

Meeting Notes

Yukon-Kuskokwim Comprehensive Economic Development Strategy (CEDS)

2022 Q1 Housing + Water-Sewer Infrastructure Work Group Meeting March 31, 2022 | 10am-noon

Agenda Item 1. Welcome + Introductions

Attendees:

Andrea Gusty	The Kuskokwim Corporation (TKC)	andrea.gusty@kuskokwim.com
Bessie Lea Weston	Lower Kuskokwim School District (LKSD)	Bessie_weston@lksd.org
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Eric Evon	Association of Village Council Presidents (AVCP), Community Development Division	eevon1@avcp.org
Florence Kargi	Coastal Villages Region Fund (CVRF)	Florence_N@coastalvillages.org
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Agenda Item 2. Purpose of Today's Meeting

- Measures of Success – see supplemental materials

Agenda Items 3-4. Measures of Success and Action Planning

STRATEGY 8: Construct 3,000 housing units in the Y-K region and increase residential access to clean water through piped or hauled water systems. Increase water access to a minimum of 20 gallons per person per day.

Priority Action 8-A.

PRIORITY ACTIONS	LEAD/PARTNERS
8-A. Implement water and sanitation improvements in Y-K communities; focus on piped water-sewer systems where feasible, and decentralized systems (e.g., well and septic, onsite alternatives) where piped systems are not feasible. With the passage of the Infrastructure Bill, the funding may now be available to serve Y-K	Lead: ANTHC Partners: YKHC, Alaska Village Safe Water Program, AVCP Community Development

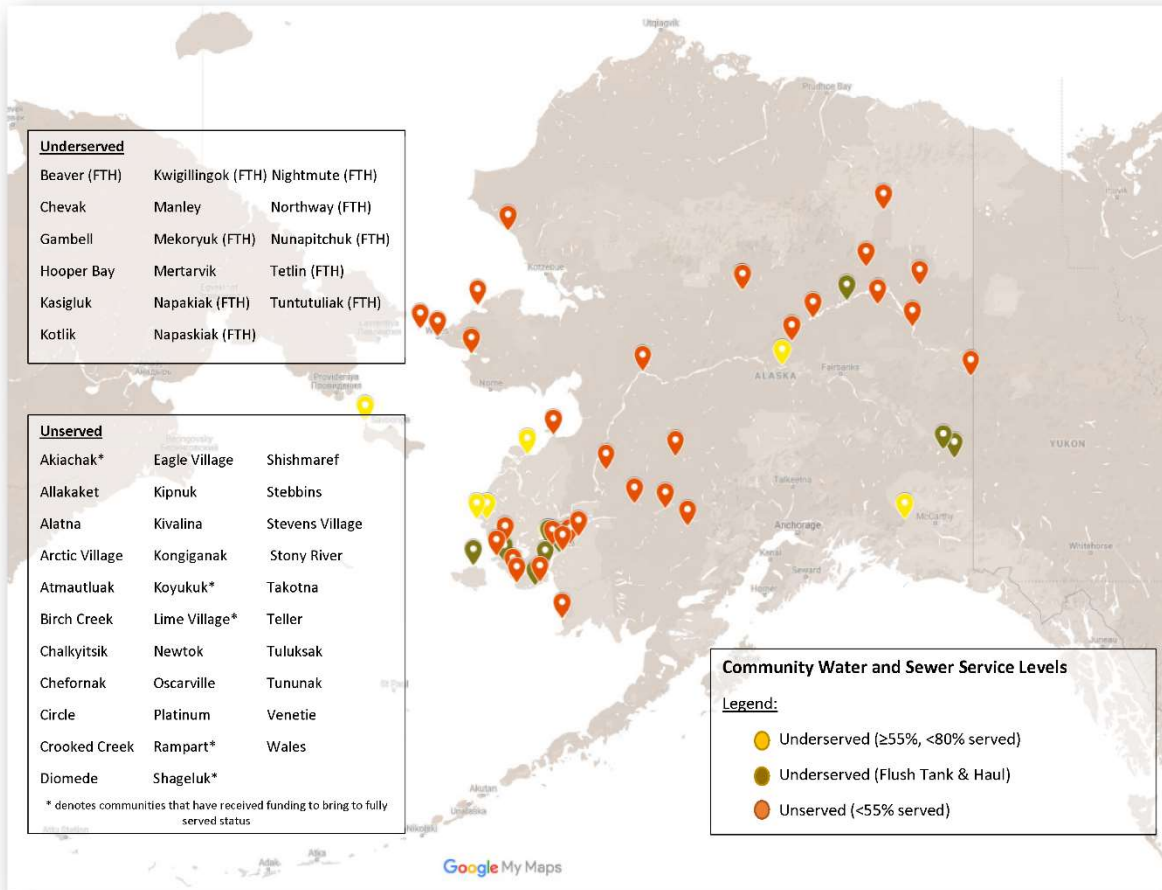
PRIORITY ACTIONS	LEAD/PARTNERS
<p>communities with piped water and sewer systems if they choose to take on the costs. Homes and communities may need upgrades before installing piped systems, such as stabilizing the building foundation to support the weight of the pipes, installing a reliable heat source in the home, ensuring reliable electricity to power the system, and improvements to bathrooms to support piped sinks, showers/bathtubs, and flush toilets. Onsite systems may include well and septic, as well as alternatives in development by ANTHC and the State of Alaska Village Safe Water Program. The ANTHC PASS has been successfully deployed in Y-K communities with variations that can be customized to individual household needs. Village Safe Water’s Alaska Simplett Pilot system has been installed in test homes and community buildings in Kongiganak and Arctic Village. After a three-year wait for EPA approval to test with human subjects, Village Safe Water’s onsite water reuse prototype will be tested this winter on the UAA campus with a professor and students.</p>	

- The group discussed an expanding action 8-A to include and focus more on piped systems to Y-K communities with the recent passage of the Infrastructure Bill (IIJJ), which specifically says “provide piped water and sewer to all communities”.
 - The regional priority is now pursuing piped systems for all communities. Some communities may decide not to pursue piped systems because of the high operating costs, so developing viable alternatives could still be helpful. YKHC prioritizes well and septic as an alternative where feasible.
 - Hauled systems are no longer supported by YKHC or ANTHC. New research suggests that hauled water systems do not maximize public health outcomes. ANTHC’s efforts are now going toward overcoming the technical challenges for piped systems and working closely with communities to make sure they are on board with the costs to operate piped water and sewer.
 - Research indicates that health outcomes in communities with flush tank and haul are nowhere near what they are in piped communities. People living with flush tank and haul drastically conserve water consumption close to the levels of communities with no running water and honey buckets. Flush tank and haul is preferred to honey buckets because of the potential to eliminate contact with human waste. However, most hospitalizations in the region are from ‘water wash’ diseases, upper respiratory infections that could be prevented with access to enough water to wash hands frequently and clean surfaces. Many skin infections are from not having enough water routinely available to take showers and wash clothes. YKHC focuses more heavily on having a sufficient quantity of water rather than quality of water to maximize health outcomes. Research has shown that public health outcomes are maximized when water access is 20 gallons per person per day or higher.

- Research also shows that the financial/economic impacts of not having enough water are high. These impacts are based on healthcare costs, avoided loss of work and even death. The YKHC region sees a high rate of water wash fatalities relative to the Lower 48.
- Decentralized systems were implemented because of concerns that centralized systems were unaffordable (both in terms of capital and operating costs), and there was not much good data to support a clear decision about the type of system. Now we know that we want to provide at least 20 gallons of water per person per day to maximize health outcomes. There has never been enough funding to pipe all communities. Alaska has been funded at about \$100 million for water and sewer construction, while the unmet need grew by that much or more every year. The Infrastructure Bill provides \$3.5 billion to meet sanitation needs in American Indian and Alaska Native communities. Of that, \$2 billion is for projects that are considered unaffordable. YKHC is looking to pipe all homes. There are some communities where it might make more sense to put in well and septic, but for most unserved communities, we are looking to install piped water-sewer to the entire community.
- ANTHC will soon put out an RFP to do Preliminary Engineering Reports (PERs) for the first set of communities. Hopefully, over the next few years, they will put out plans to serve all homes.
- ANTHC is taking the lead for unserved communities, but a lot of communities are also Village Safe Water (VSW) communities, so both agencies will be involved.
- ANTHC and the State of Alaska have maps and lists of communities by the following status for water and sewer service:
 - **Served** is a community with a piped system.
 - **Underserved** can be either a ("flush tank and haul" or FTH) community *or* a community with a piped system, where 55-80 percent of the homes are connected to it.
 - **Unserved** is "self-haul" (honey buckets/no piped system exists) *or* a community with a piped system, where less than 55 percent of the homes are connected to it.
 - Underserved and unserved communities may include communities in which we are still working on getting the whole village connected to a piped system.
 - On the map:
 - **Green** is flush tank and haul, also noted in the table with "(FTH)".
 - **Yellow** is underserved because the communities have piped water and sewer but at least 20 percent of the homes aren't connected to piped water and sewer.

- **Orange** is unserved because it is self-haul, or 55 percent or fewer homes are served.

Unserved and Underserved Communities Map (2020)



- Homes and communities may need upgrades before installing piped systems, such as stabilizing the building foundation to support the weight of the pipes, installing a reliable heat source in the home, ensuring reliable electricity to power the system, and improvements to bathrooms to support piped sinks, showers/bathtubs, and flush toilets. If the building foundation is not stabilized before hooking the home up to the piped system, it can quickly lead to backed-up sewer, which is worse than no sewer.
 - The Infrastructure Bill (IIJJ) requires the homes to meet certain conditions to be connected to piped water and sewer. There is nothing in the IIJJ That would fund the home improvements at this time. This is a good opportunity to partner with organizations that provide housing or housing improvements. YKHC and ANTHC have partnered on projects like installing Toyo stoves, which require installing thermostatically-controlled heat in homes that used to be heated by wood stove only. Different homes need different levels of improvement.

- The group discussed an example in Crooked Creek. Over half of the homes in the community are not physically ready to receive piped water and sewer. Upgrades include everything from windows to building a completely new addition to the home to accommodate a bathroom (because it must be its own room), installing reliable electricity, installing a reliable heat source (e.g., the Toyo stoves). The community is now tackling bigger infrastructure problems, like its entire power structure. The power line in one part of the village broke six or seven years ago; nobody was able to do anything about it before this. If this money comes in for water-sewer projects, it won't do much good if those homes aren't ready. It would help to have a roadmap to address that huge problem as well. There does not appear to be as much funding out there to address these upgrades needed to accommodate the water and sanitation improvements.
- TKC is currently working with ANTHC, putting up money to repair houses. Is there an opportunity in the Infrastructure Bill to improve the houses to be physically ready to support piped water and sewer systems?
 - The Infrastructure Bill specifically prohibits funding some of those upgrades needed for the homes to be ready to accept the piped systems. Water sewer funding has always been clear about that. All planning documents for water/sewer include a table that explicitly list which upgrades are needed to help homeowners get ready. We all have to work together to find the money for it.
 - ANTHC is working with the Denali Commission, YKHC, TKC, AVCP RHA, and similar organizations to identify and secure funding to support housing improvements needed to accept the new infrastructure, such as the BIA Housing Improvement Program, HUD (through AVCP RHA) and/or similar funding sources.
 - It will help to get in touch with local governments to prepare their community members.
- From the perspective of someone who grew up in a house without running water, it's difficult to open up and talk about your house with somebody who has never had a honey bucket in their home. You can tell a difference from the people who are in the home, who have a honey bucket. Then you have people from outside who come, and it's hard to open up and say, "Yeah, I have a honey bucket; it's in my house." You don't want to talk about it, especially a younger family. There's a stigma. You don't want to talk about that bucket of human feces in your house; it's embarrassing. These might be reasons why people are not opening up to talk about these systems for collecting data.
- Why would communities opt away from piped systems, since that is the best system that can be used?

- As a part of this analysis, YKHC will be working with communities and engineers to assess on a community-by-community basis what the estimated operations and maintenance fees will be, and then which commercial payers might be available, and see if that is something the community believes is sustainable. There are discussions about how we can make these systems more sustainable and as energy efficient as possible as they are put in place over the coming five to eight years. We are asking whether any kind of subsidy could be available to make these more affordable for the end users and sustainable for the utilities to operate in the long term. In some places, it may make more sense to do a decentralized system (e.g., well and septic), or a combination (e.g., a community well with community sewer, piped water with individual wastewater treatment system at the home). These are community-specific decisions that will be made with the overall impact on health as well as affordability and sustainability. YKHC will **not** be using the State’s definition of what is considered an “affordable” system right now. Based on that definition of ‘affordable’ there is not a single existing piped system in the Y-K Delta that would ever have been constructed. We’re going to have to work individually with each community, and the engineers will have to work with them to find out if it’s feasible to pipe these communities. Most Y-K Delta communities are large enough to sustain a piped system with services in the homes. Preliminary work has already been done. For the small, very spread-out Interior communities, piped (centralized) systems might not make as much sense.
- Workforce development – maintenance – community willingness to pay. Having enough people in each community who can operate the water/sewer systems. Homeowner maintenance. People are already refusing to pay in some communities with new system(s). The form that communities fill out to keep their RUBA score passing - is not enough. It is not easy.
 - YKHC wants to start now with conversations about how we can improve the technical assistance programs that exist to help communities operate and maintain these systems. The ones that are available may need to be expanded. New ones may need to be created. There are good models to work from, and ways to adapt the models to the needs of the communities. Certainly, this is something to focus on as we add thousands of homes to piped systems over the next few years. Willingness to pay is important to consider. Water and wastewater/sanitation is the only utility in rural Alaska that is not subsidized to the user; all others (electricity, cell phone, internet, etc.) are subsidized, and this is a utility that has a huge impact on health. The State and/or Federal Government should step up and come up with a mechanism to subsidize water and sanitation services (at least for low-income families) to lower their utility rate so they have a service that can improve their health. Conversations are starting to take place about that; hopefully it will get some traction.

- Physical addresses will be needed for many of these projects. Many people living in communities don't use physical addresses and don't even know about how to get physical addresses.
 - Coastal Villages Region Fund (CVRF) has been working on an addressing database for planning and housing development, currently in Tooksook Bay and Tununak.
 - The school districts should have legal descriptions for each home; these are needed for Federal Impact Aid.
- The group discussed a desire to revise the criteria for the RUBA scores. The criteria tribes must submit to RUBA is not relevant to the communities that Coastal Villages serves. They are still on flush and haul systems; they don't have piped water systems. The RUBA criteria is based on the ideas of someone who may never have stepped into the village and does not know how it works.
 - YKHC is hoping to replace all flush tank and haul (FTH) systems with piped systems for communities that want that over the next few years (funded by the IIJJ). As piped systems come online, the RUBA criteria will be applicable to those communities.
 - Regarding the RUBA best practices standards, Representative Zulkosky partnered with ANHB, ANTHC, and YKHC to introduce a bill that would waive the RUBA best practice score requirements (needed to get State matching funds for federal dollars) for *unserved* communities to get funding.

Priority Action 8-B.

PRIORITY ACTIONS	LEAD/PARTNERS
<p>8-B. Convene a collaborator meeting to discuss a partnership funding model that better leverages funds to construct homes with appropriate water-sewer systems. The Coastal Villages Region Fund (CVRF) has a tiny house program for residents in its member communities including down payment assistance leveraging different funding sources. ONC is working with NeighborWorks and Cook Inlet Housing Authority to provide market value housing to generate program income and subsidize lower income housing needs. TKC partnered with CCHRC to implement a USFS Wood Innovations grant that is funding the development of new design(s) for homes in the Middle Kuskokwim area using traditional and modern technologies and local timber resources.</p>	<p>Lead: AVCP RHA, AVCP Partners: Air National Guard (Innovative Readiness Program), BIA, U.S. Department of Housing and Urban Development, ANTHC, U.S. Department of Agriculture, Denali Commission, CVRF</p>

- Housing is one of our greatest needs. Outside of the Y-K Delta, housing is one of the least understood conditions that impact health. More effort is needed to understand and address the housing shortage and substandard housing, to look at how it impacts health and to advocate for additional funding. We got several billion dollars to address unmet water and sewer need through the Infrastructure Bill; that came from decades of discussions about

how impactful water and sewer is on health. A similar movement needs to take place to address the housing shortage and substandard housing on the Y-K Delta. From YKHC's perspective, more should be done to look at the health impacts of the housing situation. The level of funding for water and sewer needs to be 20 times higher than it currently is, and we also need a magnitude of that much more to address the housing crisis here. We find similar support from other regions around the state. Maniilaq, Norton Sound, and Bristol Bay are all experiencing similar housing issues. We can continue to bring this up at AFN, ANHB; it's a huge unmet need. We should think big because the need is big.

- Anytime we have a regional effort and regional funding, the funding goes where the population is. AVCP does the best they can with the funding they have. In TKC's region, that equates to a few homes per year. We have seen our tribes pull away from that regional model because they feel it does not serve them well. This discussion should include supporting smaller efforts. The communities know best what will work for them. They just need a little assistance to get over the finish line. The Wood Innovations Grant in the description was a partnership between The Kuskokwim Corporation (TKC) and the Cold Climate Housing Research Center (CCHRC) to design a new housing model for the Middle Kuskokwim using Kuskokwim wood, pulling from the traditional knowledge that made log homes stand the test of time in our region. The current HUD homes do not stand the test of time. We need to get away from the cookie-cutter model that doesn't work. Our goal with the Wood Innovations Grant is to provide a toolkit for any community that wants or needs it that includes a home building design, identified funding they can apply for to build the house on a community scale, the workforce development component, to a roadmap for any community that wants to have this model as an alternative. We are also seeking HUD approval so that any community can use it. There are so many barriers to housing that if I wanted to build a home out of pocket (to get bank approval, to get all the materials for a house), I can't; it doesn't exist. We would be better served by increasing our willingness to support one another, recognizing that we are all trying to serve the same people, and eliminating silos and ideas of ownership. Let's support each other. There are so many opportunities out there right now. Let's support our communities to go after an idea and a plan that works for them. It's just as valid to support smaller projects as to support the big ones. It's not all Bethel-centric, even though that's where the population is. Smaller communities cannot compete on a model that is population/Bethel-centric.
- Having these conversations is a start. If I'm writing a grant and I know Brian Lefferts is the guy to call at YKHC for the housing data, and that the agencies on these calls are willing to help, the entire region will be lifted by these partnerships.
- We must be creative and find ways to support each other. If YKHC has health data that can support others to improve housing, we will share that (and we will have more and more data in the future). That is the role we can play.

- Subdivision planning is also important, understanding how it fits with other community goals. It's good to invite groups like ANTHC and Village Safe Water (VSW) who can say, "Have you thought about this or that location for the most affordable development to connect homes to sewer?" Urban planning can help communities understand how decisions about where housing is located affect the affordability of water and sewer systems.
- The group discussed starting with the YK CEDS contact list to offer mutual support.
- The YK CEDS strategy says we are looking to build 3,000 new homes in the region. The AVCP Housing Improvement Program submitted over 1,100 applications to the BIA in 2021 that took hours and hours for our tribal members to fill out. Only four were awarded.
- Could a documentary be made? If the rich people down in Lower 48 saw how people live in our communities, the level of need out here, with a link to donate, could that help? Their money is not tied to applications and program red tape. Three people in the U.S. (Bill Gates, Jeff Bezos and whoever inherited Steve Jobs' money) could build everyone in Alaska a new home. We could have a camera on Dwayne at BIA sifting through the regulations and say "Yeah, I'm trying to help my people, but I've got these hundreds of applications to review to see which one has the most need." We could get these videos on different social media platforms. The technology is there, and the money is out there, but it's frustrating trying to wade through all this red tape to serve a humanitarian effort.
 - Newtok tried that a few years ago with the film "Newtok Moves" and a website you can go to and donate. That idea raises awareness of the problem. A lot of people don't understand the level of need that exists in rural Alaska. Whether that's non-profits, foundations, or the Federal government, it's important to raise awareness about this issue. Lots of similar efforts need to take place; there need to be data to qualify the need and dollar amounts to quantify the unmet need. The Federal Government is more than HUD. We should make sure the new Director of HUD knows about our needs, as well as the Cabinet Secretary, President, and our Congressional Delegation. Any efforts to raise awareness about the problem would be beneficial.
 - There is a grant opportunity through the Alaska Community Foundation for journalism could fund this: <https://alaskacf.org/funds/alaska-center-for-excellence-in-journalism/> Awards for up to \$25,000 for stories to increase the awareness of complex, under-reported issues in Alaska.
 - Local foundations could also bring in more awareness from their philanthropy networks.
 - The people living with these hardships should be the ones to put anything out there on social media. But it's hard to talk about this. Who wants a film crew to go through their home and film a bucket of human waste in their home? If these folks can overcome that embarrassment, just like the people of Flint Michigan did about

their water quality, it could work. What is needed is for people to say “It’s unacceptable to have children, elders, anyone living in a house with a bucket of human feces in the home. We are tired of this. It needs to change.” This would blow up in America’s face. These are the first people who lived here and look how they are living. The awareness leads to different mentalities and can remove stigmas. There is a classification in Bethel and any other place – does your town have running water? When you look at groups of children in schools, that’s how they sit with each other. This is coming from personal experience. I grew up with a honey bucket and without running water for 20 years. Having to wake up at 2:00 am to use the toilet because you have to dump the honey bucket and it’s 20 below – that’s unacceptable. Imagine living in a home like that and you’re an elder or disabled. When you travel to other places, you feel left out and different from everyone else. That has to do with running water and being able to flush a toilet. It might seem like nothing to the rest of us who can go to the bathroom and flush a toilet and wash your hands, but that is a luxury to some of these village kids. It is a life-changing experience to have running water. This work is beyond having value, it is invaluable.

- It’s important to frame this not only as a basic human right, but there is also a legal obligation for the Federal Government to provide this service. Any advocacy to the Federal government should remind people of the Marshall trilogy and the Supreme Court decision that said there’s a Doctrine of Federal Trust Responsibility. The idea is that in exchange for taking land away from Federal tribes, the government is going to protect the tribes on the lands that they ended up with and compensate them by providing basic necessities such as food, shelter and human services.
- Andrea Gusty pointed out that, as someone who has worked in communications, a video that we are talking about is not cheap. There are businesses in the region that are looking to make goodwill inroads. No matter what you think about Donlin, they have money they want to spend. Producing something like this and asking for help for the greater good could be impactful. It would need a well-produced video and shorter snippets for social media, all pushed to a place where people can donate. Through individual donations, you get the attention of larger ones. I can start having discussions with Donlin as they are a business partner (with TKC). I don’t assume anyone’s support or not support of the project, but things are expensive. I’m all for working with Donlin if it helps make a real difference.
- Coastal Villages Region Fund (CVRF) also made a good video about the housing crisis.
- Bessie Weston and Andrea Gusty agreed to connect about getting the video started.

Priority Measures of Success

Priority Measures of Success	Data Source(s)	Where this is at Today	Where we want to be in 5 Years
Housing: [#] housing units constructed in the Y-K region since 2018.	YKHC housing counts	[#] housing units constructed in the Y-K region since 2018.	3,000 housing units constructed in the Y-K region since 2018.
Housing: [%] of homes in the Calista region are overcrowded and another [%] of homes are severely overcrowded.	Alaska Housing Finance Corporation Housing Assessment(s)	In 2018, 17% of homes in the Calista region were overcrowded and another 23% of homes were severely overcrowded.	[%] of homes in the Calista region are overcrowded and another [%] of homes are severely overcrowded.
Housing: [#] housing units improved to support piped and/or decentralized water-wastewater systems in the Y-K region since 2018.	YKHC housing counts (maybe?). ANTHC to detail in PERs commissioned for Infrastructure Bill funded water-sewer projects. ANTHC and VSW can report on homes improved for onsite system installation (PASS, AK Simplett)	[#] housing units improved to support piped or onsite water-wastewater systems in the Y-K region since 2018.	[#] housing units improved to support piped or onsite water-wastewater systems in the Y-K region since 2018.
Water and Sewer: [#] unserved, underserved and served communities in the Y-K region.	YKHC, ANTHC and the State track communities as <u>unserved</u> ("self-haul"/no piped system exists, or a piped system serves 55% or fewer of the homes), <u>underserved</u> ("flush tank and haul" community, or a piped community with 20% or more of the homes not connected to the piped system) and <u>served</u> (more than 55% of homes are served by a piped, septic tank and well, or covered haul).	12 unserved, 13 underserved and 24 served communities in the Y-K region (2020). (Note: one community is unserved for flush tank and haul and underserved for piped water-sewer)	[#] unserved, [#] underserved and [#] served communities in the Y-K region.
Water and Sewer: [#] people benefitting from water and sanitation services are [%] of the population	YKHC	[#] people benefitting from water and sanitation services are [%] of the population	[#] people benefitting from water and sanitation services are 100% of the population
Water and Sewer: [#] working small closed-haul systems	YKHC	[#] working small closed-haul systems	[#] working small closed-haul systems

Priority Measures of Success	Data Source(s)	Where this is at Today	Where we want to be in 5 Years
Water and Sewer: [#] piped customers with functional connections are [%] of active water and sanitation customers	YKHC	[#] piped customers with functional connections are [%] of active water and sanitation customers	[#] piped customers with functional connections are 100% of active water and sanitation customers
Jobs: [#] jobs in Bethel + Kusilvak Census Area(s) employed in Construction representing [%] of total regional workforce in [YEAR].	Bureau of Economic Analysis, assumes construction jobs serve as a proxy for jobs related to housing and water-sewer.	105 jobs in Bethel + Kusilvak Census Area(s) employed in Construction representing 1.01% of total regional workforce in 2020.	[#] jobs in Bethel + Kusilvak Census Area(s) employed in Construction representing [%] of total regional workforce in 2025.
Wages: \$[#] annual wages to Bethel + Kusilvak Census Area(s) employed in Construction representing [%] of total regional wages in [YEAR].	Ditto comment above.	\$6,503,000 annual wages to Bethel + Kusilvak Census Area(s) employed in Construction representing 0.94% of total regional wages in 2020.	[\$#] annual wages to Bethel + Kusilvak Census Area(s) employed in Construction representing [%] of total regional wages in 2025.

Measures of Success:

- The group discussed available data. It might be most effective to track on a community level, rather than individual houses. YKHC collects the most informative house-by-house data, even though Covid has put them behind in housing counts.
 - Housing data will incrementally go up every year, with probably about 20-100 houses connected to water and sewer each year. Some years may see larger increases than others. Interviews could ask how many homes have connected to the water/sewer systems, how many have failed connections, etc.
 - YKHC’s Division of Public Health (Brian Lefferts and Bob Creighton) can speak to the indicators. Brian Lefferts joined the call a few minutes late and spoke to many of the data needs.
 - YKHC contacts the cities (or whoever operates water/sewer systems) every year and asks whether they have running water or flush-haul systems. YKHC has data, but if a community has trouble getting that data, other villages probably have trouble getting that data as well.
- The Alaska Legislature used to require the State’s Village Safe Water Program to provide house count and water-sewer data on all homes in rural Alaska, but it does not require that indicator from the State anymore. ANTHC took on the responsibility, not to do as robust a house count, but to report on the number of homes with water and sewer systems. This data can be shared on a quarterly basis. It is used to inform the Healthy Alaskans indicators.

The group discussed the following categories of indicators related to housing and water-sanitation in the Y-K region:

- **Housing Indicator(s):** including the number of houses and readiness for piped systems (or alternative if not opting for piped – e.g., well and septic or piped water with onsite water treatment).
 - Data is collected by YKHC and ANTHC (as part of the PER they are about to conduct).
 - ANTHC is helping communities access funds to improve the housing because the funding for water and sewer systems does not necessarily fund the housing improvements needed to support the new infrastructure.
- **Water/Sewer Indicator(s):** YKHC collects data for served, underserved, and unserved communities for water and sanitation.
 - YKHC also tracks active customers, working small closed-haul systems, piped customers with functional connections, and the number of people benefiting from the service.
 - YKHC contacts water/wastewater utilities and collects data every April.
 - The public health goal for water/sewer is to increase water access to a minimum of 20 gallons per person per day.
- **Health indicators:** The desired outcomes include improving public health, such as lowering rates of upper respiratory illness and skin infections. YKHC focuses on providing an adequate quantity of water for washing and removing contact with human waste. YKHC also has data on healthcare costs, loss of work, and death rates. However, YKHC relies on multi-year studies comparing system types by researchers to report on the impact of public health improvements. These are not reported routinely, so they won't be very useful to report on annual progress.
- **Sustainability, Workforce Development and Serviceability:** As a possible future indicator, the group could think about indicators for these critical issues to the long-term success of housing and water-sewer improvements. The group discussed the need to prepare communities for the operating, maintenance and financial responsibilities of the housing and water-sewer improvements, including homeowner maintenance, community maintenance and having adequate staff to operate the water/sewer utilities, as well as willingness/ability to pay fees. Training and the ability to maintain these systems are just as important as helping communities with their RUBA scores and designing the actual system.
 - Yuut Elitnaurviat and TKC's training center in Aniak are hosting training and certification programs for water and sanitation plant operators.
 - YKHC is starting conversations to improve technical assistance to communities for these systems.
 - YKHC and others have started conversations about creating subsidies for water and sanitation services. Group members pointed out that water and sanitation services

are the only utility service in rural Alaska for which user fees are not subsidized (e.g., by the State, similar to the PCE program for electricity).

Agenda Item 5. Next Steps and Wrap-Up

Next working group meeting:

- The group discussed a desire to meet again in **mid-May** (any day except Thursday) to continue these conversations, with a focus on:
 - Coordinating on funding for housing improvements to support piped systems,
 - Workforce development, community/homeowner education and serviceability supports needed for sustainability.
 - Confirming a roadmap for coordination on all these related efforts.
- The group noted they would like to invite State Local Government Specialists to discuss RUBA requirements and any other support for communities.

Other follow-up:

- **8-A.** During the meeting, the group discussed a number of elements to prepare for the funding coming through the Infrastructure Bill. These are summarized into the following draft description of preparation needs, to be reviewed by the Working Group at a future meeting.
 - ANTHC will start releasing RFPs to do Preliminary Engineering Reports (PERs) for the communities looking at water-sewer sanitation system improvements funded by the Infrastructure Bill.
 - ANTHC planning documents include detailed lists of all improvements to the homes and other community infrastructure needed to support the piped systems (or alternative). ANTHC would like to work with regional partners to pursue the funding for and complete the readiness improvements. *(Priority Action 8-B could be implemented to get organized around this aspect.)*
 - There will need to be significant communication with communities about the sustainability of these improvements, e.g.,
 - Community and homeowner maintenance requirements of the systems, including the costs to the community and user fees.
 - Subdivision planning discussions that can help communities understand how the location of housing affects the affordability of piped water and sewer systems.
 - Workforce development to ensure communities have enough trained and certified operators to keep them going.

- The importance of RUBA scores, and proposals to change these.
 - YKHC will be working with communities and engineers to assess on a community-by-community basis what the estimated operations and maintenance fees will be, and then which commercial payers might be available, and see if that is something the community believes is sustainable.
 - YKHC and partners are asking whether any kind of subsidy could be available to make these more affordable for the end users and sustainable for the utilities to operate in the long term.
 - Representative Zulkosky partnered with ANHB, ANTHC, and YKHC to introduce a bill that would waive the RUBA best practice score requirements (needed to get State matching funds for federal dollars) for unserved communities to get funding.
 - The Kuskokwim Corporation (TKC) and the Cold Climate Housing Research Center (CCHRC) have partnered on the Wood Innovations Grant to design a new housing model for the Middle Kuskokwim using Kuskokwim wood, pulling from the traditional knowledge that made log homes stand the test of time in our region. The goal is to provide a toolkit that includes a home building design with HUD approval, identified funding they can apply for to build the house on a community scale, the workforce development component, and a roadmap for any community that wants to have this model as an alternative.
- **8-B.** With the passage of the Infrastructure Bill, the Working Group may want to implement this action step during the 2022 calendar year, perhaps as a part of the next Y-K CEDS Annual Work Session.
 - In the meantime, the group discussed starting with a contact list they can use to offer mutual support, along with a roadmap for addressing housing and water sewer for public health outcomes. The updated Y-K CEDS contact list will be shared as a starting point, along with the list above that outlines the efforts already underway to prepare for the Infrastructure Bill.