

Implementing the Lake Lucile Management Plan through Alaska Clean Water Actions

Ashley Oleksiak, Alaska Department of Environmental Conservation

Robert Walden and Erich Schaal, City of Wasilla



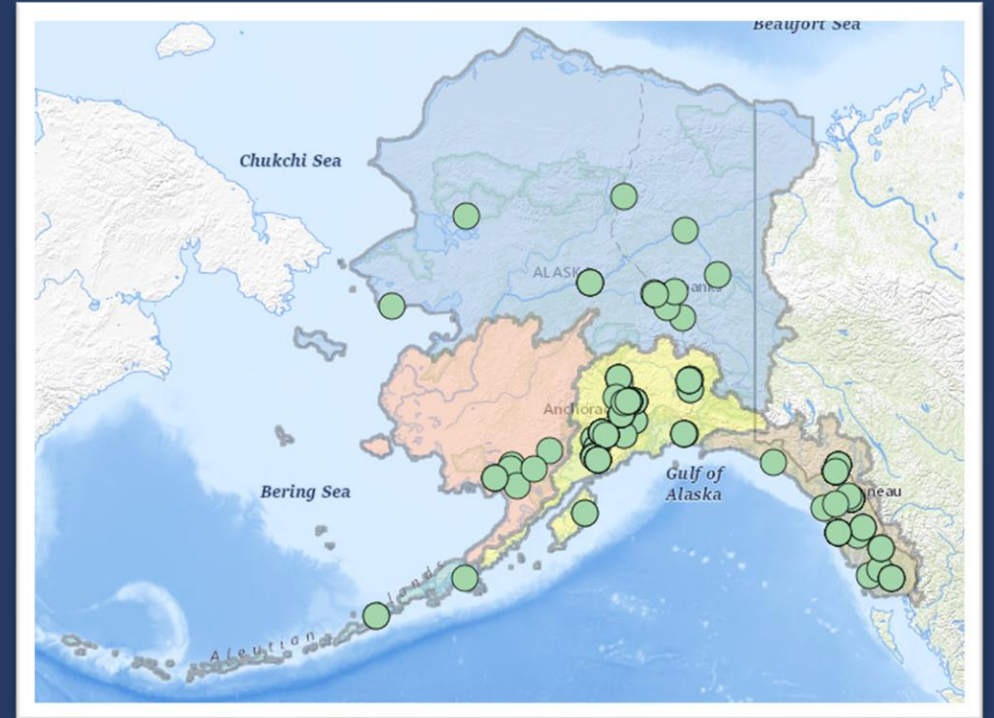
Outline

- Alaska Clean Water Actions (ACWA)
- Lake Lucile Management Plan
 - Lake Lucile – impairments and nonpoint source pollution
 - Actions and green infrastructure
- Herning Knik Bioswale
- Parks Highway manholes retrofit
- Progress and next steps
- Questions

Alaska Clean Water Actions Program

- Created through Administrative Order 200 over 20 years ago

- Directed Alaska's resource agencies (DEC, DNR, & DFG) to work together to characterize Alaska's waters in a holistic manner
- Sharing data, expertise, and other information
- Cooperative method to direct resources to prevent or correct water quality issues

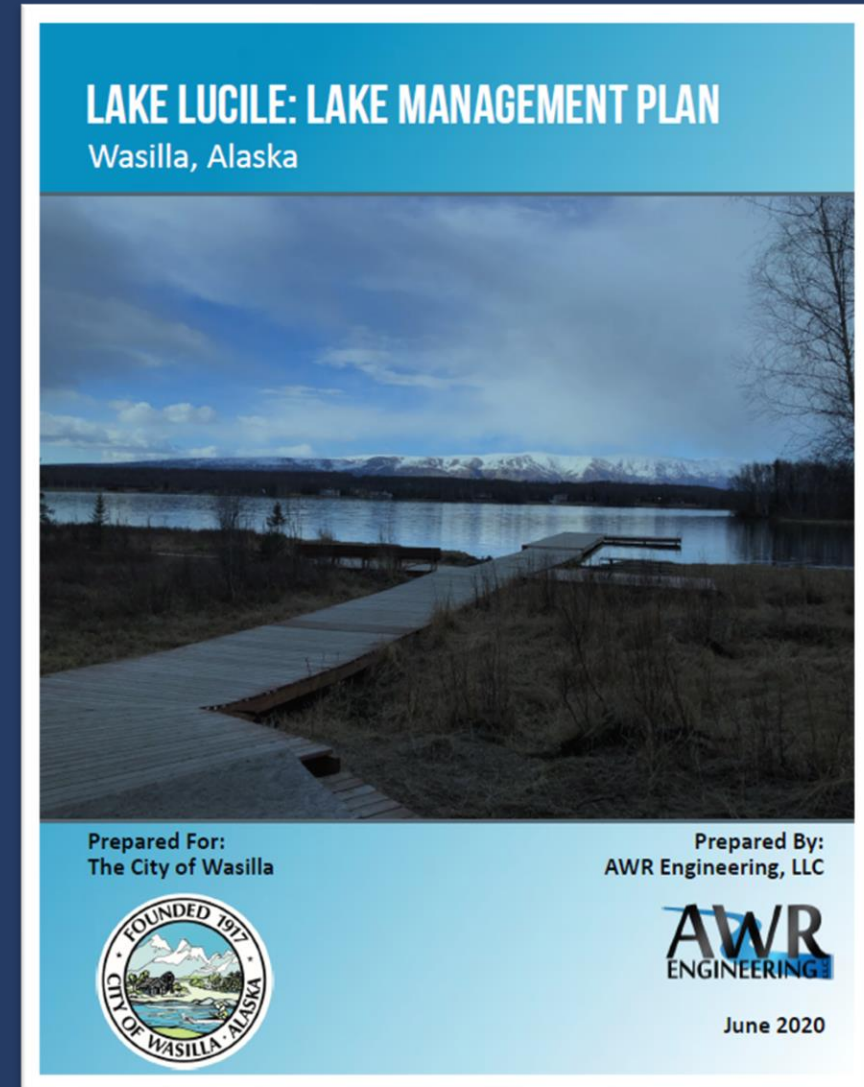


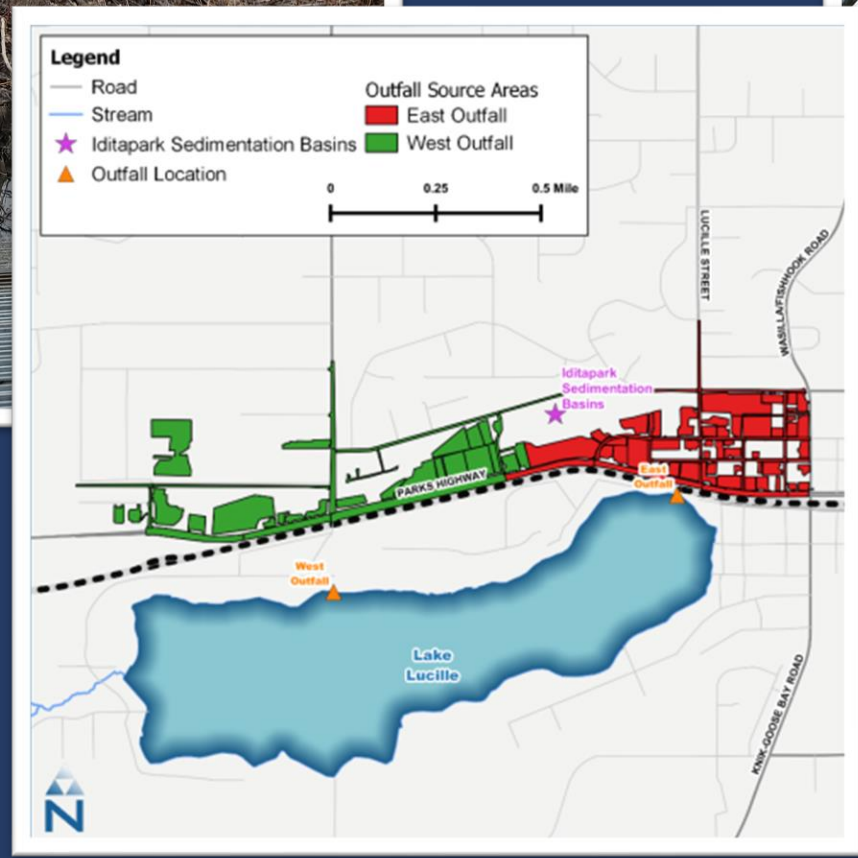
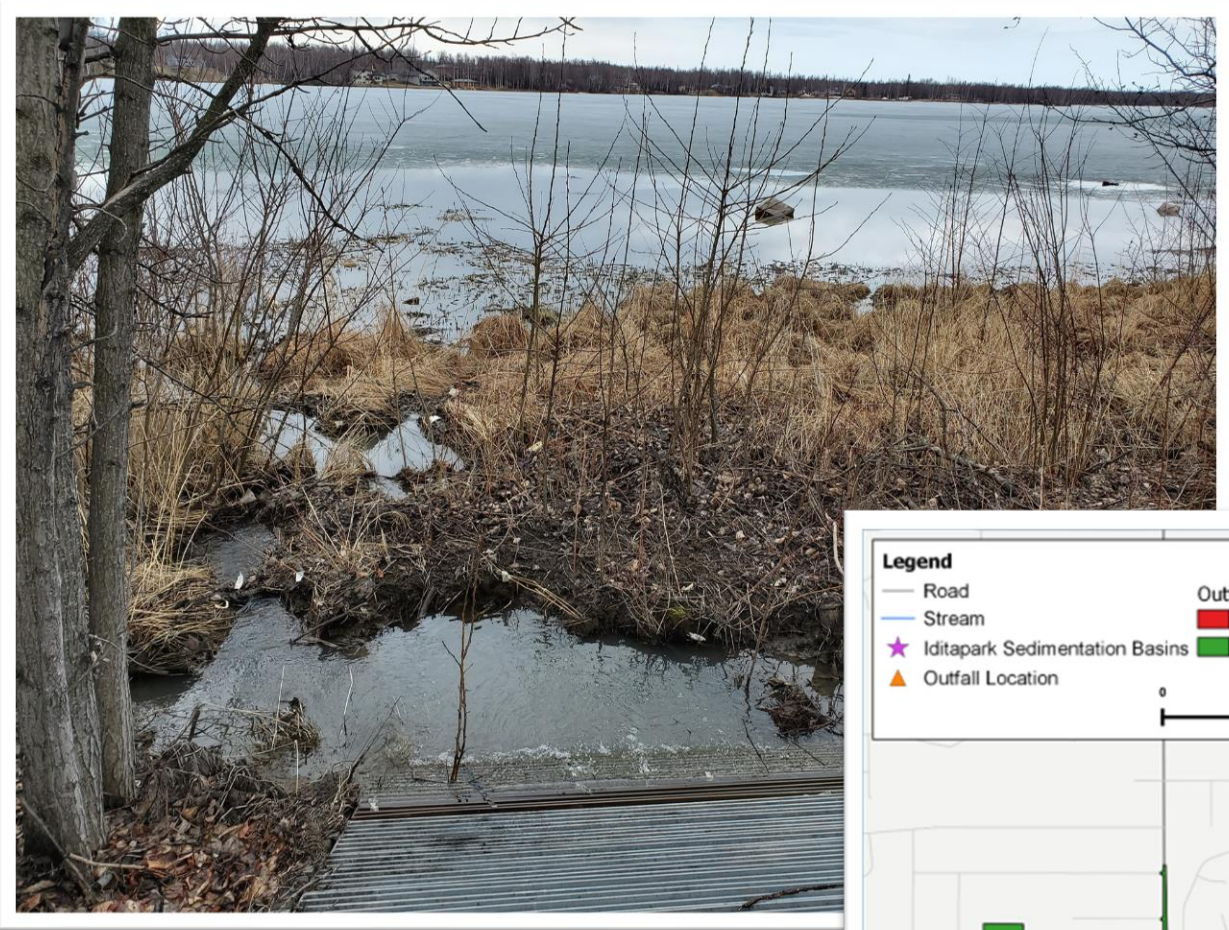
- Request for Proposals every other year for projects using funds passed through from federal monies

- Local governments, Tribes, nonprofits, education facilities
- Each RFP features priority actions for specific waters or watersheds but open for other projects

Lake Lucile Management Plan

- City of Wasilla 2019 ACWA Grant
 - Purpose of plan to identify opportunities to improve quality of Lake Lucile by removing pollutants from stormwater before discharge into lake
- Lake Lucile – impaired
 - Pb, Zn, PAH, elevated Cu
 - Conveyed to lake through two stormwater outfalls





Lake Lucile Management Plan

- Identified ten locations for actions/facilities to improve quality of stormwater entering Lake Lucile
 - Green infrastructure techniques such as bioretention swales and vegetated ditches
 - Menu of opportunities – estimates for cost, timeline, and maintenance considerations



Nunley Park Bioretention

- FY21-23 ACWA Grant Sustainable Design Group with City of Wasilla, and Mat-Su Conservation Services

Nunley Park DID YOU KNOW?

- Rain and overland water are called stormwater.
- Stormwater that falls on and near Nunley Park ends up at Lake Lucile.
- The planted area is a bioretention basin. It collects stormwater that can contain pollutants such as oil, metals, and bacteria.
- Bioretention basins are also known as rain gardens, bio-swales, or green infrastructure.
- The plants and soil collect and filter pollutants to help clean stormwater, making it healthier.
- Even small stormwater treatment projects like this can make a big difference in Lake Lucile's water quality.
- In addition, this project maintains local flooding while creating healthy habitat for butterflies and birds.

HOW CAN YOU HELP?

- Identify locations where trees and shrubs would be most beneficial.
- Design a rain garden that will accommodate the runoff.
- Construct the rain garden with appropriate plants.
- Maintain the rain garden to keep it functioning properly.

We can all help keep Lake Lucile healthy!

Lake Lucile Watershed



Iditapark Second and Third Ponds DID YOU KNOW?

- Iditapark has a three pond system that cleans stormwater within the Lake Lucile watershed.
- The ponds use natural processes to remove sediment and pollutants from stormwater.
- Iditapark's First Pond, just up the trail, is lined to allow pollutants to settle to the bottom.
- Water from the First Pond flows into this pond where stormwater is further cleaned as it soaks into the ground.
- You'll notice communities of water-loving plants in this area that soak up stormwater through their roots.
- The Third Pond near the bridge offers more opportunities for stormwater to spread out and soak in.

HOW CAN YOU HELP?

- Dispose of trash and debris in proper receptacles.
- Install a rain garden to reduce runoff and pollution.
- Scope the poop to keep pet waste out of the Lake Lucile.
- Keep your vehicle maintained to reduce leaks and spills.
- Get involved in your community's cleanup days.

We can all help keep Lake Lucile healthy!

Lake Lucile Watershed

Iditapark First Pond DID YOU KNOW?

- Iditapark's bioretention system is a stormwater treatment for Lake Lucile's watershed.
- Stormwater contains sediment and pollutants such as oil, metals, and bacteria.
- Roadways and snowmelt often pick up pollutants from the Parkway Highway, Iditapark's Wildlife crossing, and parking lots.
- Stormwater enters an underground collection system. It is stored in tanks to prevent local flooding. Debris and grit settle out.
- First water is pumped into the lined Iditapark First Pond where more grit and debris settle out.
- Cleaned water flows into the next two Iditapark ponds where it spreads out and soaks into the soil.

HOW DOES IDITAPARK HELP?

- The First Pond allows pollutants and grit to settle so cleaner water flows out.
- Plants along and in Iditapark's next ponds allow water to settle and filter remaining pollutants from the water.
- Leafy native vegetation soaks up and decomposes the stormwater.

We can all help keep Lake Lucile healthy!

Lake Lucile Watershed

Lake Lucile DID YOU KNOW?

- Around 10,000 years ago, Lake Lucile was formed by glacial activity.
- The average depth is approximately 5 feet.
- The lake is 367 acres but collects drainage from over 4800 acres.
- Roadways and snowmelt often pick up pollutants that end up in the lake.
- Pollutants come from roadways, parking lots, and the ground.
- Pollutants can include nutrients that encourage weed growth.
- Other pollutants can contain hydrocarbons and metals that are unhealthy for fish and waterfowl.

HOW CAN YOU HELP?

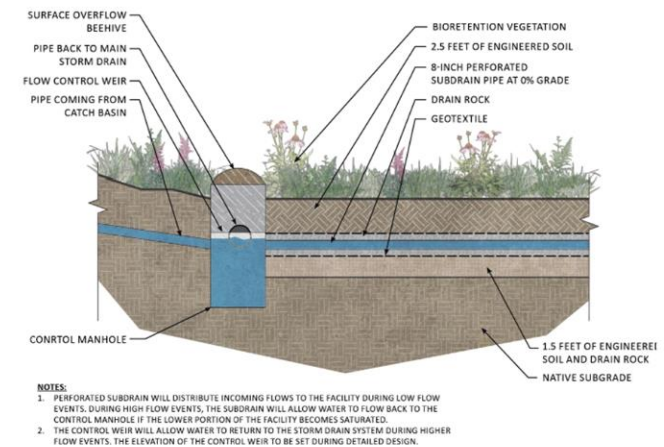
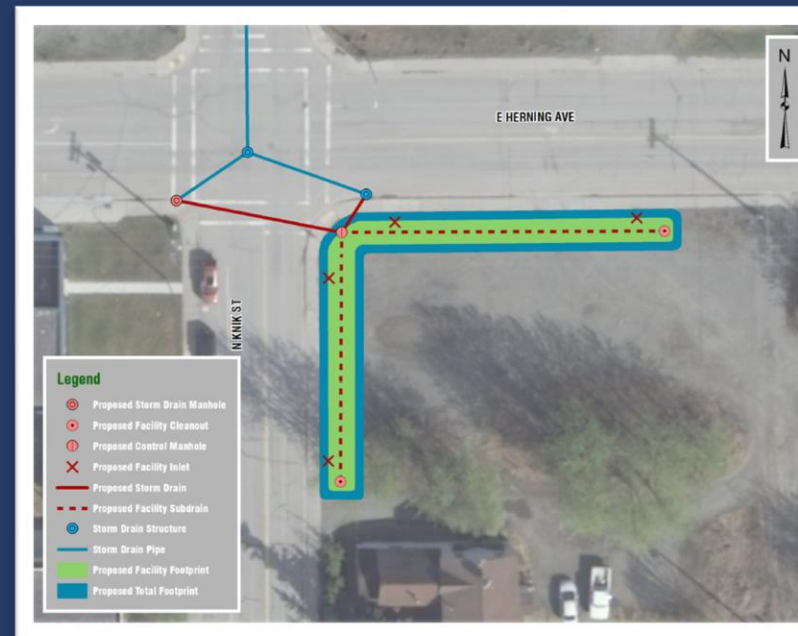
- Leave a plant buffer between your lawn and the lake.
- Pump and maintain your septic system to keep pet wastes out of the lake.
- Scope the poop to keep pet waste out of the lake.
- To stop weeds from growing wild, use herbicides with no or low phosphorus.
- This weed machine helps to keep Lake Lucile healthy. So can you!

We can all help keep Lake Lucile healthy for the next 10,000 years!

Lake Lucile Watershed

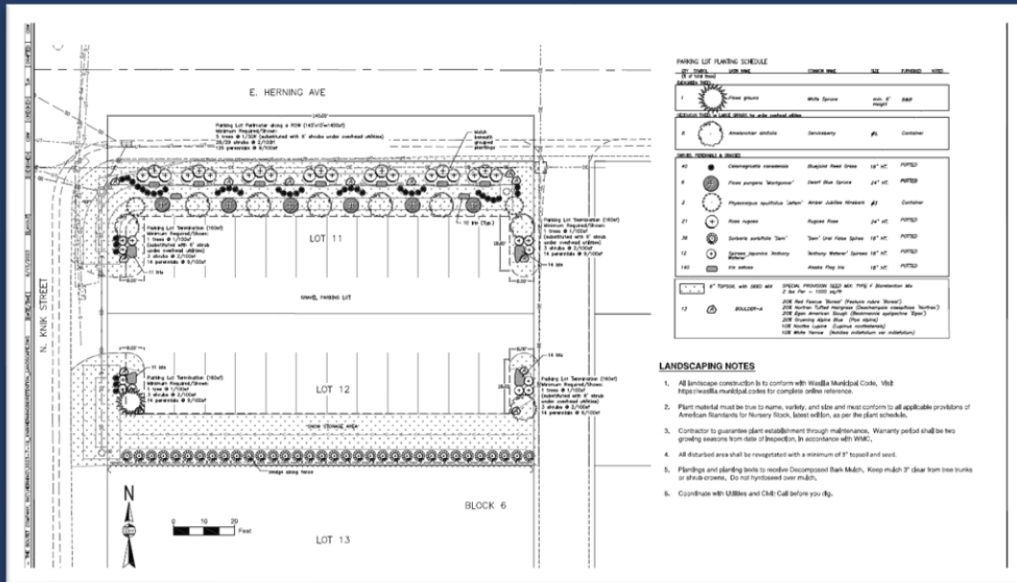
FY23-25 ACWA Grant – City of Wasilla

- Implement two actions in Lake Lucile Management Plan:
 - Herning-Knik Bioswale
 - Retrofit of two Parks Highway manholes



Herning-Knik Bioretention

- Location
- Drainage
- Planning



Before







Planting next spring!

- Native plants
 - Serviceberry
 - Iris
 - Rose
 - Native grasses
 - Spirea
 - Spruce

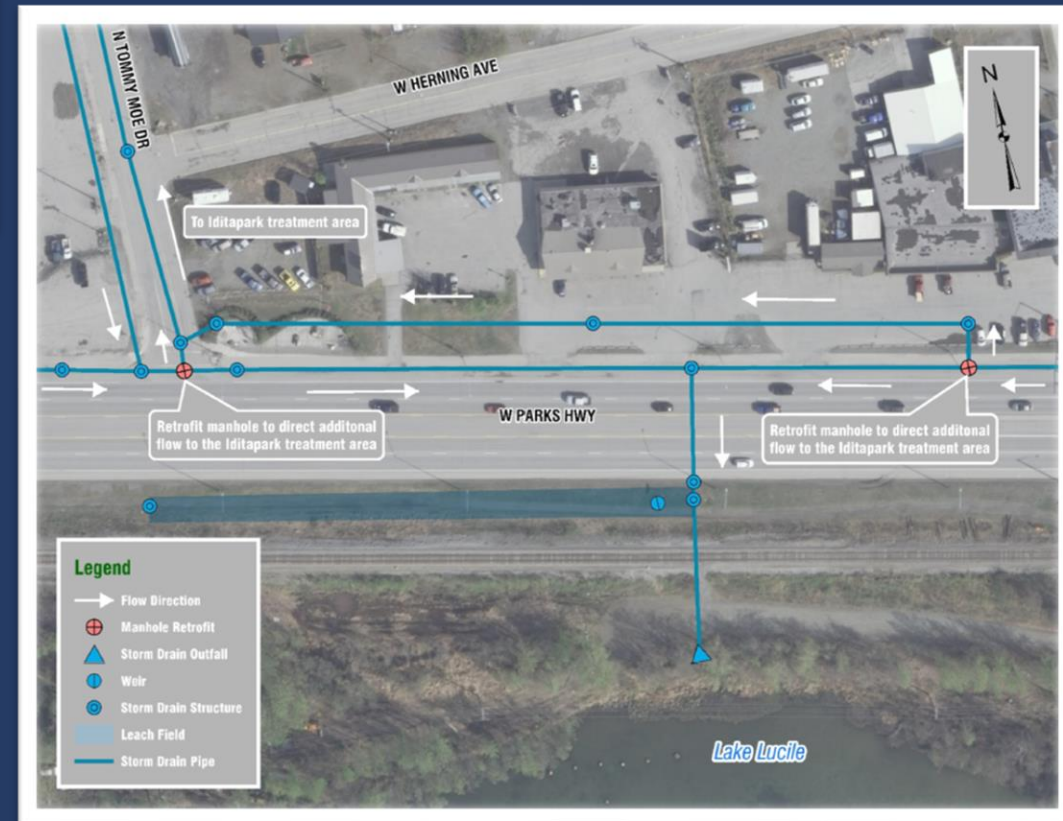


Mat-Su Senior Services Rain Garden, another ACWA Project!

Parks Highway Manholes



- Retrofit to convey more water to Iditapark stormwater treatment ponds
- Capacity analysis
- Collaborate with DOT&PF
- Progress



What comes next?

- Planting spring 2024 at Herning-Knik
- Maintenance
- **Next ACWA Request for Proposals early fall 2024**



Thank you for listening!

Ashley Oleksiak

Environmental Program Specialist
Alaska Department of Environmental
Conservation
1700 E. Bogard Road Ste. B103
Wasilla, AK 99654
Ashley.Oleksiak@Alaska.gov
907-376-1865

Bob Walden

Deputy Public Works Director
City of Wasilla
290 E. Herning Avenue
Wasilla, AK 99654
RWalden@CityofWasilla.gov
907-373-9019

Erich Schaal

Public Works Director
City of Wasilla
290 E. Herning Avenue
Wasilla, AK 99654
ESchaal@CityofWasilla.gov
907-373-9019

