Reservoir Siting Study

Welcome to the Reservoir Siting Public Open House

November 13, 2025
6:00-8:00 pm

Columbia Room, St. Helens City Hall
265 Strand Street, St. Helens, OR 97051

Welcome!

We are glad you joined us. This open house will provide information about the proposed location for the new water reservoir.

Information provided:

- Project overview
- Siting considerations and process
- Analysis maps
- Siting recommendations

Please help us by:

- Reviewing our objectives and process
- Asking questions about the project
- Providing comments
- Use the QR code to check out the project website

Reservoir Siting Study

Purpose and Need

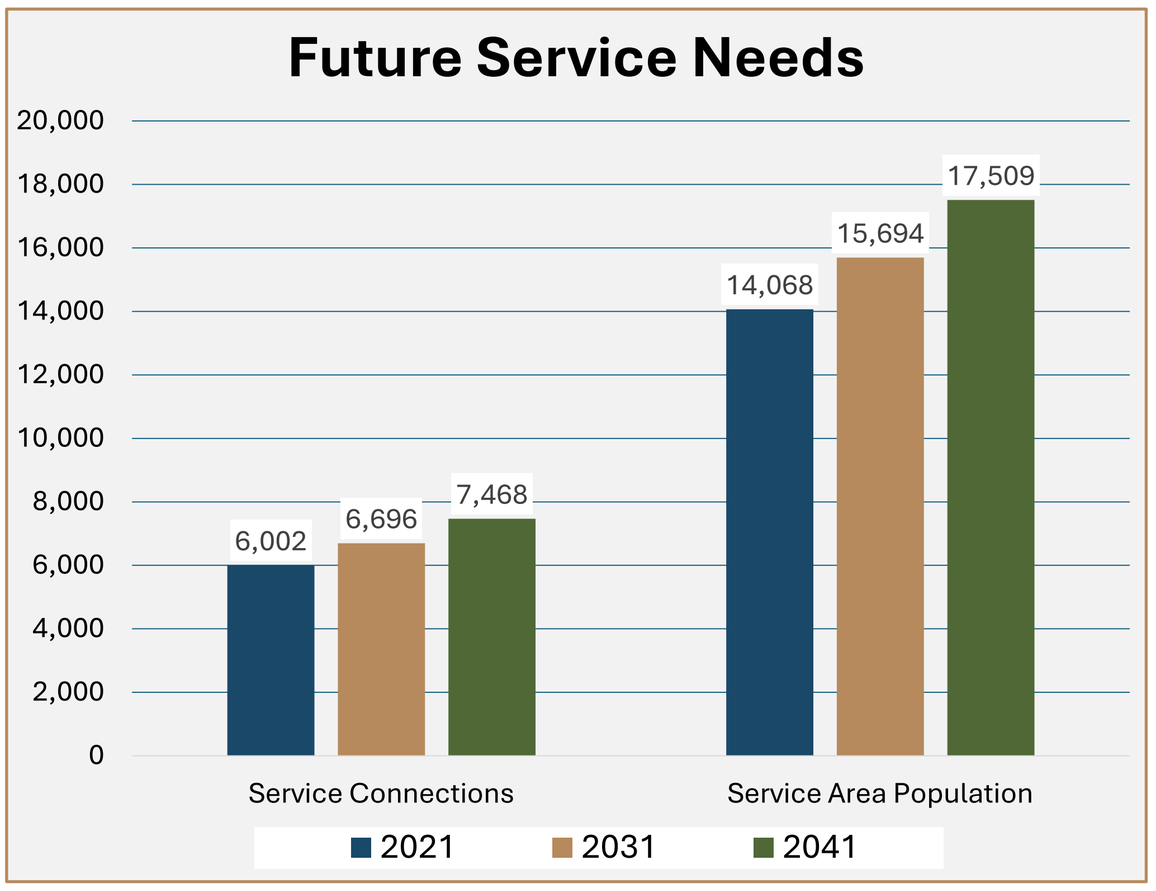
Project Background

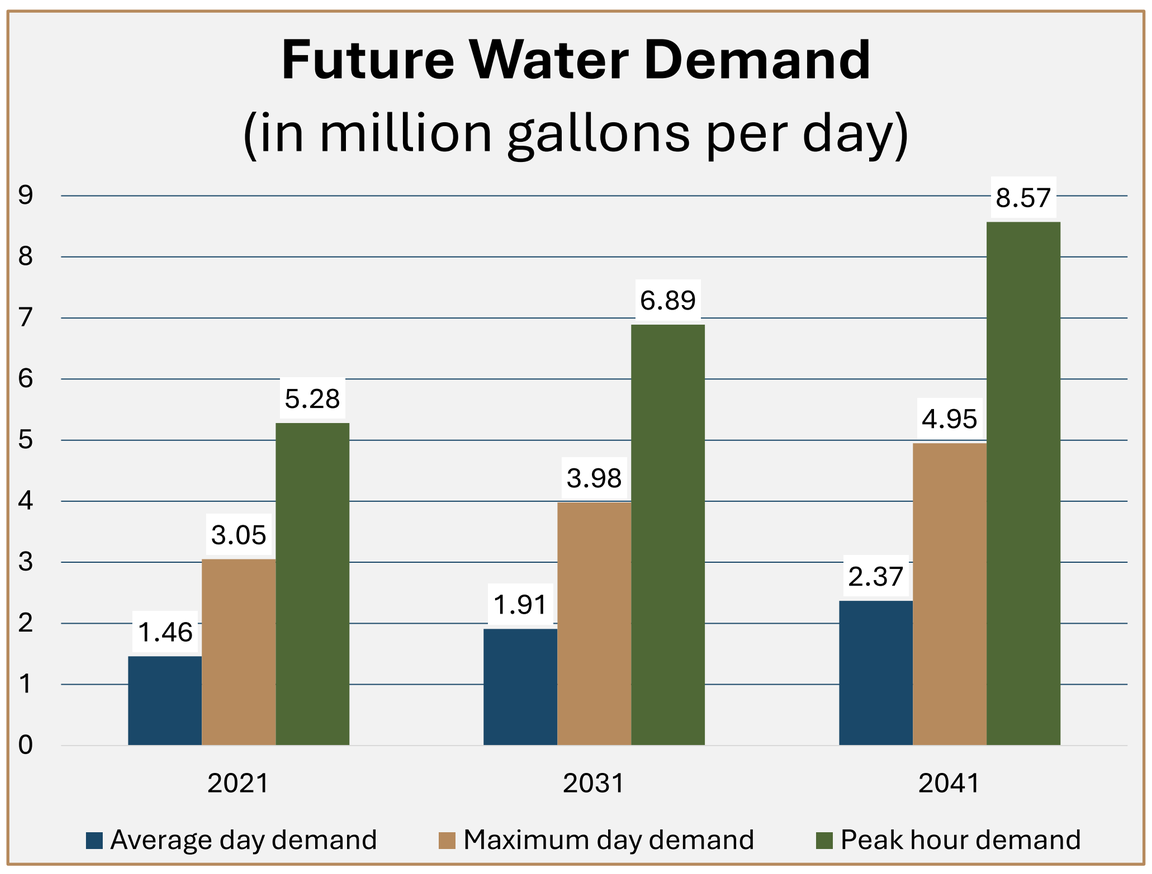
The St. Helens 5.0-million-gallon reservoir project aims to construct a new water storage reservoir to address critical infrastructure needs within the City's aging water system, particularly with the recent loss of the City's oldest and second largest water reservoir.

The new reservoir will enhance operational storage capacity, address fire capacity needs, and improve resilience to seismic events, while meeting both current and future water storage demands.

The objective of this siting study is to determine the most suitable site to construct a new reservoir and allow the City to move forward with property acquisition, design, and construction.

Reservoir Example





Project Timeline

Site Selection
July-October 2025

Land Acquisition
October-April 2026

Design and Permitting
2027-2028

Construction
2029-2030

Funding Development $15,000,000

Ongoing effort: City is seeking financial support from government grants, zero to low interest loans, private sector investments, and other development funds

Reservoir Siting Study
Evaluation Process

Preliminary Site Identification

Desktop review of site and geologic features such as substrate, liquefaction risk, surrounding land use, site challenges and land availability. Eight sites evaluated; four sites removed from consideration.

Primary Evaluation

Desktop review of water flow and pressure needs, environmental considerations, and evaluation of natural and cultural resources. Four sites evaluated.

Secondary Evaluation

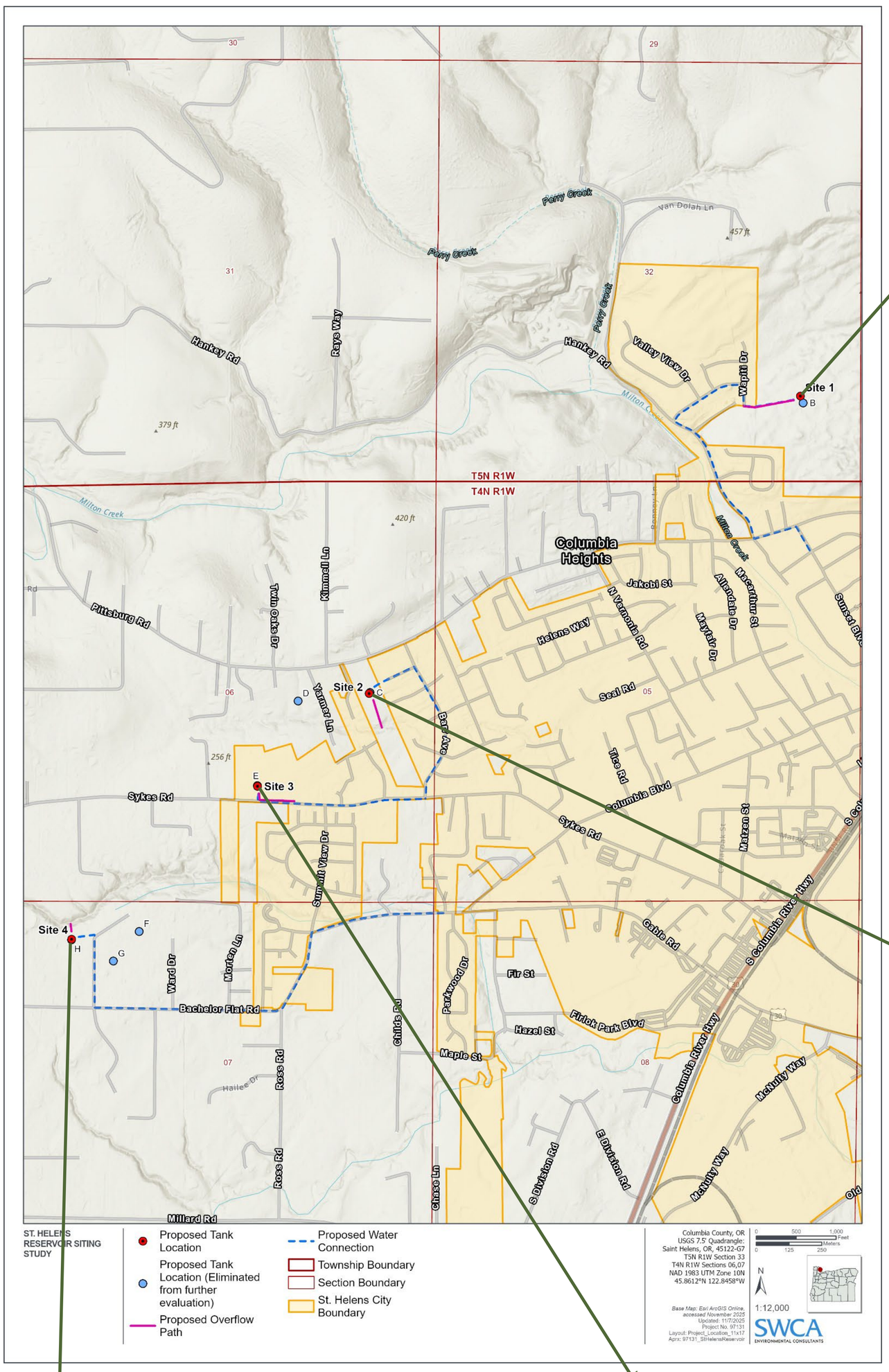
Geologic boring to confirm primary desktop results. Four sites evaluated; three sites removed from consideration.

Evaluation Criteria

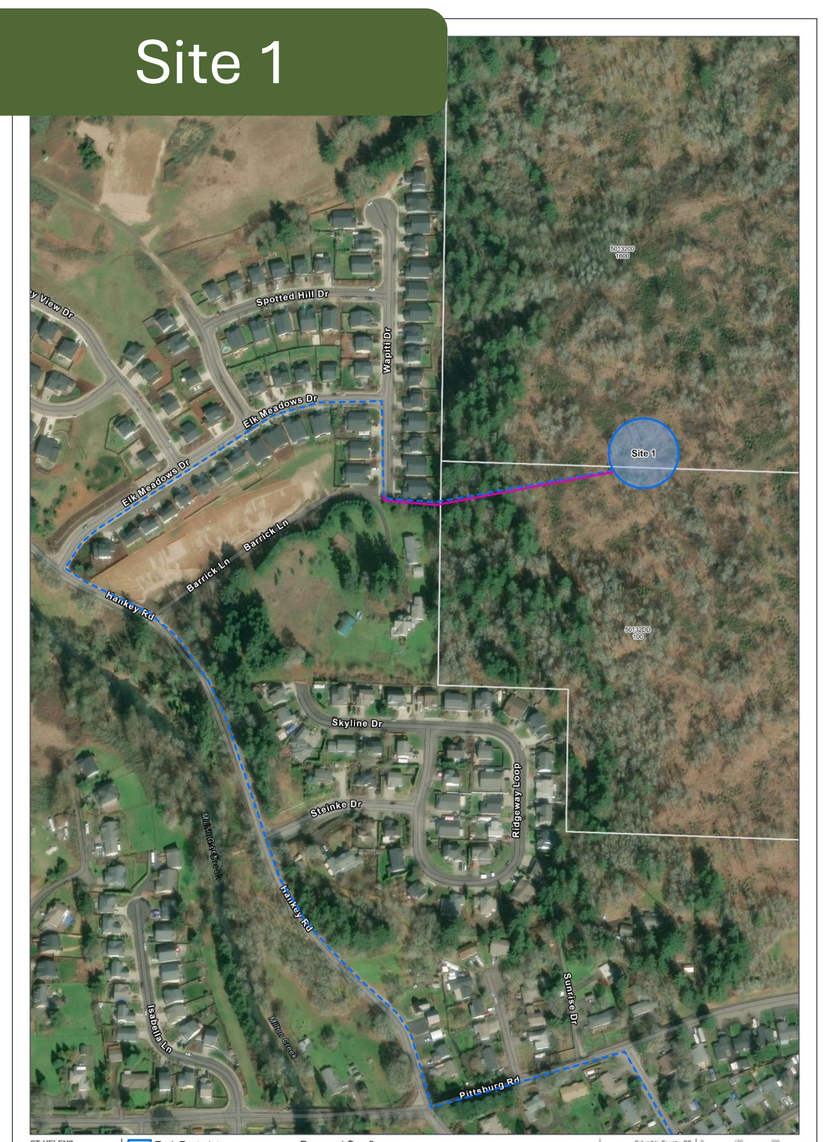
Site Features	Topography, system connections, flow and pressure needs, and size
Geologic Factors	Soil and seismic stability
Environmental and Cultural Resources	Protecting local plants, animals, habitats, wetlands and cultural sites
Constructability	Access, slope, utilities ease of building on site
Community Impacts	Effects on nearby homes and visual impacts
Costs	Affordability of construction and materials

Reservoir Siting Study

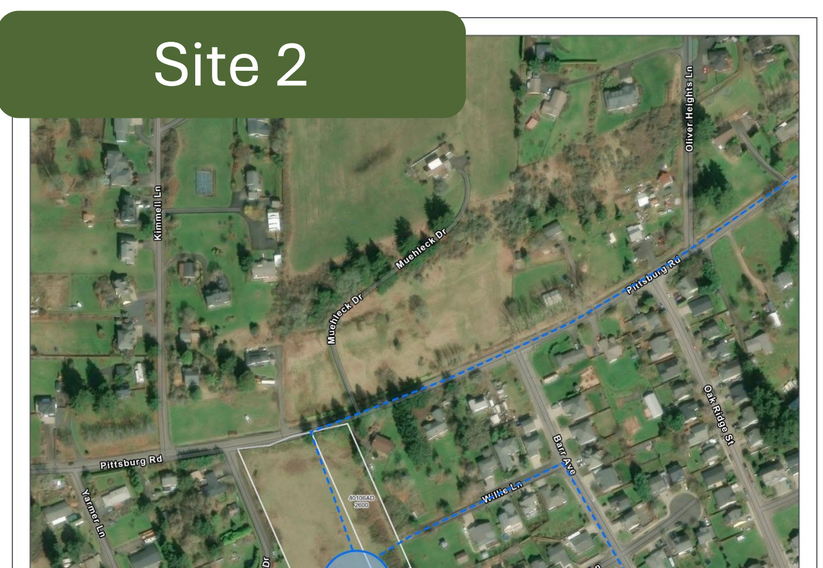
Potential Sites



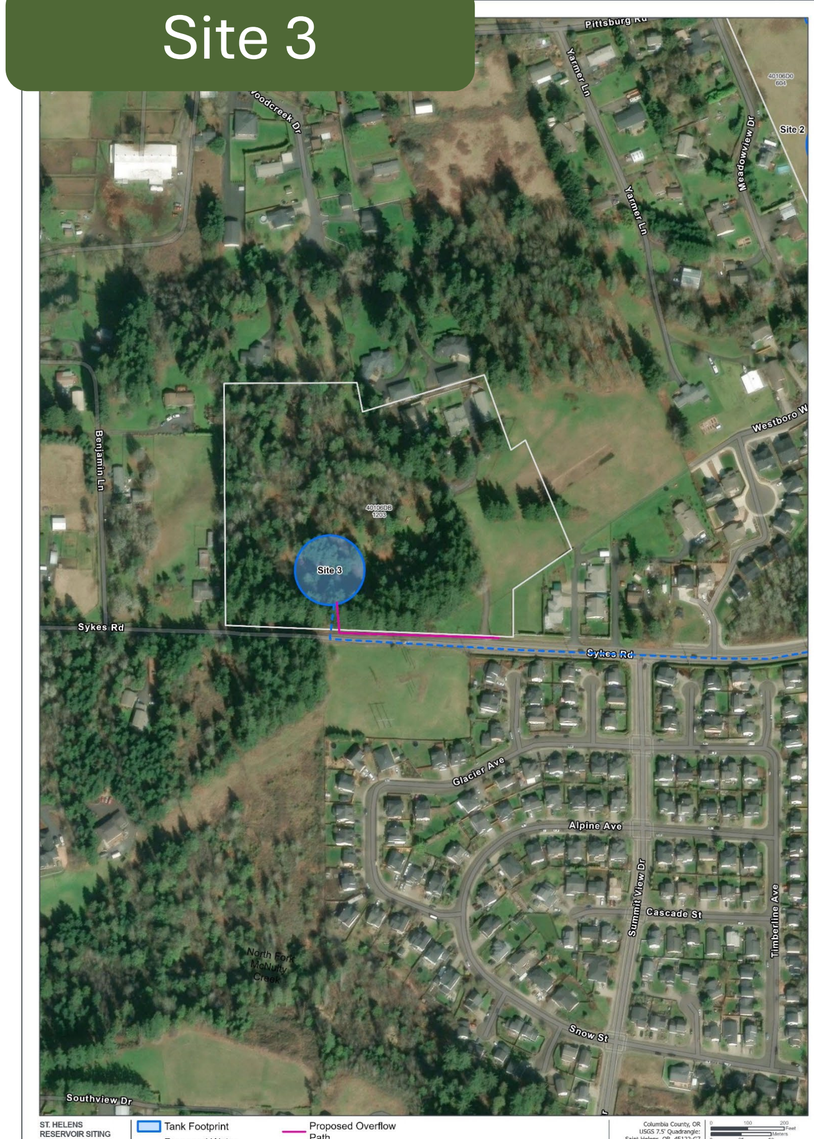
Site 1



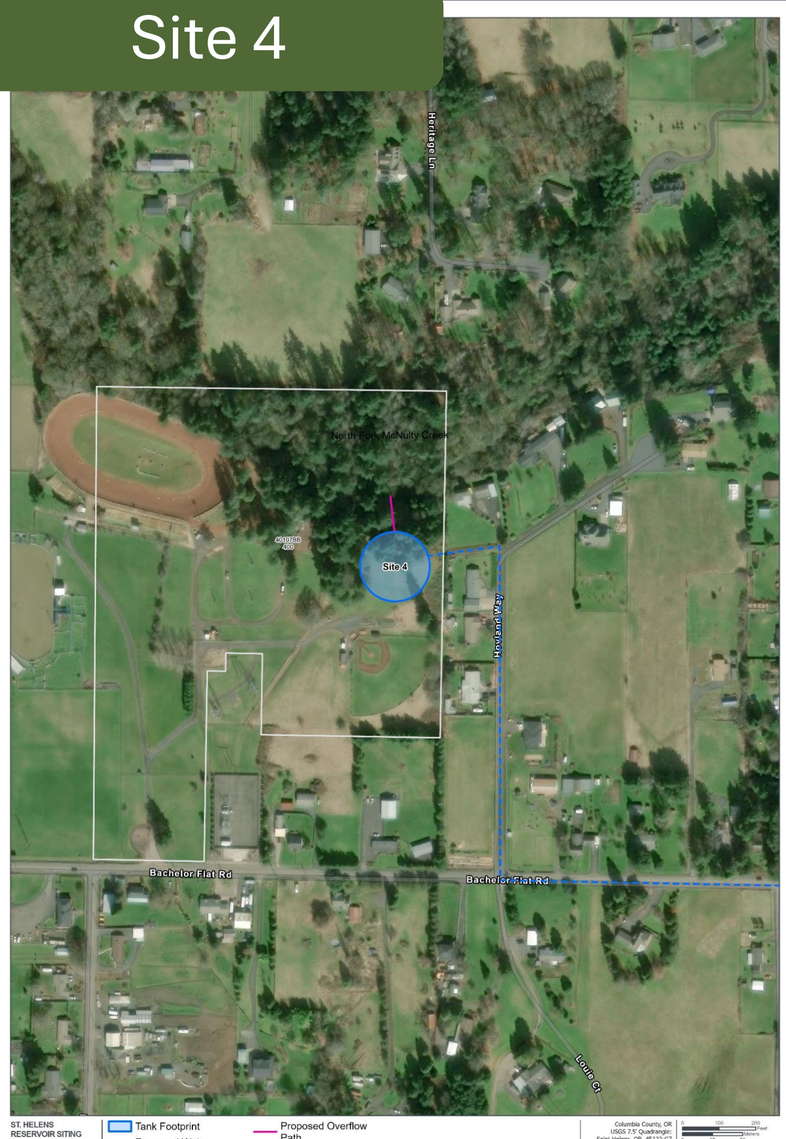
Site 2



Site 3



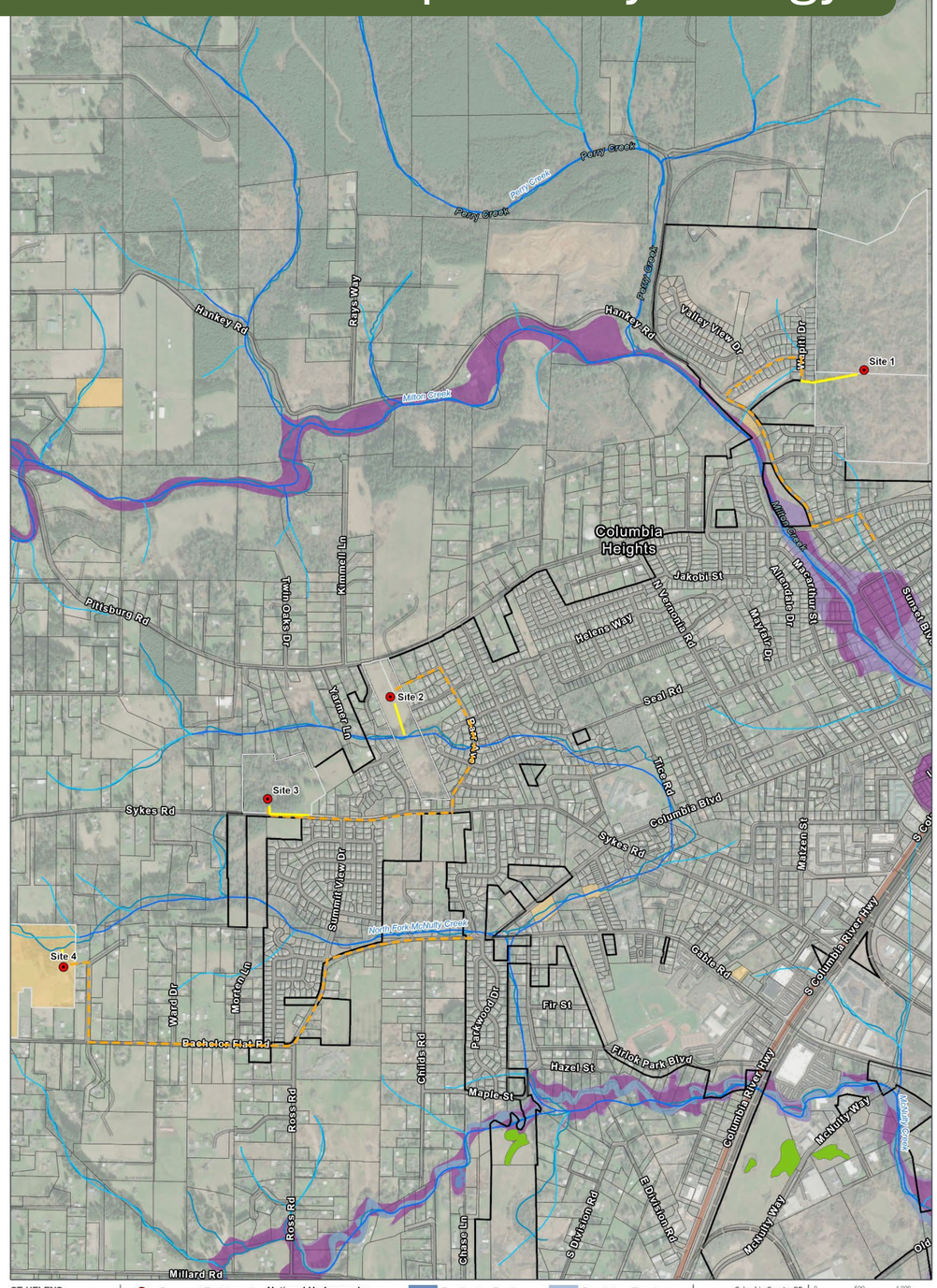
Site 4



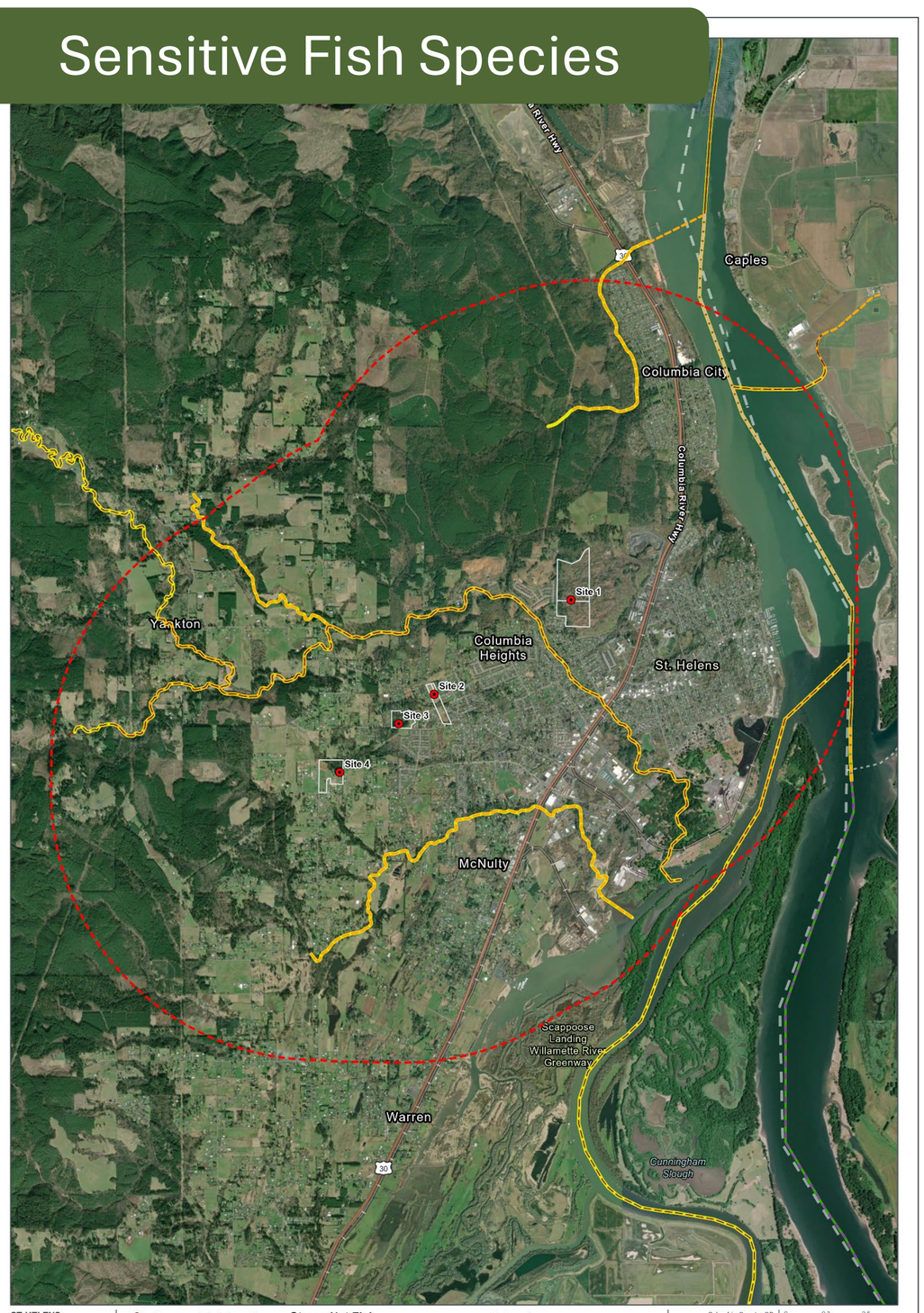
Reservoir Siting Study

Primary Site Evaluation

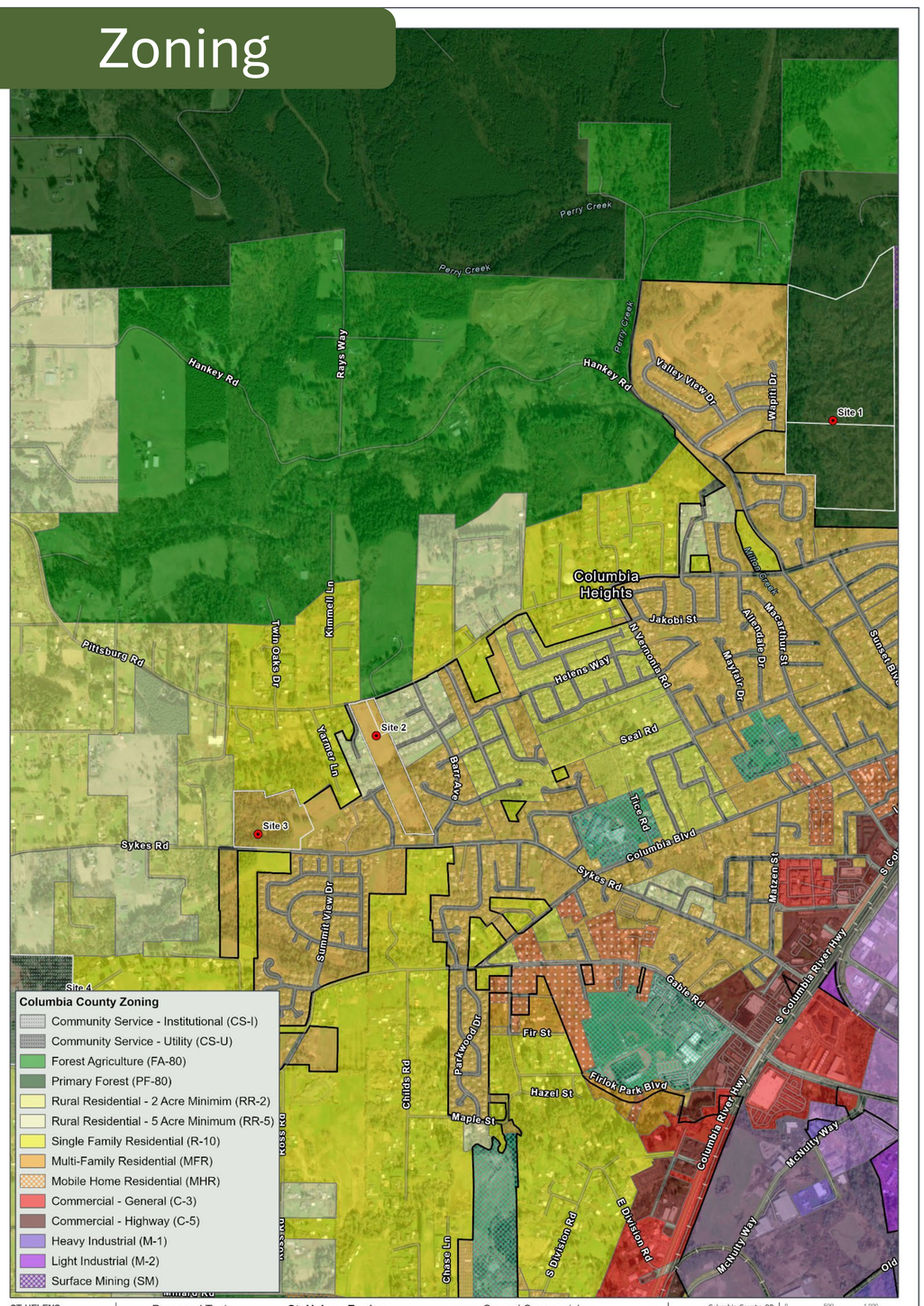
Land Ownership and Hydrology



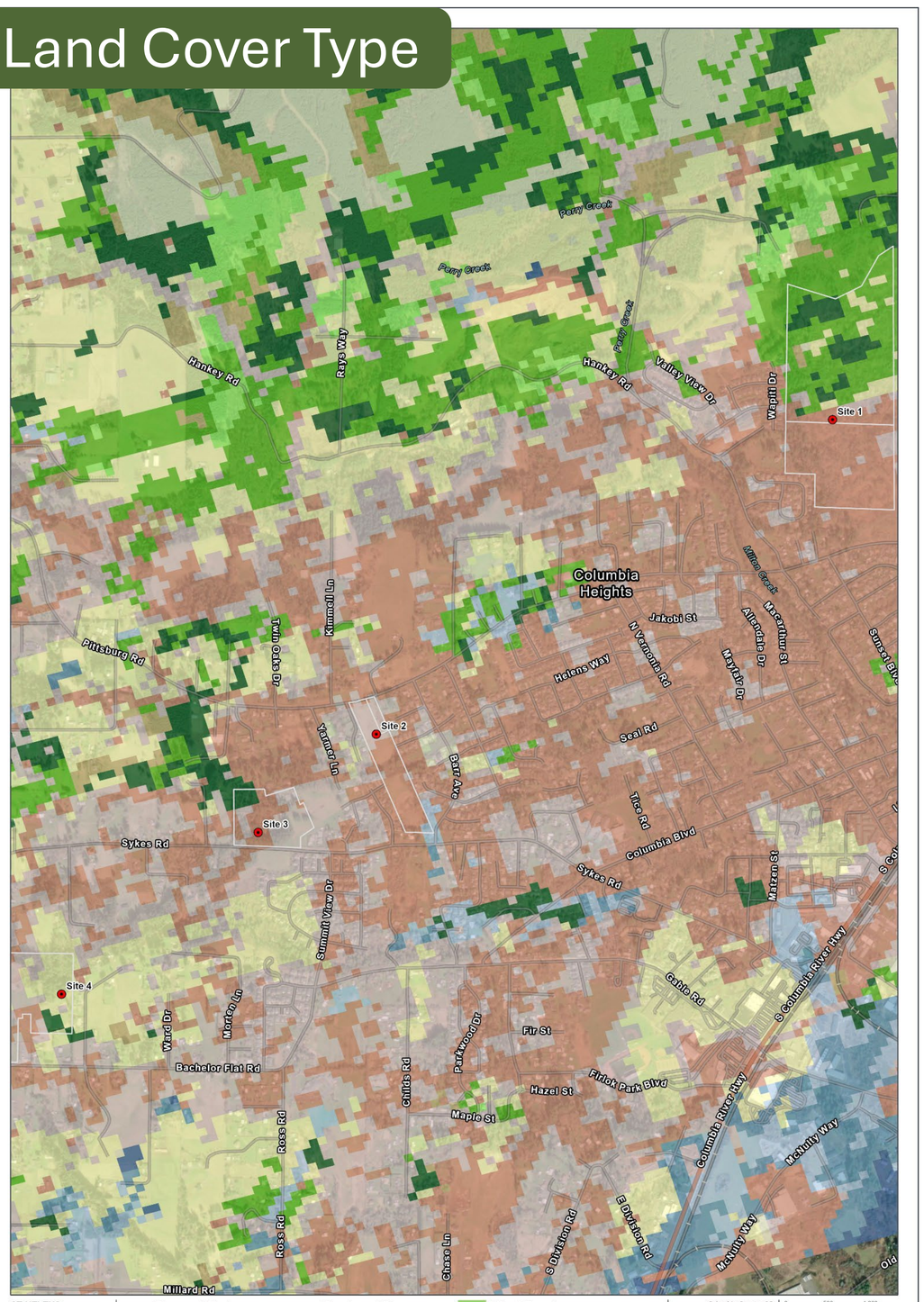
Sensitive Fish Species



Zoning



Land Cover Type



Reservoir Siting Study
Secondary Site Evaluation

Field Verification

Site 1

Soil Composition: Basalt Rock*
Liquefaction Risk: None*
Landslide Risk: Low*
*Geologic boring not completed

Site 2

Seismic Forces: Medium (Class C)
Substrate: Colluvium (0.5-14.5 ft), Decomposed Basalt (14.5-17.5 ft), and Intact Basalt (17.5-36.5 ft)
Depth to Groundwater: 9.5 ft Below Ground Surface (BGS)
Liquefaction Risk: Low
Landslide Risk: Low
Implications: None

Site 3

Seismic Forces: High (Class E)
Substrate: Fill (0-7 ft), Missoula Flood Deposits (7-61.5 ft)
Depth to Groundwater: 15.7 ft BGS
Liquefaction Risk: Low
Landslide Risk: Low
Soil Compressibility: Moderate
Implications: Tank height constraints, structural slab may be required

Site 4

Seismic Forces: High (Class E)
Substrate: Missoula Flood Deposits, Very Soft Silt Clay, Soft to Stiff Clays and Silt
Depth to Groundwater: 15 BGS
Liquefaction Risk: High
Landslide Risk: High
Soil Compressibility: High
Implications: Deep foundations and surcharging required, tank height constraints

Reservoir Siting Study

Preferred Site

Site 2

Site Features

- Adequate size for reservoir
- Low slopes
- Excellent water system connections, fill rates, fire flow and pressure

Constructability

- Access and abundant space allow flexibility in construction
- High geotechnical stability - would not require additional foundation
- Landowner willingness
- Reduced costs compared to other potential sites

Geologic Favorability

- Low landslide or liquefaction risks
- Best geotechnical stability of all sites
- Low substrate compressibility requires no additional foundation, reducing costs

Community Impacts

- Reduced cost for the community due to constructability, and geologic favorability
- 70-100 feet from existing homes with some existing vegetation for screening

Environmental and Cultural Resources

Environmental

- Site contains 0.61 acre of wetlands and 317 linear feet of perennial stream, which may be avoidable,
- Site is mostly developed (65%) with open space, suggesting fewer environmental constraints
- No aquatic special status species on site.

Cultural

- No previously recorded cultural resources
- Low to moderate probability of identifying cultural resources during construction