

CLEAR CREEK PROJECT FAQ

The Clear Creek project is expected to take at least a decade to complete. The primary goals of the project are to relieve flooding issues on land near the Puyallup River and Clear Creek, maximize the amount of agriculture use in the area, and improve habitat for wildlife.

The county is interested in buying properties from willing sellers in low-lying areas near Clear Creek. Many of these properties have repeatedly flooded or have been surrounded by water during flood events. Residents have had to evacuate in the past and then deal with the cleanup and repairs to their homes and properties after the floodwaters have receded. Many property owners in these areas have sold their land to the county at fair market value and others have expressed interest. As the county has grant funds to purchase properties, owners will be contacted if they are interested in selling.

Once the properties are sold and the buildings removed, the county will start the next phase of building a ring levee starting near the point where Clear Creek drains into the Puyallup River. The ring levee will stretch back the vicinity of 52nd St. E and the Burlington Northern Railroad tracks. The purpose of the ring levee is to protect lands on the other side from flood waters from the Puyallup River as it backwaters into Clear Creek. Once the ring levee is complete, the two flood gates that close the creek channel from the river during flood events will be removed. Removing the gates will allow the river to backwater into Clear Creek while minimizing the impact to residents.

Below are some questions asked by community members about the upcoming project. If you have other questions, let us know so we can provide answers.

Why does the flood gate need to be removed? We have not had issues with it. It seems to be the starting point for much of this work and we would like to understand this first so that we can move forward. Building a new floodgate seems to be less expensive than a ring levee project.

There are two flood gates next to each other. The newer, more modern gate is owned and maintained by the Port of Tacoma. The second, older gate is owned by the state department of transportation. The gates are something of a double-edged sword. They were installed to protect the neighborhoods and farmland from the Puyallup River when it is flooding. When the river is flooding it will backflow into the creek and flood the surrounding properties. The gates are designed to close when the river reaches a specific height. As the river drops, the gates gradually open and Clear Creek can resume draining into the river. The double-edged sword happens while the gates are closed. The creek cannot drain and backs up flooding the surrounding properties – although not as much as if the river were allowed to flow into the creek.

This cycle has happened numerous times in the last few decades and most recently this past December. The consequences are having to evacuate people out of harm's way and a great deal of money spent repairing flood damaged properties. Many residents in the area of have sold their land to Pierce County after living through floods in the last two decades. In addition, a naturally free-flowing creek entering the Puyallup River at this location provides much better habitat than a flood gated creek.

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Is a ring levee more expensive than maintaining the two gates?

Yes. However, buying properties from willing sellers and building a ring levee to prevent the river and creek from flooding other properties in the future is a more viable and cost-effective plan. Otherwise, the community maintains the cycle of disrupting people's lives every few years with evacuations and the resulting flood damage repairs and costs. Other options such as building a pump system were also looked at and found to be cost prohibitive.

Who is in charge of operation of the floodgate, and where can we learn more about its operations and maintenance?

The Port of Tacoma maintains the newer gate. It is a modern design with a jack screw, electric motor and operated by sensors that tell it when to close and open. The other gate, owned by the state department of transportation, is a simple flap gate hinged at the top. When the river rises the water pressure closes the gate.

What are costs of a pump system in comparison to the ring levee & buyout program? During the tour of Early Bird Farm there was discussion about pump stations that would pump water out of agricultural fields (especially in the Spring). How would a pump system at the flood gate differ from these pump systems? What is the cost?

The discussion about pumping agriculture land revolved around including in the project design a way for farmers who wanted to pump water from their land. Moving seasonal surface water off land would require significantly smaller pumps than those needed for a pump station for the Clear Creek area.

A pump station was considered during the development of the *Pierce County Rivers Flood Hazard Management Plan, 2013*. Engineers used cost comparisons of a similar sized pump station which was designed to move 39 cubic feet per second (cfs) of water at a cost of more than \$5 million (in 2004). A station in Clear Creek would need to pump 500 to almost 700 cfs. If built today, the price of such a pump station could cost more than \$50 million. Maintenance costs for the life of the pump station would also be substantial. Additionally, this is a mechanical solution which can be, to some extent, unreliable during an emergency. Pumps of a similar size are used extensively in cities such as New Orleans. These pumps are part of the system that failed and caused catastrophic flooding following Hurricane Katrina in 2005 when they lost power and the area became inundated with water. Homes which are in harm's way today will continue to be even with the mechanical solution. The costs of repairs to those homes and property will continue.

For that reason, the ring levee and property acquisition solution was considered more viable in the long term. While this solution will also have substantial upfront costs, the long-term maintenance costs are expected to be lower and it provides a non-mechanical method of

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reducing flood risk. This solution re-opens areas for backwater fish habitat that have not been available for many years. This type of project is one of the top priorities of the state and many granting agencies who may be able to fund this project. Pump stations, in contrast, typically are not supported by granting agencies because the pumps are not fish friendly.

Is the eventual plan to remove ALL homes from the area, or just low elevations – residents have been receiving very mixed messages.

The county is focused on buying homes from willing sellers – specifically those properties closest to the creek and in the lower elevations. So, it is not the plan to buy all the homes in the area but to buy and to remove the homes most at risk of flooding.

How will SWM be communicating with landowners about important information? What is the best way to keep up-to-date on the myriad of activities that SWM is planning?

Good questions – and Pierce County wants input from the community about how residents would like to receive communication. For example, in other parts of the county the neighbors prefer email communication while other neighborhoods like to receive information via postal mail. Pierce County has a website for the Clear Creek project that is updated as new information is available. Residents are also welcome to contact the project manager by email or phone if they have questions.

Can we have more details about the number of flood occurrences, evacuations, and number of homes involved in Clear Creek flood related activities over the past 10-20 years. Where would we find more data?

The Clear Creek area has experienced significant flooding six times in the last 15 years. The most recent flooding was in December of 2015. Many homeowners had to evacuate their homes in: November 1990, February 1996, November 2006 and January 2009. Between 1990 and 2012 there were eight Presidential National Disaster Declarations due to flooding damage across Pierce County. These declarations provided federal funding for cleanup, repairs and property acquisitions from willing sellers.

What is the timeline for building the levee?

This project is likely to take at least a decade. In large part the timeline comes down to money. Most properties purchased in this program are NOT purchased using county dollars. Pierce County applies for grants from state and federal agencies. Using these grant dollars, the county has to purchase land from willing sellers before the levee can be constructed. Past experience has shown property acquisition happens in phases – the county applies for a competitive grant, time passes, the county wins the grant, the county buys properties until the money is gone, the county applies for more competitive grants and the process starts all over. In some cases, the

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county has worked for over a decade to acquire properties in a neighborhood. For some residents, this is a frustrating process because they want to leave sooner rather than later. Other residents who want to stay on their property as long as possible appreciate that the county can work with them.

What is the timeline for Pierce County's work on farmland-related planning?

Conserving agriculture and possibly expanding it in the Riverside/Clear Creek area is a priority for Pierce County. Working with farmers and agricultural support groups, the county wants to maximize the land purchased as part of the project for agriculture use. This will be a partnership that will take time as many variables and issues are addressed.

Regarding a flood study by USGS: can we request one? How do we request one? We were told during an initial meeting that the county was working from 1980's data and that a study from USGS could be requested.

Pierce County uses data from a variety of sources including information from the federal government. Information for the development of the flood insurance rate maps was developed in the 1980s. While some of that data remains useful, Pierce County has conducted its own studies or collaborated with state and federal agencies to develop new data and studies. The Clear Creek project was proposed as part of the *Pierce County Rivers Flood Hazard Management Plan*, 2013 and has recently been included as part of an investigation and study conducted by the county and the Army Corps of Engineers of the lower Puyallup River. This study, referred to as the General Investigative Study (GI), will be completed this year. As part of the GI Study and preliminary design work for the Clear Creek Project, a hydraulic and hydrologic model for the Clear Creek floodplain reconnection was completed. Additional information will also be provided by the Farming in the Floodplain planning effort which is early in its development.

What is happening with the levy along River Road?

The levee along River Road will remain to protect infrastructure and property and may be modified in the future. If the ring levee is built, during floods the rising water from the river can flow into the creek channel and spread into the land in front the levee and reduce flood damage.

How will this affect development rights and property values?

Development rights will remain the same unless the county council approves changes to county code. If you would like more information about development rights in this area please contact Pierce County Planning and Land Services at 798-7210. As for property values, the county has not seen buyout programs impact property values or private party sales. The county purchases

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property at fair market value, using independent appraisers, and waives several expenses typically associated with a property transaction including an inspection and closing costs. This provides higher compensation to the property owner than with a typical private sale.

We are concerned that building a ring levee behind a decertified levy seems dangerous. Where can we learn more about this?

The Puyallup River levee is a non-accredited levee that currently does not provide freeboard during a 100-year event. This means that while the levee can contain the water from a 100 year flood event, there is not a margin of error. The ring levee will be constructed to allow water on the back side of the levee to pass through in one direction at certain determined points.

Although the probability of the River Road levee being overtopped by the Puyallup River is low, the Clear Creek project will consider that risk in the design. The Riverside area flooding has, historically, occurred from Clear Creek backing up – most recently in December 2015.

Also, is there more information about what happens to property values in the Clear Creek area after the Puyallup River is re-certified as a levee?

Pierce County is not qualified to answer this question. A professional Realtor or other real estate expert should be contacted to answer this question.

Does the county plan to do anything to address properties within the area who are causing ground and surface water pollution within Clear Creek? Creating a ring levee, and increased flooding, could enhance the impact of this pollution. Where can we go for help?

The county's water quality section responds to calls about surface water pollution. If you see surface water pollution occurring (someone dumping liquids down a storm drain, for example) you can call 253-798-2725 and report the issue.

Why is the berm being built to a 23' elevation? If the floodgate is removed, this doesn't seem high enough.

The 23-foot elevation is the estimated flood elevation (with a margin of error) where the Puyallup River and Clear Creek meet if the flood gates were not in place. The ring levee will be built to meet that flood height. However, understand the levee will not be 23 feet tall. In higher areas, the levee will be the difference between the elevation of the land and the estimated flood elevation. For example, if the land is 14 feet above the river bed then the levee will be nine feet tall.

How will water drain from one side of the ring levee to the other? It seems like the ring levee will block drainage rather than improve it.

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Existing ditches and new ditches will travel through the ring levee to allow water to drain from the far side of the levee to the creek side. The ditches will have back flow prevention devices on them to prevent water from coming back up them.

Is there any chance that brackish water will get into the drainage area?

At current sea levels, the “salt water wedge” does not travel up the Puyallup River far enough for this to be a problem.

What are drainage tiles, and how can they be made more functional?

Drainage tile are pipe sections installed years ago by farmers and maintenance workers to help with surface water drainage. Regular maintenance will help improve their ability to carry water off property.