Pikes Peak Reservoir and Pump Station Project

What is the project purpose?

To replace the existing Pikes Peak Reservoir and Pump Station facilities located in Bridle Trails State Park.

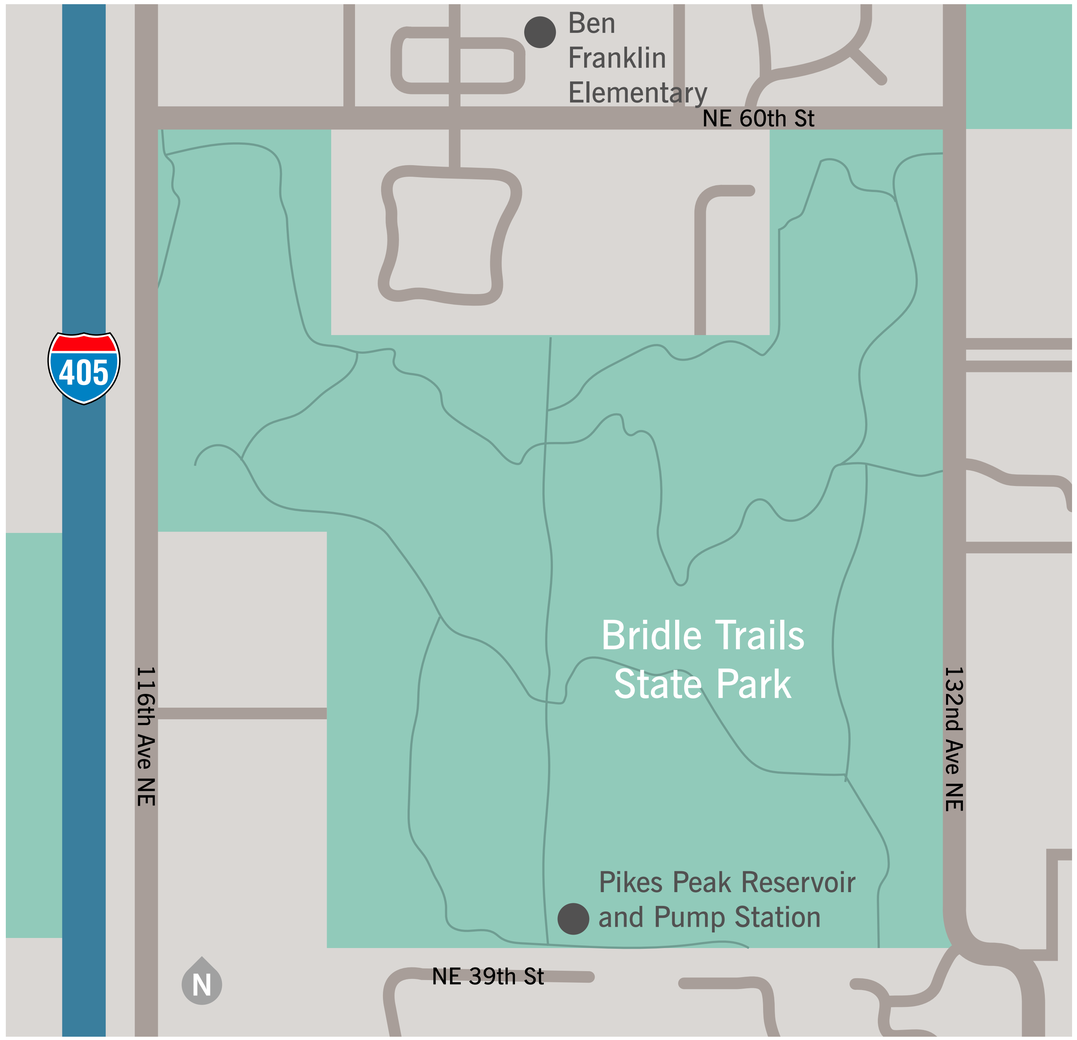
Why replace both facilities?

After an evaluation of the reservoir and pump station, Bellevue Utilities determined this is a high priority project because the facilities:

- Are not up to current seismic and operating standards
- Are nearing the end of their useful lives
- Provide water service reliability and fire protection to the residents of the neighborhood

We are exploring options for utilizing the Cherry Crest Pump Station as part of the proposed alternatives evaluation for Pikes Peak Reservoir and Pump Station:

- The Cherry Crest Pump Station is due to be replaced by 2024
- The Cherry Crest location alternative would move up the replacement timeline and combine the two pump stations into one



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What areas do the reservoir and pump station serve?

The Pikes Peak water system serves several residential neighborhoods roughly bounded by I-405, SR-520, 140th Avenue NE, Bridle Trails State Park, and the City of Kirkland to the north. Due to the hilly terrain, the area is split into three pressure zones.

How does the reservoir and pump station work?

Water is supplied to the area directly from the Tolt Eastside Supply Line (TESSL). At certain times of the year, the TESSL water pressure is high enough to feed all three pressure zones. Whenever the supply pressure drops, Bellevue's local pump stations take over to move water and maintain pressure.

Pikes Peak area water storage is provided by the Pikes Peak Reservoir. The reservoir and pump stations work together to maintain water pressure for homes. Water pressure can be affected by more seasonal water use, such as during summer. It can also be affected by the hilly area. Notice the different numbers for the pressure zones in the area served by the reservoir. Those numbers represent the feet above sea level for the particular pressure zone. The various pressure zones establish the means of getting water to your home.

Evaluation criteria

Evaluation criteria were developed based on input from a Community Advisory Group made up of your neighbors and the needs of the Pikes Peak service area. The criteria listed below were used to shape each draft alternative.

Reservoir

- Total volume: 1.25 million gallons
- Minimum floor elevation (inside): 530 feet (matches existing) to 535 feet
- Maximum roof elevation (outside): 568 feet (10 feet higher than existing roof)
- Clearance between reservoir and City of Bellevue easement boundary: 10 feet

Pump station

- Footprint (outside, including roof overhang): 25 feet by 35 feet (width by length)
- Clearance between pump station and easement boundary: 5 feet

General

- Limit trail modifications
- Minimize tree impacts
- Three-foot minimum clearance between southern fence boundary and trail

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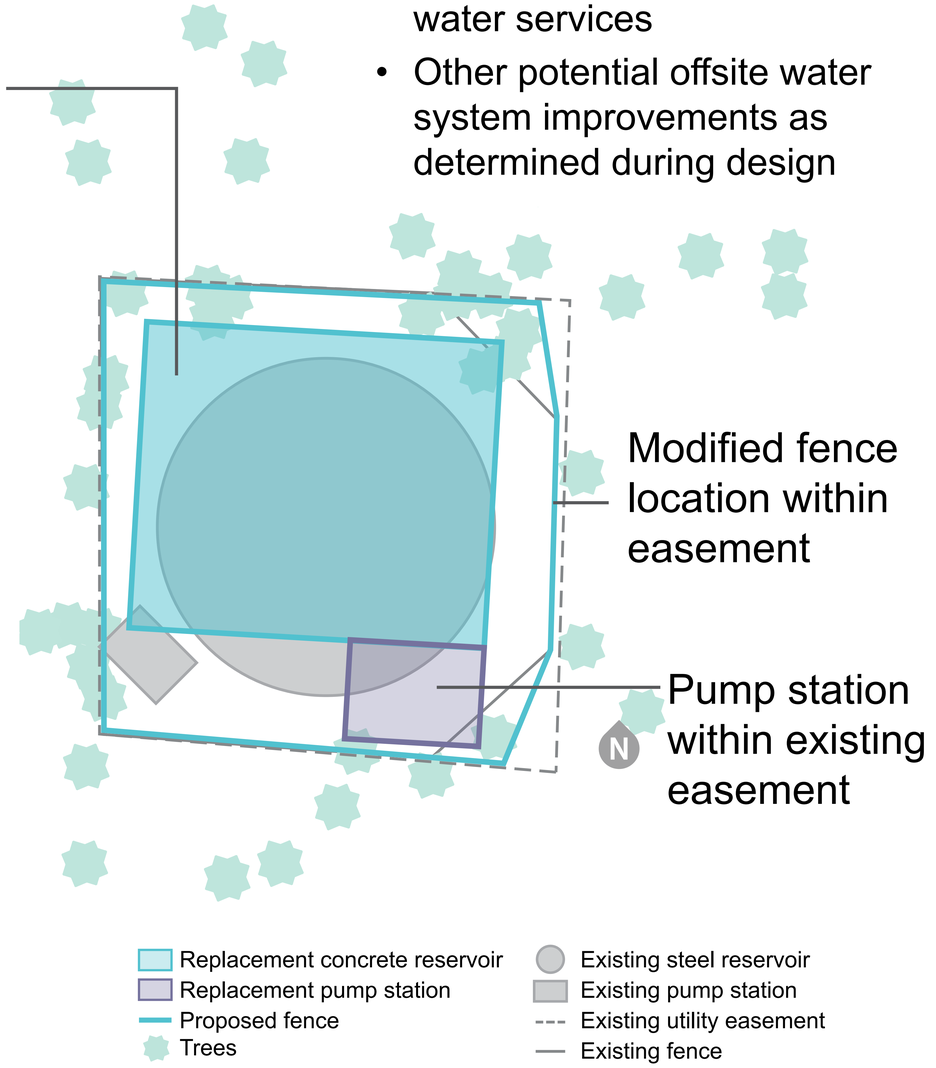
Alternative A

Reinforced concrete reservoir & pump station within existing easement

- Rectangular, reinforced concrete reservoir within existing easement
- Reservoir height is 38 feet tall *(compared to existing 28 feet)*
- Reservoir dimensions are 89 feet by 75 feet *(compared to existing 85-foot diameter)*
- Maintain the same floor elevation as existing reservoir
- No utility vehicle access around the reservoir
- Some tree removal within easement boundary
  (note, easement boundary is larger than the existing fence boundary)



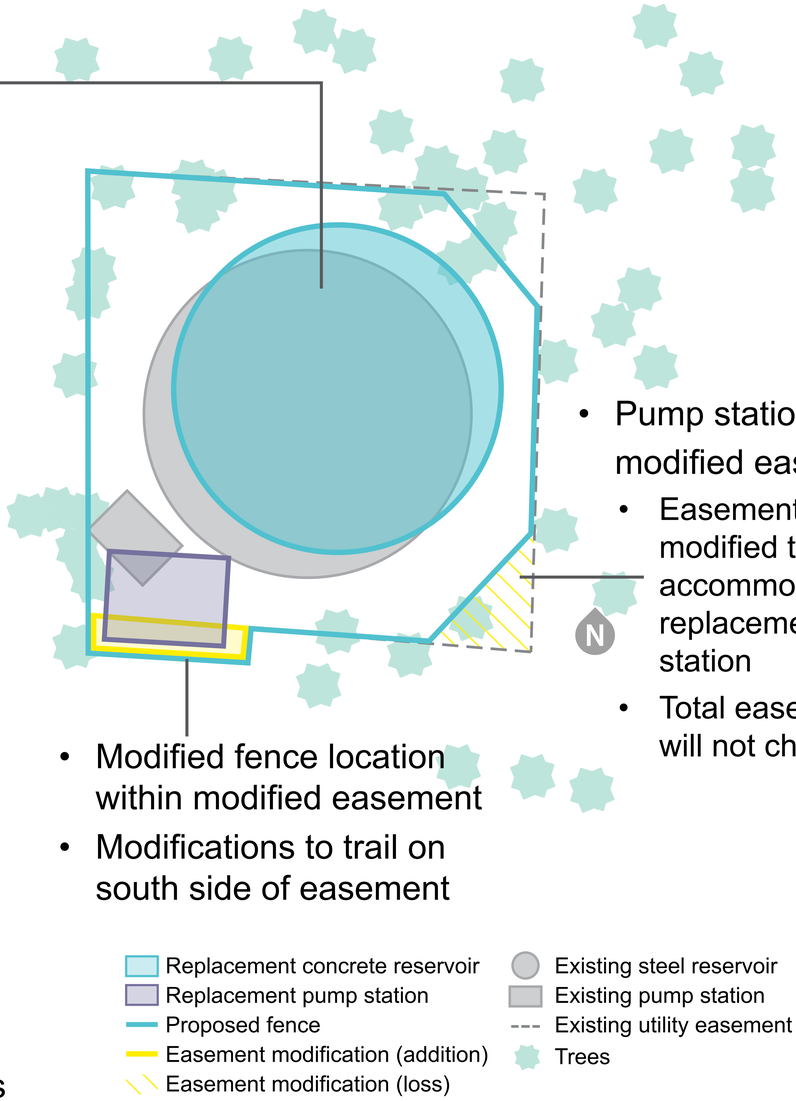
- Offsite improvements in some lower elevation areas for installation of pressure reducing valves on individual water services
- Other potential offsite water system improvements as determined during design

Pikes Peak Reservoir and Pump Station Project

Alternative B

Prestressed concrete reservoir & pump station within modified easement

- Circular, prestressed concrete reservoir within modified easement
- Reservoir height is 38 feet tall *(compared to existing 28 feet)*
- Reservoir diameter is 83 feet *(compared to existing 85 feet)*
- Maintain the same floor elevation as existing reservoir
- Utility vehicle access around reservoir
- Some tree removal within easement
  (note, easement boundary is larger than the existing fence boundary)
- Offsite improvements in some lower elevation areas for installation of pressure reducing valves on individual water services
- Other potential offsite water system improvements as determined during design



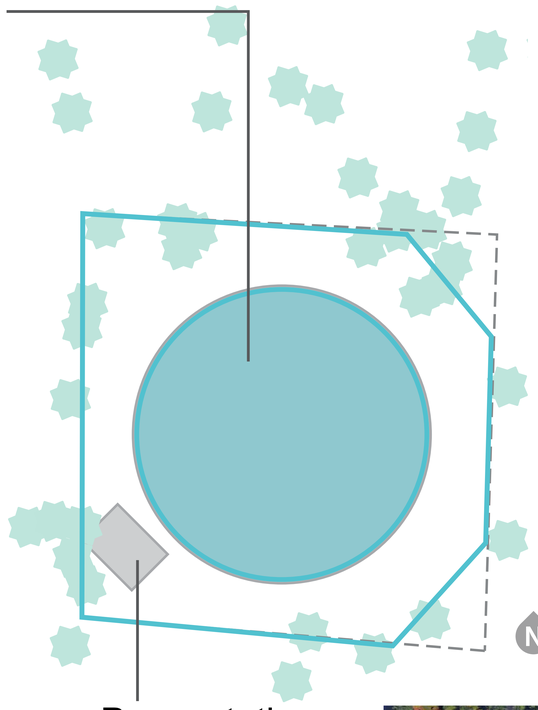
- Pump station within modified easement
  - Easement area modified to accommodate the replacement pump station
  - Total easement area will not change
- Modified fence location within modified easement
- Modifications to trail on south side of easement

Pikes Peak Reservoir and Pump Station Project

Alternative C

Prestressed concrete reservoir within existing easement & pump station at Cherry Crest

- Circular, prestressed concrete reservoir within existing easement
- Reservoir height is 38 feet tall *(compared to existing 28 feet)*
- Reservoir diameter is 83 feet *(compared to existing 85 feet)*
- Maintain the same floor elevation as existing reservoir
- Utility vehicle access around reservoir
- Some tree removal within easement
  (note, easement boundary is larger than the existing fence boundary)



- Offsite improvements in some lower elevation areas for installation of pressure reducing valves on individual water services
- Other potential offsite water system improvements as determined during design

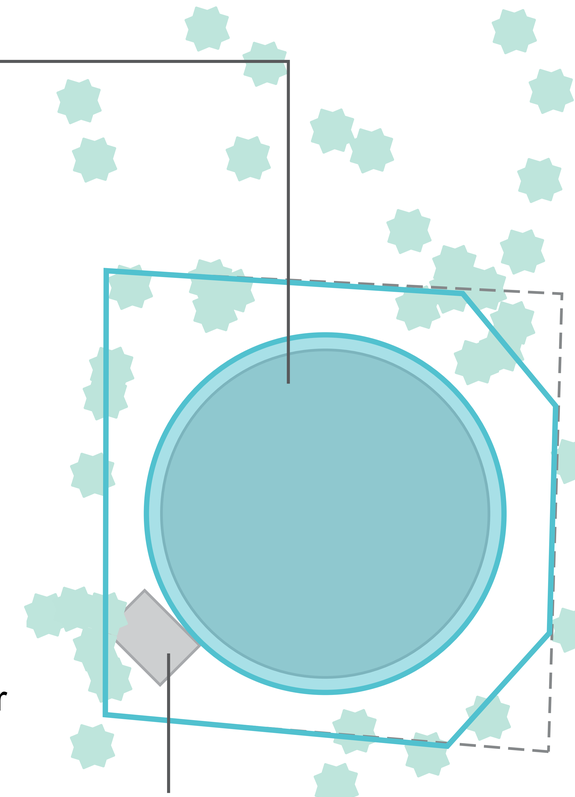
Replacement concrete reservoir
Proposed fence
Trees
Existing steel reservoir
Existing pump station
Existing utility easement

Pikes Peak Reservoir and Pump Station Project

Alternative D

Welded steel reservoir within existing easement & pump station at Cherry Crest

- Circular, steel reservoir within existing easement
- Reservoir height is 38 feet tall *(compared to existing 28 feet)*
- Reservoir diameter is 93 feet *(compared to existing 85 feet; will be wider to accommodate increased floor height)*
- Reservoir floor raised 5 feet above elevation of existing reservoir floor to remove need for retaining wall around perimeter of reservoir *(since steel reservoir cannot be partially buried)*
- Offsite improvements in some lower elevation areas for installation of pressure reducing valves on individual water services
- Other potential offsite water system improvements as determined during design



- Utility vehicle access around reservoir
- Some tree removal within easement (note, easement boundary is larger than the existing fence boundary)

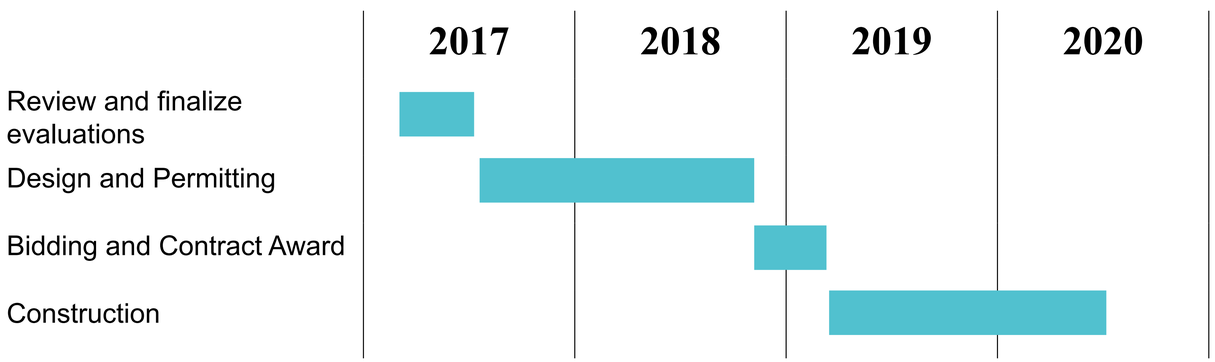
Next Steps

Further Alternatives Evaluation

We will evaluate the four alternatives with refined criteria that consider financial, social and environmental elements into the decision-making process for selecting an alternative.

Individual criteria are given a weight factor and a score for each alternative. All the criteria are totaled for each alternative. The alternative with the highest score is then the one that best meets the criteria.

Preliminary Project Schedule



*Schedule subject to change based on selected alternative

Leave a Comment

Thank you for reviewing the Pikes Peak Reservoir and Pump Station project materials!

The project team would love your feedback, so please leave a comment. Comments are accepted by submitting one at the comment station tonight, online, by visiting the online open house or submitting via email.

Contact Us

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Website: **www.bellevuewa.gov/pikespeak.htm**
Online open house: **PikesPeak.Participate.Online**