



Welcoming Remarks Larry Hartig

Commissioner

Alaska Department of Environmental Conservation

WIHAH Sponsors



Alaska Department of Environmental Conservation: Helping to build and maintain safe water and sewer services in remote arctic communities

- Village Safe Water Program
- Operations Assistance Program, including Operator Certification and Remote Maintenance Workers
- Drinking Water Program
- Wastewater Discharge Authorization Program



Progress in Alaska Village Sanitation



- 30 years ago, fewer than 25% of rural Alaska households had running water and flush toilets.
- In 1996, 55% of rural homes had piped or covered haul service.
- Today, approximately 85% of rural homes have indoor plumbing (over 90% if regional hubs are included in the calculation).
- Almost \$2.5 billion invested to date.

However...



- 3,300 homes in Alaska are still without running water and sewer service, primarily in 30 villages without centralized systems.
- These villages are the most challenging to serve. Many are small and prone to flooding, and may lack good water sources and gravel for construction.
- Estimated capital cost of serving these villages ranges from \$15 million - \$65 million (between \$400,000 - \$2 million per home)
- Many communities cannot afford the high operation cost associated with piped or haul systems, which can exceed \$200 per month per household (over 5% of median household income)

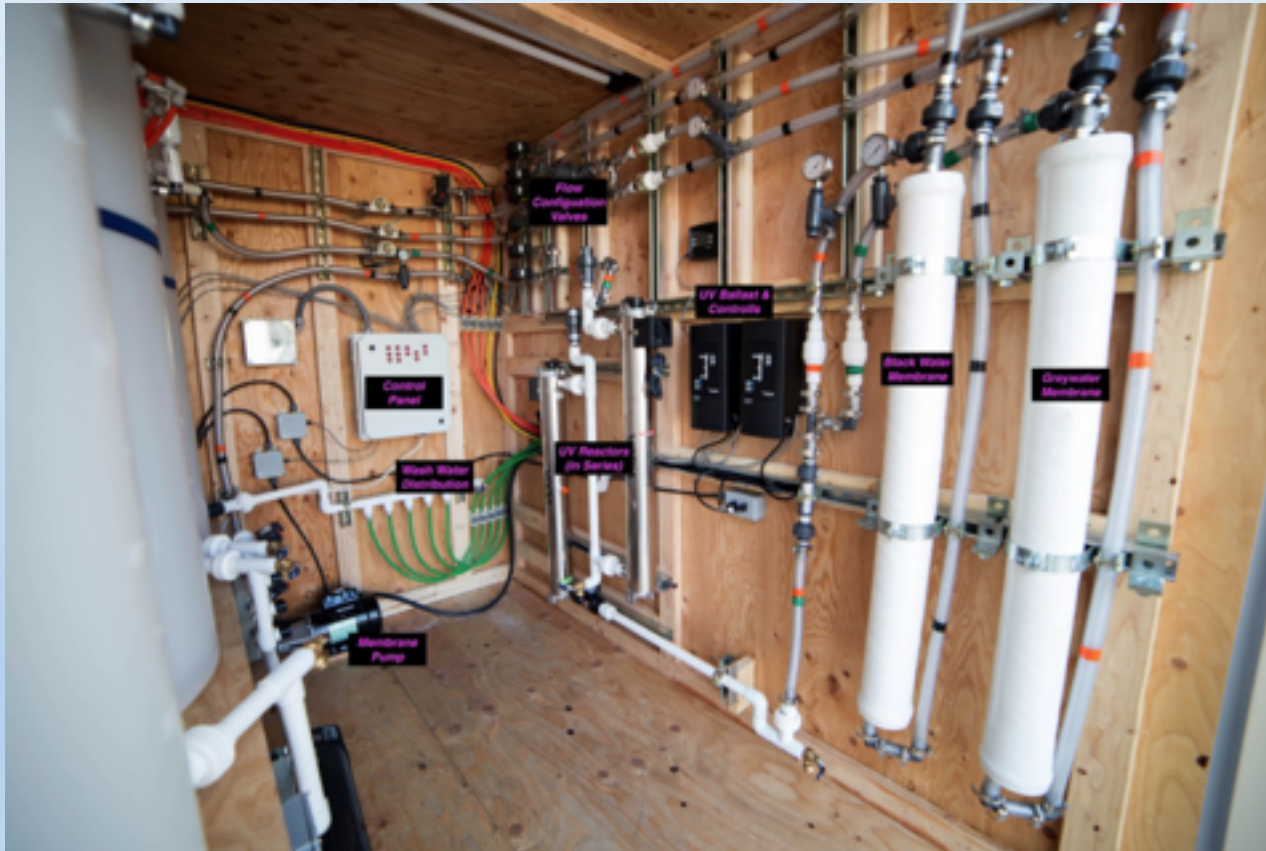
The Alaska Water and Sewer Challenge

- State-funded research and development project, started in 2013
- Projected to last 5 - 7 years
- Focus on “decentralized” approaches - household based systems that utilize water re-use technologies
- Goal is to significantly reduce the capital and operating costs of in-home running water and sewer in rural Alaska homes



Overview of Household Pilot Systems

Prototypes will be showcased in the Denali Room
Monday and Tuesday afternoons (session is repeated)



Alaska Native Tribal Health Consortium:

- Kivalina system

Alaska Water & Sewer Challenge:

- University of Alaska Anchorage
- DOWL Engineering
- Summit Consulting

Country Comparisons

Tuesday Opening Session



- Presentations include Alaska, Russia, Greenland, and Canada, including Yukon, Nunavut and Northwest Territories.
- Information about water and sewer service levels, costs, regulations, and current challenges

Conference Themes

All speaker tracks repeated

- Impact of household water and sanitation on Arctic human health
- Climate change impacts on water and sanitation infrastructure in the Arctic
- Innovative engineering approaches to increase access to water of adequate quality and quantity, including water reuse
- Methods of ownership, operations and maintenance to maximize useful life of water and sewer systems in the Arctic
- Regulations and policies affecting access to and the cost of providing adequate quantities of water in the home



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WATER INNOVATIONS FOR HEALTHY

===== ARCTIC HOMES =====