and funding schedules.

Pilot Example: Halifax County, Meadows Sewer District, NC

- Meadows Sewer District includes the Hollister Community and the Haliwa-Saponi Tribe
- Many onsite (septic) systems failing and introducing gray and black water into environment
- Proposing phased approach:
  - Phase 1 connects to community cluster system or nearby municipal sewer
  - Address points outside of Phase 1 receive onsite repairs and upgrades until later Phases incorporated

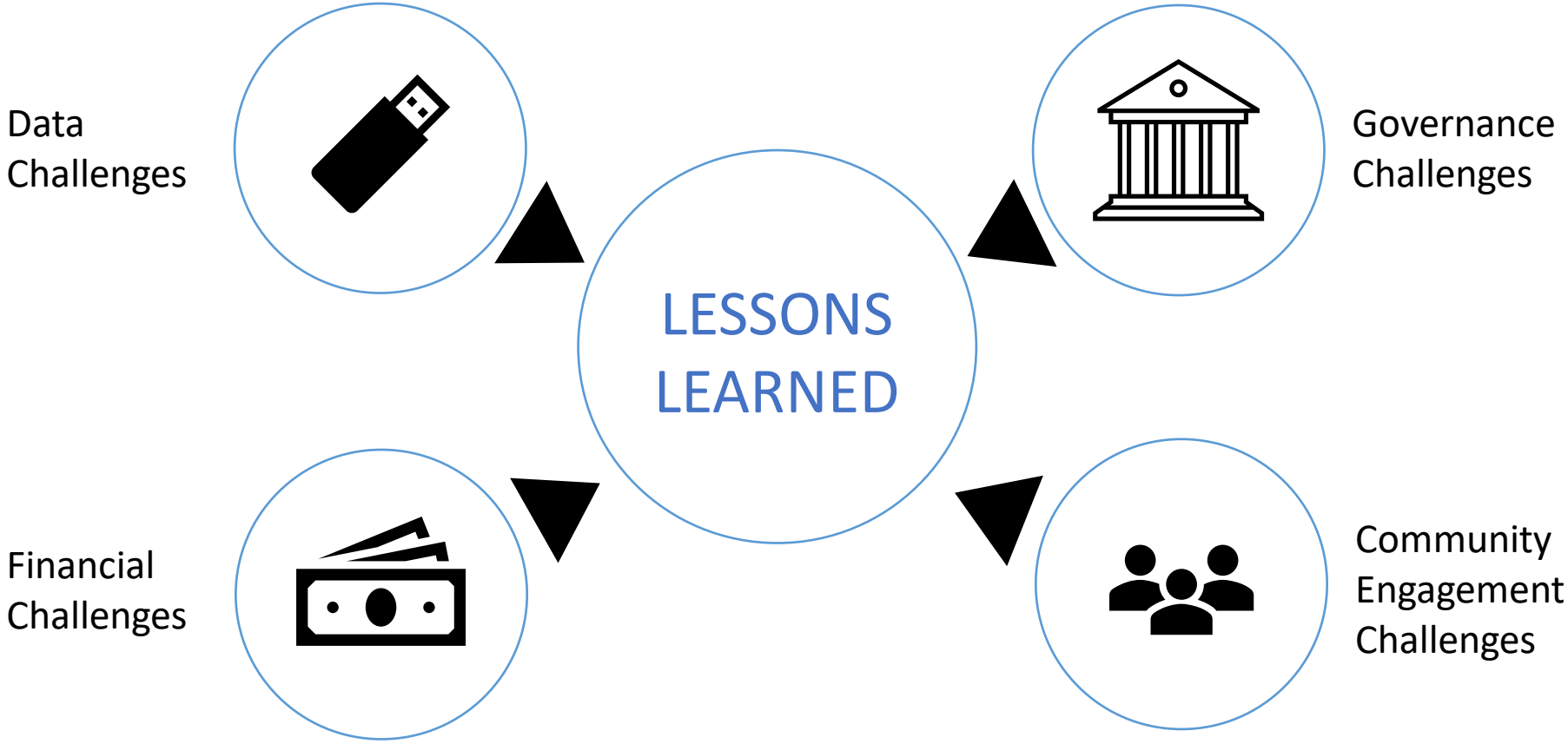


Pilot Example: San Carlos Apache Tribe, AZ

- 2019- Tribal Department of Environmental Protection conducted a septic survey
- Many onsite (septic) systems have maintenance or function problems
- Challenges include O&M costs, capital improvement funding, Tribal utility's financial sustainability function problems
- Solutions include:
  - Continue central sewer system expansion
  - Fix and repair/replace failing onsite systems
  - Enhance management and oversight of all systems
  - Improved education for residents about septic system maintenance and care

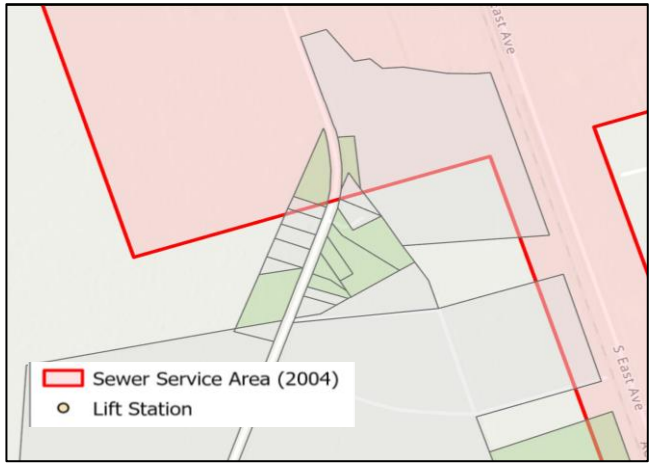
San Carlos Apache Tribe Department of Environmental Protection

Challenges When Working with Small, Rural, Disadvantaged Communities

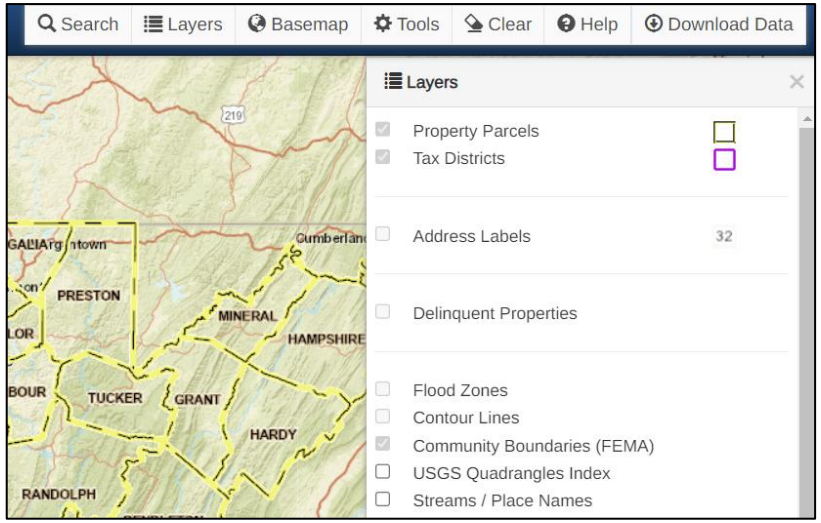


1. Data Challenges

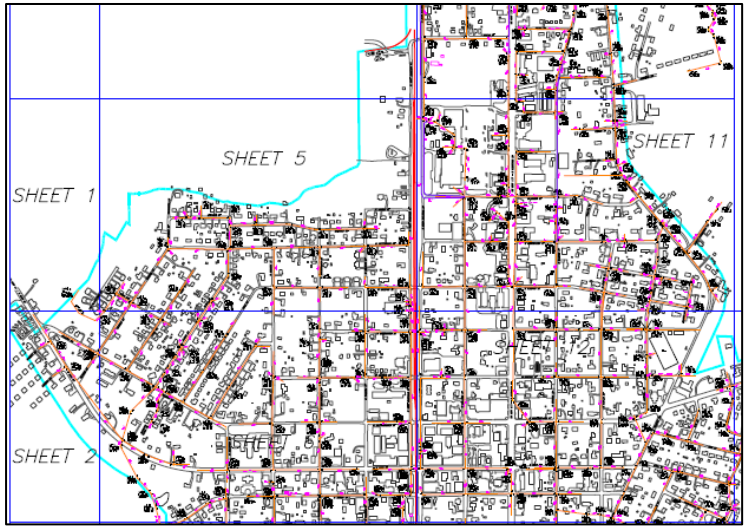
- Asset inventory
- Digital formats
- Age
- Privacy
- Sensitivity of Tribal Data



Out of date data



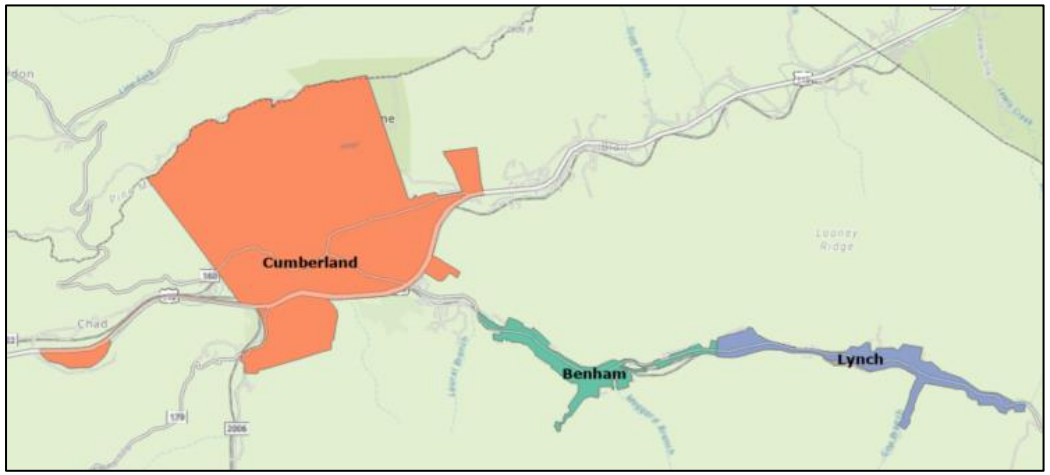
Availability of public data



Non-digitized data

2. Governance Challenges

- Interlocal agreements
- Hyperlocal/regional dynamics
- Costs/risk
- Staffing
- Unincorporated areas



Navigating Local Politics: Tri-Cities Area of Harlan County, KY

OUT OF TOWN SEWER CUSTOMERS ORDINANCE

ANY RESIDENT LIVING OUT OF THE TEACHEY TOWN LIMITS WHO WISH TO TAP INTO TOWN SEWER MUST AGREE TO THE FOLLOWING:

1. BE ANNEXED INTO THE TOWN LIMITS AND BE RESPONSIBLE FOR ALL COST OF ANNEXATION
2. BE HOOKED TO TOWN OR COUNTY WATER
3. BE RESPONSIBLE FOR ALL COST OF CONNECTING TO THE TOWN SEWER LINE AND BE APPROVED BY THE TOWN'S ENGINEER

THE ORDINANCE WAS ADOPTED ON MARCH 8, 2010

Lois K McCartney
LOIS K. MCCARTNEY
MAYOR

ATTEST:
Kaye L Foster
KAYE L. FOSTER
TOWN ADMINISTRATOR

Unincorporated areas: Sewer Annexation Ordinance, Teachey, NC

3. Financial Challenges

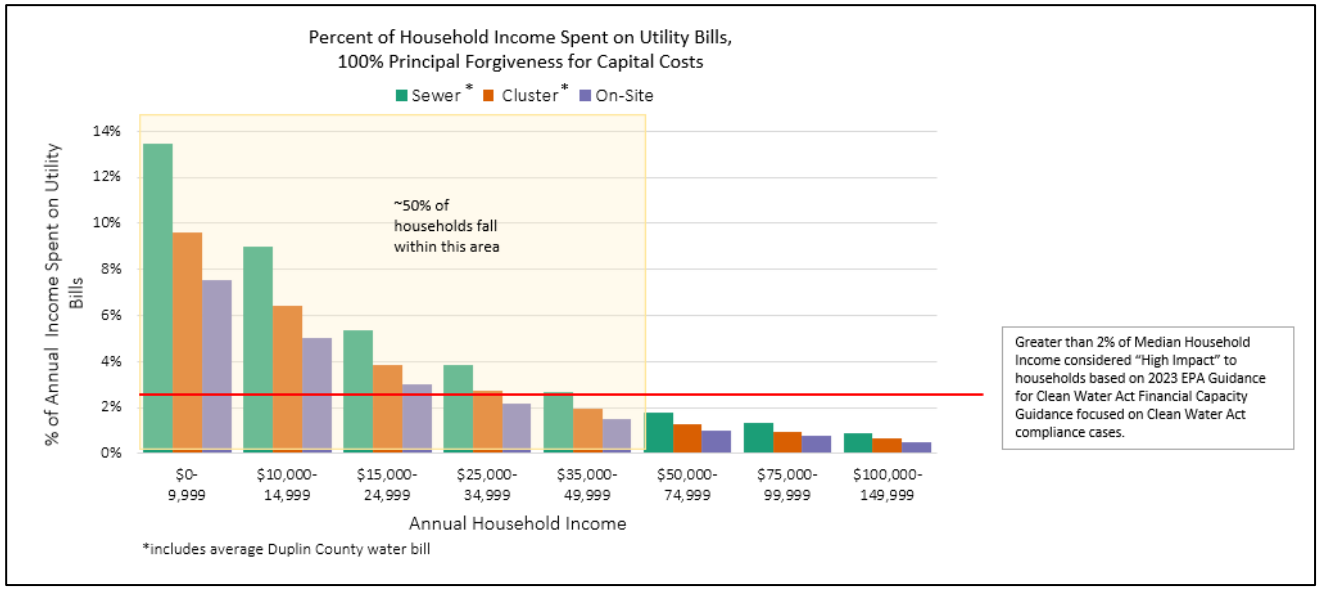
- Funding Program Barriers
- Application requirements
- Appropriate funding entity

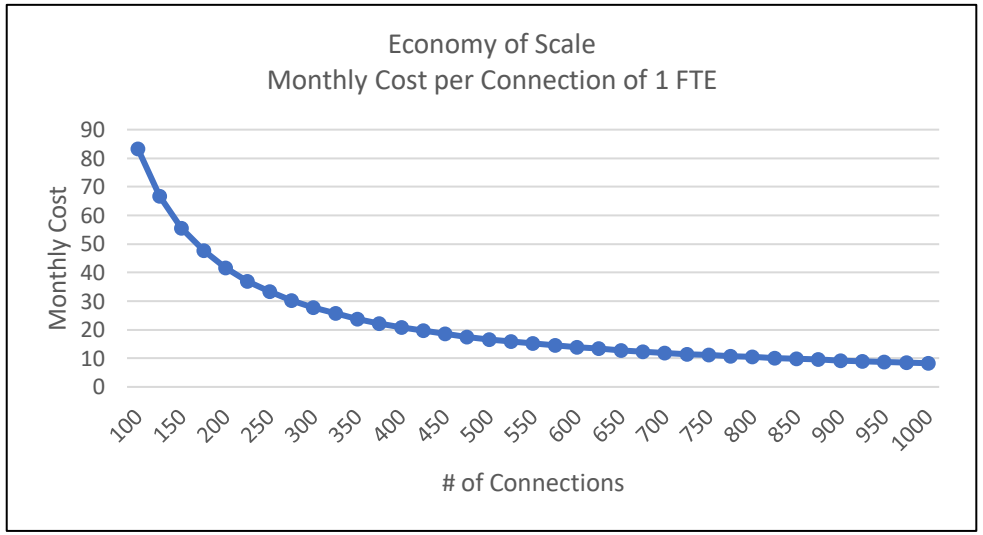
Sewage pumping and other public health abatement measures are ineligible expenses under the MS CWSRF program

Strict documentation and income level requirements for USDA financing to homeowners

3. Financial Challenges

- Missing financial information
- Procurement procedures
- Willing/legal applicants
- Affordability
- Economies of scale





4. Community Engagement Challenges

- Building trust in expedited timeline
  - Performing enough engagement
- Communicating pilot objectives to community leaders
- Ensuring community members feel included and empowered to make decisions
- Communicating cost information to customers
- Distilling complex technologies/information to various audiences

Kickoff Meeting in San Carlos, AZ

Community Meeting in Mound Bayou, MS

4. Community Engagement Challenges

- General lack of knowledge around on-site system operation
  - Homeowner education
  - Operator and municipal education
- Stigma surrounding onsite systems and preferences for centralized sewer

Site visit in Duplin County, NC

Strategies and Best Practices

Collaborative Approach

- Identify specialties among team members
- Leverage TA providers working in the communities

Build Relationships/Trust

- Work with trusted community leaders to keep community members informed
- Consistently get feedback from the community

Adaptability

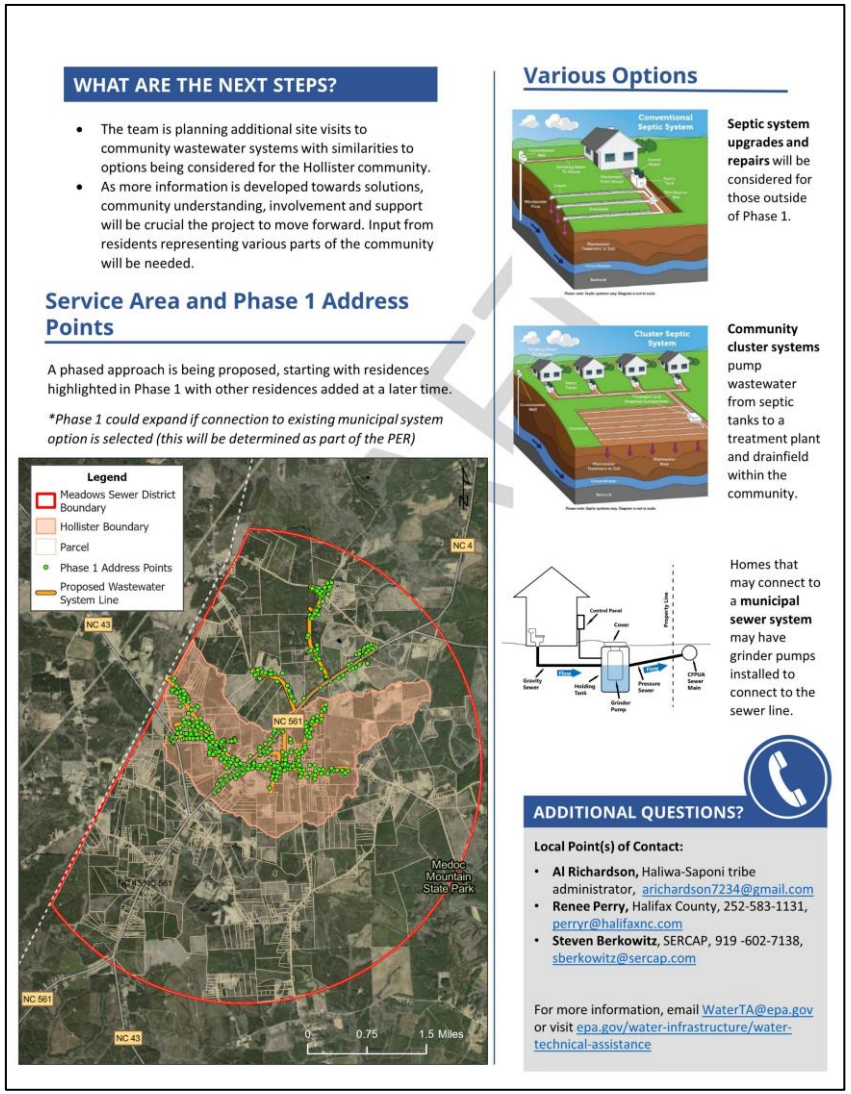
- React to many changes in direction and focus

Dedication

- These projects require prioritization and constant work

Homeowner Education Materials

- Flyers and one-pagers to update community on progress and explain various wastewater options.
- For example, Southwest EFC is working with:
  - San Carlos Apache Tribe to design tailored educational materials.
  - Santo Domingo Pueblo to better understand how and when material should be presented to homeowners given the Keres language of the Pueblo is ancient and non-written



WHAT ARE THE NEXT STEPS?

- The team is planning additional site visits to community wastewater systems with similarities to options being considered for the Hollister community.
- As more information is developed towards solutions, community understanding, involvement and support will be crucial the project to move forward. Input from residents representing various parts of the community will be needed.

Service Area and Phase 1 Address Points

A phased approach is being proposed, starting with residences highlighted in Phase 1 with other residences added at a later time.

**Phase 1 could expand if connection to existing municipal system option is selected (this will be determined as part of the PER)*

Legend
Meadows Sewer District Boundary
Hollister Boundary
Parcel
Phase 1 Address Points
Proposed Wastewater System Line

NC 4
NC 43
NC 561
Medoc Mountain State Park
0 0.75 1.5 Miles

Various Options

Conventional Septic System

Septic system upgrades and repairs will be considered for those outside of Phase 1.

Cluster Septic System

Community cluster systems pump wastewater from septic tanks to a treatment plant and drainfield within the community.

Homes that may connect to a **municipal sewer system** may have grinder pumps installed to connect to the sewer line.

ADDITIONAL QUESTIONS?

Local Point(s) of Contact:

- **Al Richardson,** Haliwa-Saponi tribe administrator, arichardson7234@gmail.com
- **Renee Perry,** Halifax County, 252-583-1131, perryr@halifaxnc.com
- **Steven Berkowitz,** SERCAP, 919 -602-7138, sberkowitz@sercap.com

For more information, email WaterTA@epa.gov or visit epa.gov/water-infrastructure/water-technical-assistance

Community update flyer for Halifax, NC

Technical Assistance Resources

- Rate analysis
- Ordinance development
- Educational materials
- Community planning
- Capacity building
- Technology evaluations/project design

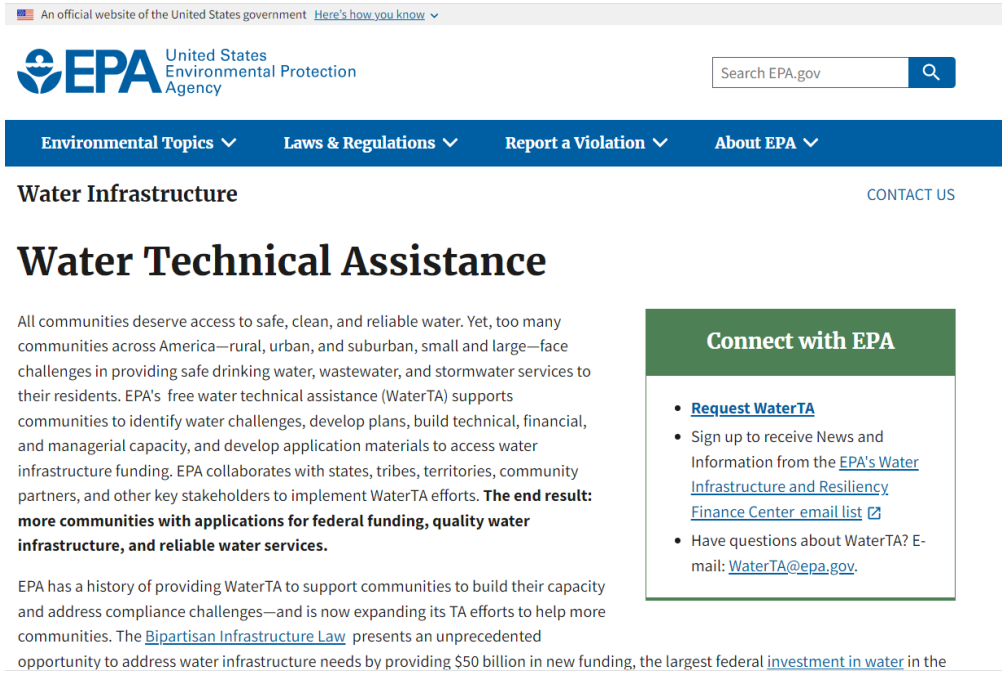


Photo: EPA Water Technical Assistance website

https://www.epa.gov/water-infrastructure/forms/water-technical-assistance-request-form

Thank You!

This initiative would not be possible without the continued support of the 11 communities, TA providers, local and state agencies.