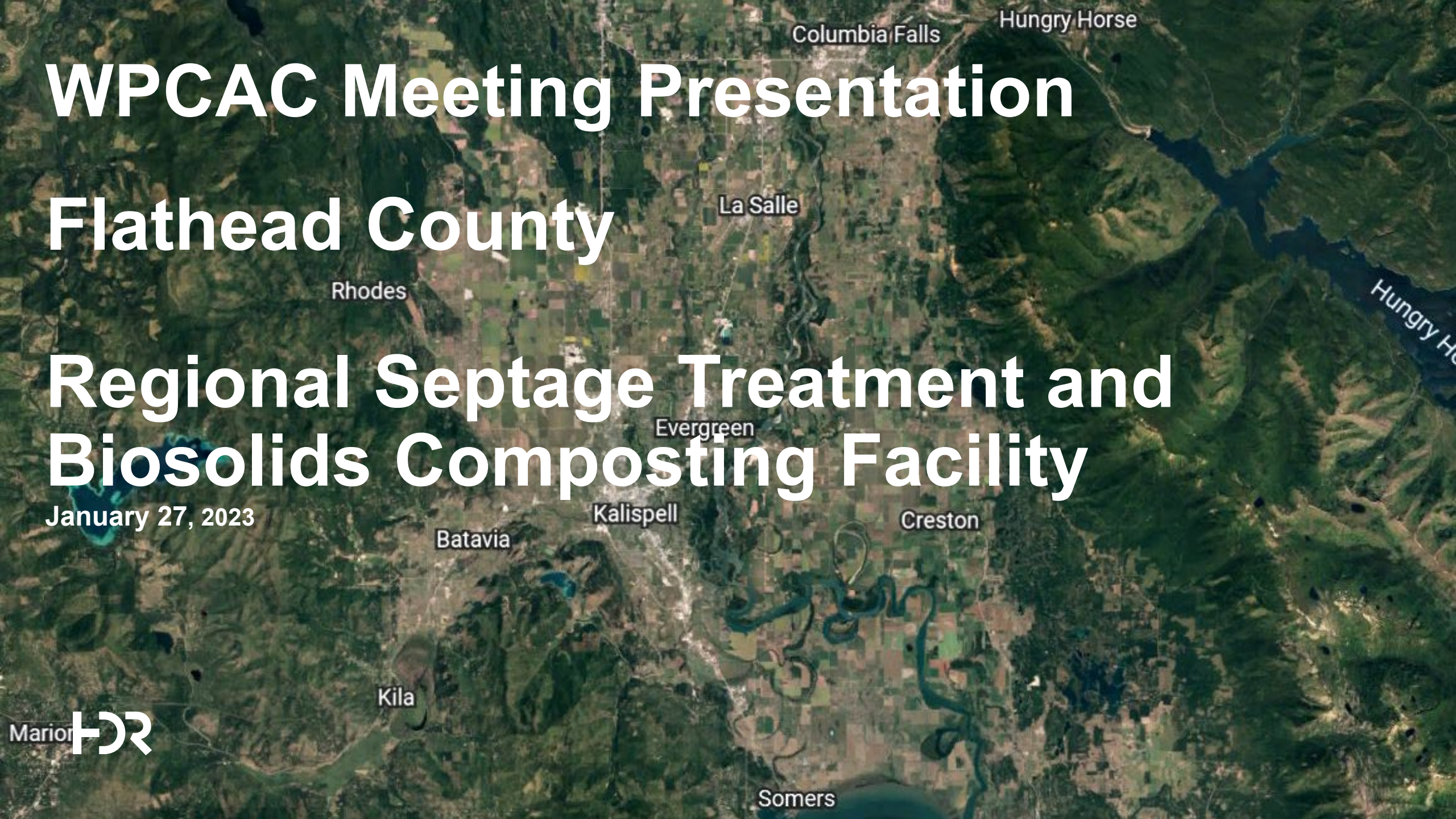


WPCAC Meeting Presentation

Flathead County

Regional Septage Treatment and Biosolids Composting Facility

January 27, 2023



Agenda

- Introductions
- Need for Project
 - Septic Challenges
 - Biosolids Challenges
- Septic Treatment Plant and Biosolids Composting Facility
- Next Steps and Schedule

A Problem Years in the Making

Problems with Land Availability Date back to 2008!

- Septage haulers have been raising this issue with the Health Department for over a decade. Funding has always been an issue with respect to implementation.
- In 2020 Glacier Gold reached its capacity for taking biosolids creating severe biosolids disposal limitations
- In the summer of 2022, the Health Department received calls almost daily related to this problem. Numerous pumpers had to stop pumping because there were no disposal sites.

What is an onsite WWTS

- Commonly referred to as a 'drainfield' or 'septic system'.
- Comprised of a septic tank and drainfield.
- The septic tank removes solids and provides 'primary' treatment.
- The liquid from the tank is discharged to the groundwater via the drainfield.
- Sometimes advanced treatment is required to avoid degradation of the groundwater.



What is septage?



The liquid and solid material pumped from a septic tank.

Includes water, grease, scum, sludge, garbage and **high concentrations of nutrients such as nitrogen and phosphorus.** Septage also includes porta-potty waste.

Septage is roughly 10-35 times stronger than normal municipal waste.

Does not include commercial or industrial waste

WWTS Maintenance



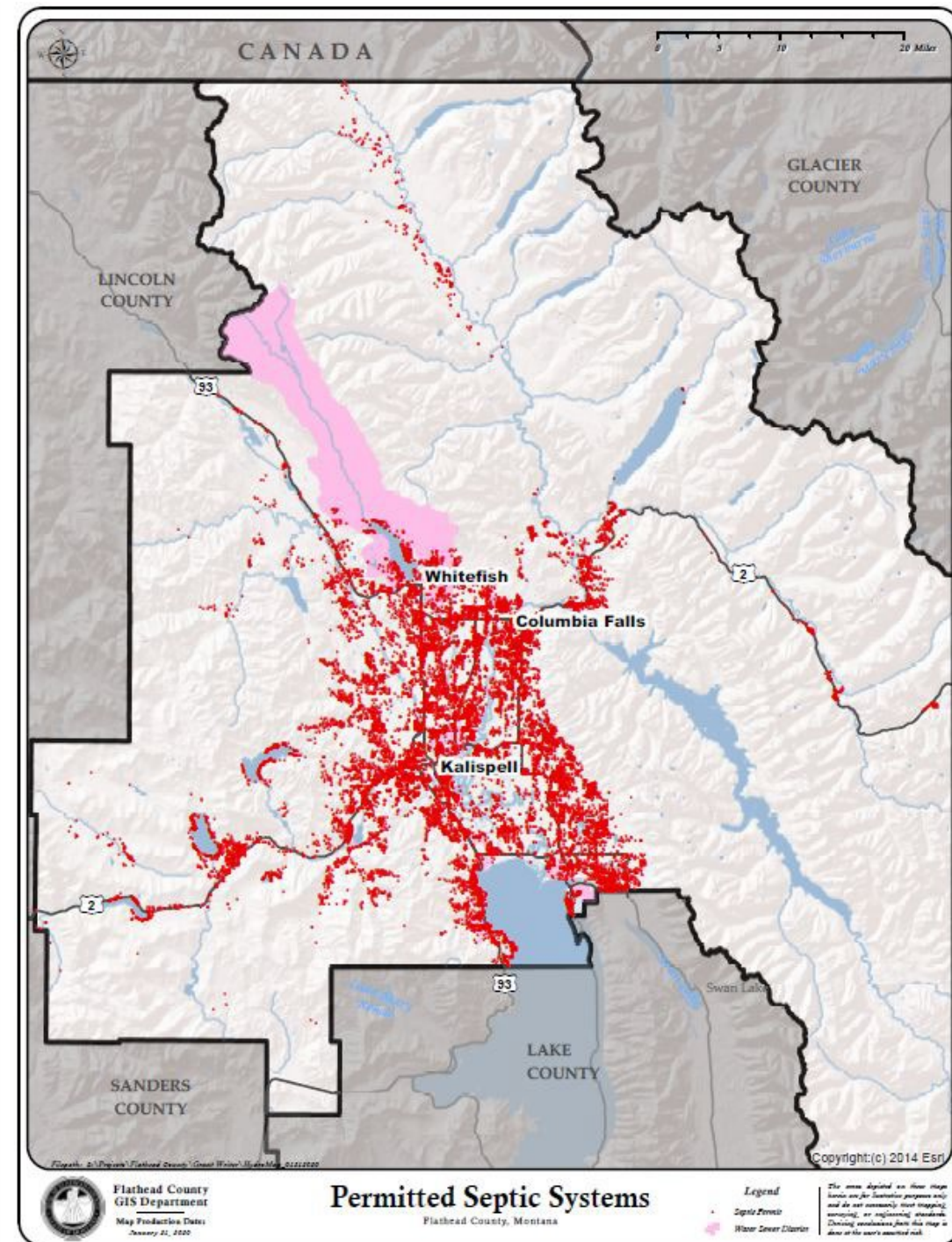
Septic tanks should be pumped every 3-5 years to avoid solids from flowing out of the tank and plugging the drainfield.

The cost of a replacement drainfield is about \$12,000 - \$15,000

Do you know how many septic tanks there are in Flathead County?

Flathead County Septage

- The Health Department estimates there are 30,000 septic tanks in Flathead County.
- Approximately 700 new onsite WWTS permits were issued in 2022.
- On average 20,000 – 40,000 gallons of septage is pumped every day.



Challenges with Septage Disposal...

- Today septage is primarily disposed of via land application, but there is a problem...
 - Land is becoming less and less available for septage disposal due to growth.
 - Difficult finding new applications sites due to soils, setbacks, etc.
 - Porta potties at construction sites and at special events cannot be emptied.
 - In 2022 the Health Department received calls almost daily related to this problem.



Lack of septic tank maintenance (pumping) leads to drainfield failure...

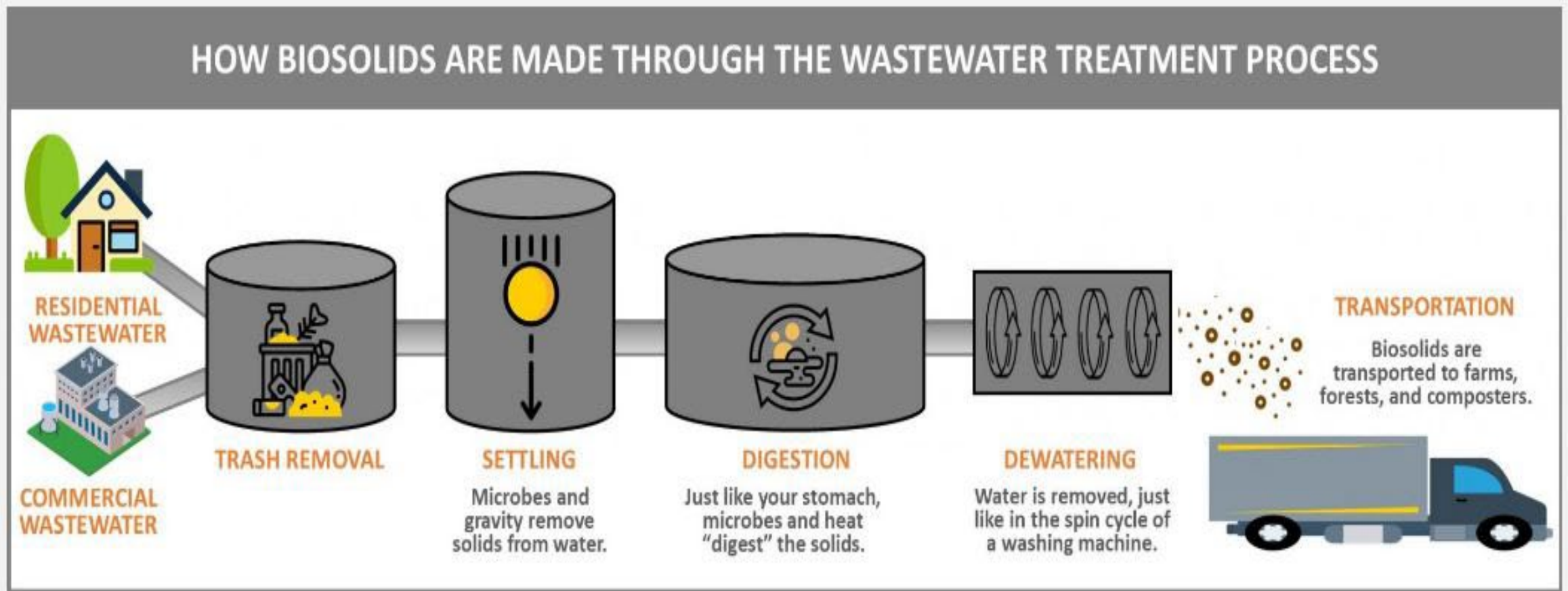
Challenges with Septage Disposal...

- Municipal WWTPs (e.g. Kalispell, Bigfork, Lakeside, Columbia Falls, and Whitefish) can't take it due to stringent nutrient limits and sensitive treatment processes.
- Full septic tanks mean primary treatment is not occurring affecting the quality of the water being discharged to the ground and septic tanks are not being maintained.



...and drainfield failure results in costly replacement and environmental pollution!

Where do biosolids come from?



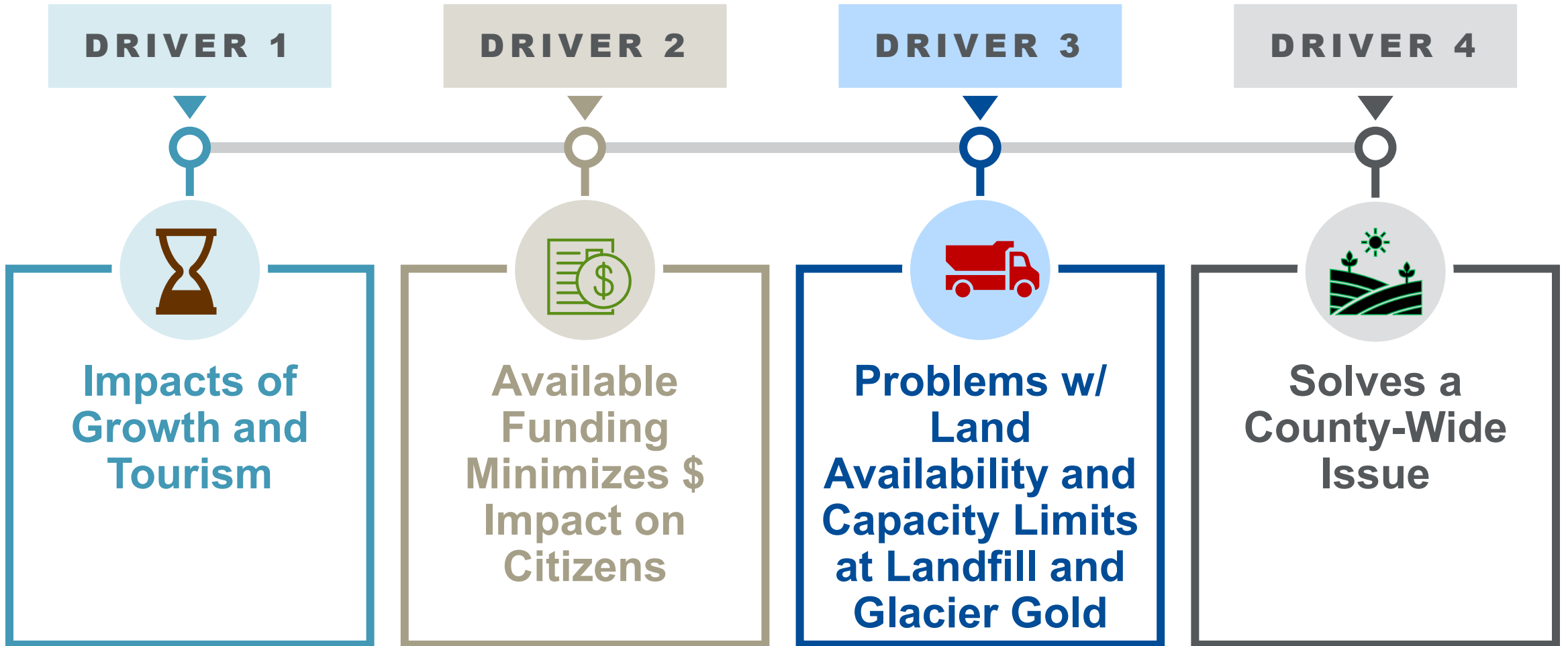
Challenges with Biosolids Disposal...

- Similar to septage application, we are running out of areas to dispose of biosolids.
- Land application is limited for the same reasons as septage disposal.
- Glacier Gold is at capacity.
- Landfill limits biosolids disposal due to capacity issues.



In summary...septage and biosolids are a by-product of wastewater that we must address.

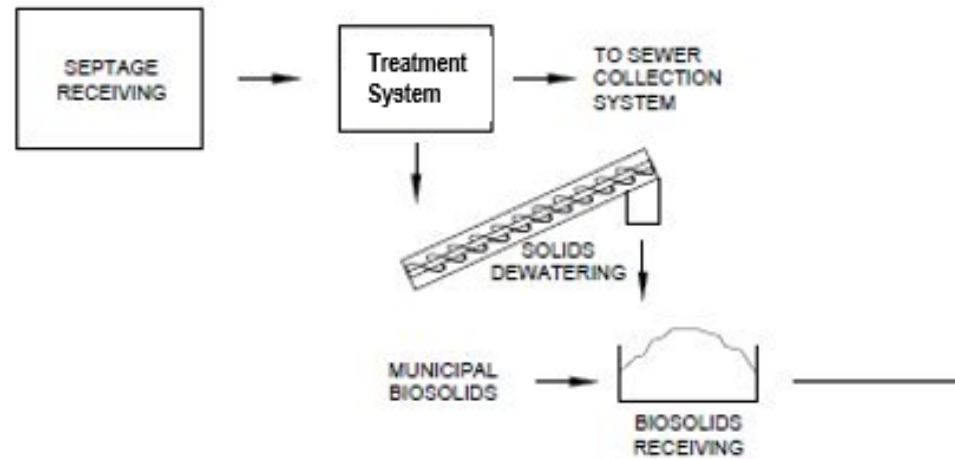
A Regional Facility solves these problems.



Septage Treatment Plant and Biosolids Composting Facility

What exactly is a septage treatment plant and biosolids composting facility?

- Septage Treatment
 - Receiving and Screening
 - Septage Treatment
 - Effluent Discharge to Municipal Facility
 - Solids Composting
 - Odor Control

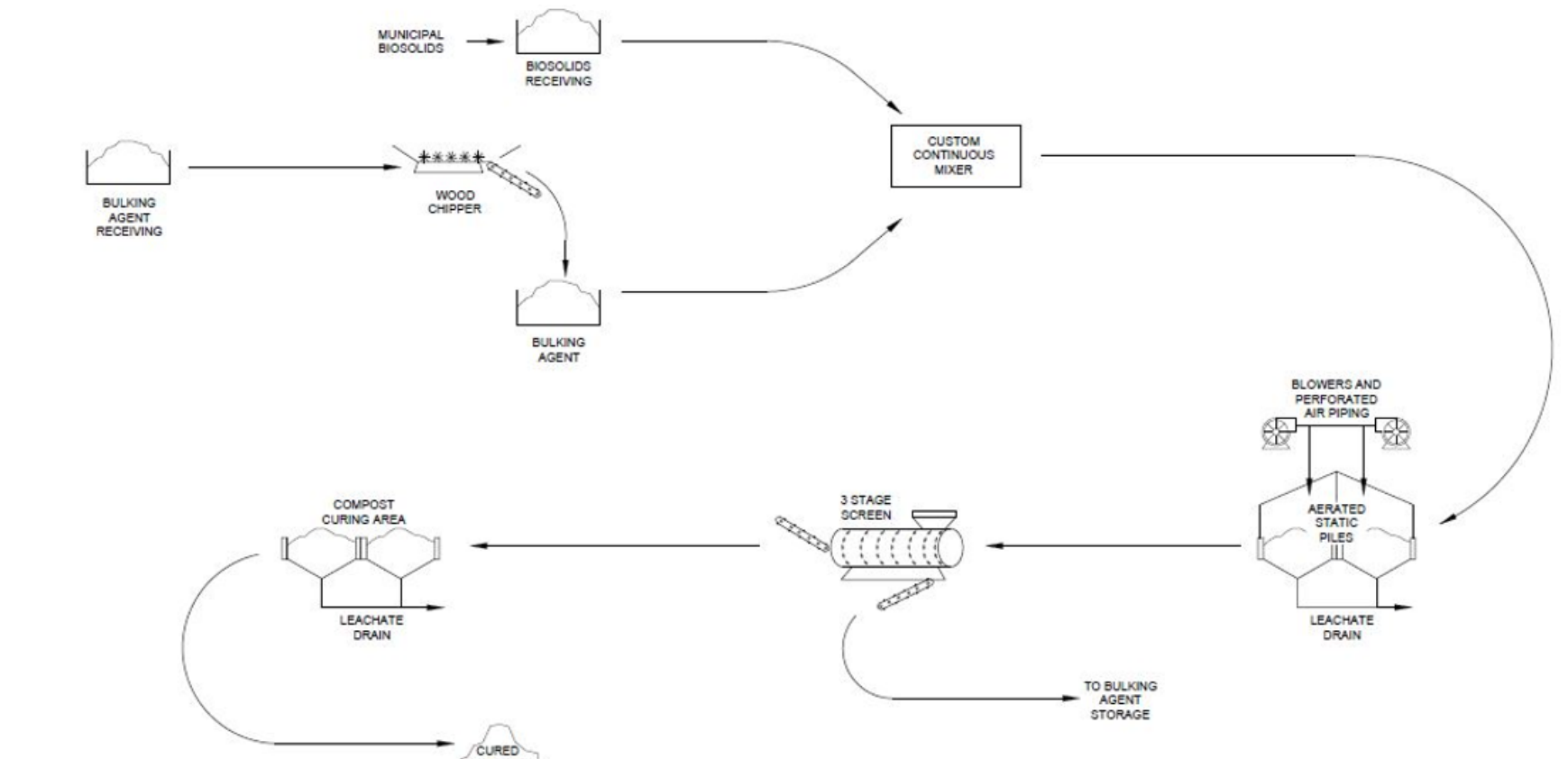


Septage Treatment Plant and Biosolids Composting Facility

What exactly is a septage treatment plant and biosolids composting facility?

- Biosolids Composting

- Biosolids receiving
- Woody Waste Receiving
- Mixing
- Aeration
- Curing
- Screening
- Beneficial Reuse



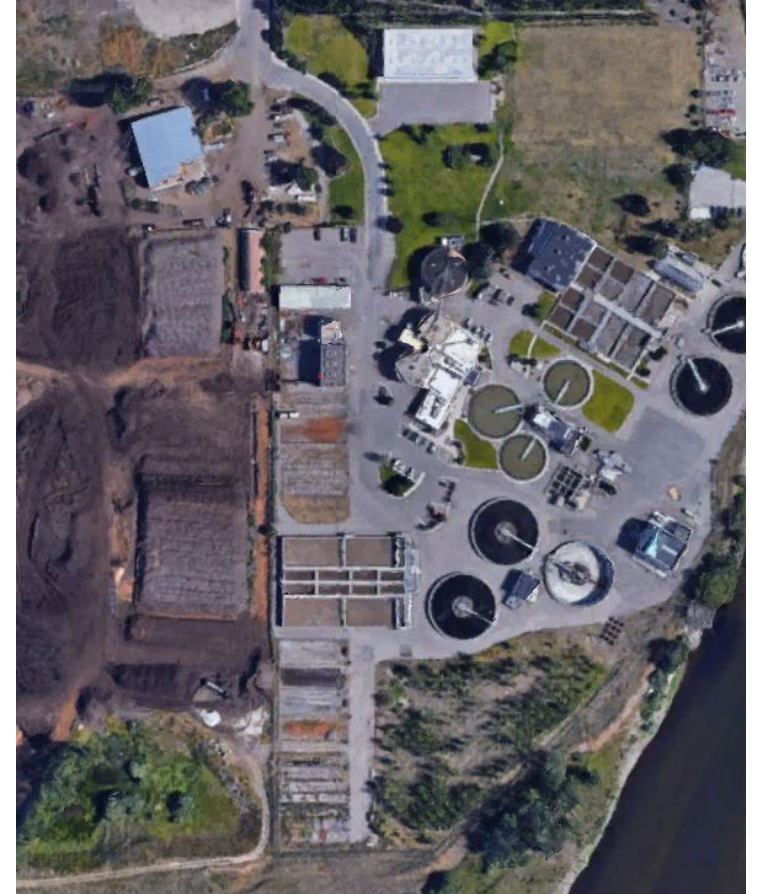
What a Septage Treatment and Biosolids Composting Facility is NOT...



Discharge of sludge of septage onto the ground



A wastewater plant with outside basins



A large industrial complex

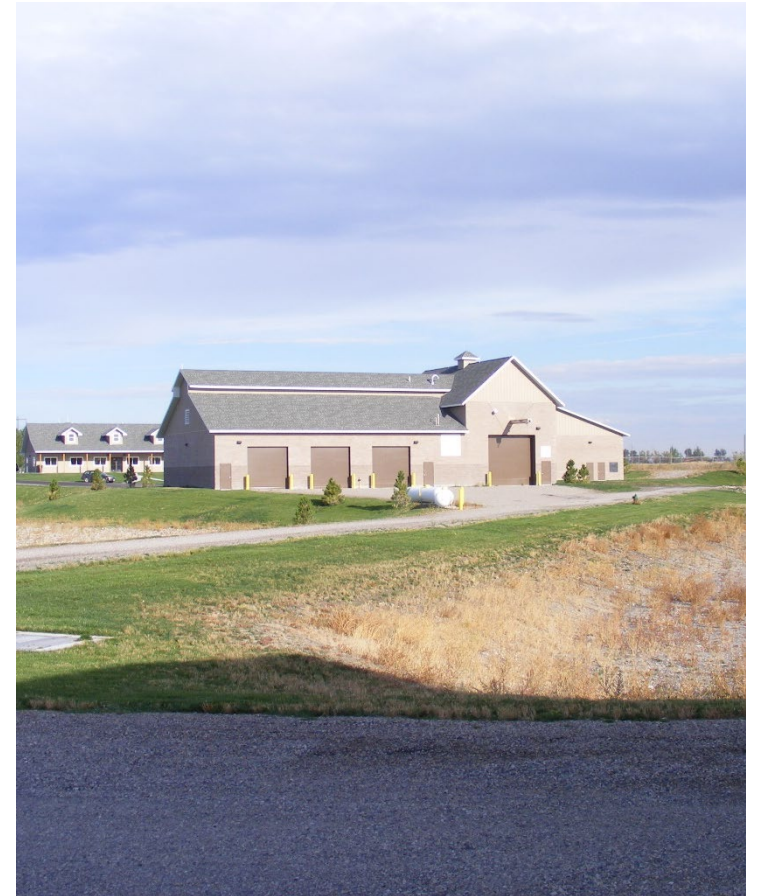
Existing WWTPs...what could this look like?



Cascade, ID WWTP



Kuna, ID WWTP



Shelley, ID WWTP

Existing Bigfork, MT WWTP



Existing Hamilton, MT Biosolids Composting Facility

- Aerated static pile biosolids composting.
- Located about 350 feet from a neighborhood and adjacent to the Bitterroot River
- An enclosed building was planned for Phase 2 but deemed not necessary since odors were not a problem.



Existing Hamilton, MT WWTP



Odor control includes forcing smelly air through a biological odor control system made of...compost!



Existing Coeur d'Alene, ID Biosolids Composting Facility



Existing Coeur d' Alene, ID Biosolids Composting Facility

Left: North side of composting facility

Right: High density residential



6. Next Steps and Schedule

What happens next?

- Purchase property
- Final design of the facility...2023.
- Bidding and contractor procurement...2024
- Construction...2024-2025.

Questions

