



## Point No Point Coastal Flooding

### Frequently Asked Questions

#### Can you describe the equipment and system for outflow from the PNP marsh?

Point No Point is a naturally formed sand spit extending east and north from the headlands of Hansville. The original saltwater estuary was closed as the lighthouse and subsequent development was constructed to prevent tidal exchange, creating a marsh. Since then, the north shoreline has been developed extensively.

Currently, the impounded freshwater marsh of about 33 acres receives stormwater runoff and groundwater flows from the 610+ acre watershed along Hillview Lane, Thors Road and Gust Halvor area.

The single discharge point for the impounded marsh is the tide gate in the eastern shore south of the lighthouse. The tide gate is set in an 18" diameter concrete pipe with the 18" outfall pipe extending 220 feet to the east, with the outfall elevation at around 4 feet of tidal height. The tide gate mechanism is a Checkmate Check valve rubber boot vs a hinged flap gate.

The flow line of the tide gate is at about 6 feet of tidal elevation, meaning that tide conditions above 6 feet provide back pressure on the tide gate and begin to restrict the flow. Thus, at higher tide levels, the check valve is completely closed to prevent tidal flow into the marsh. At low tides, the check valve opens to allow the freshwater marsh to flow out to Puget Sound.

#### Can you explain the age of the tide gate equipment and what preventive maintenance has been done?

The tide gate was originally installed prior to 1950 and upgraded over time by local property owners working to transition the estuary into agricultural land. The tide gate was not regularly maintained, so Kitsap County Public Works Department took over the maintenance of the equipment around 1988.

Public Works extended the outfall pipe in 2013 to a lower tide level to prevent sedimentation from restricting the outfall and updated the tide gate to the current Checkmate Check Valve system by 2016.

Public Works Stormwater crews conduct regular and recurring maintenance of the tide gate system, removing debris from the cage around the inlet, ensuring there is no debris in the vault box and check valve, and that the outflow is not restricted. Crews inspected the system prior this storm event and frequently during the response.

The tide gate discharged freely as designed within the restrictions of the tidal cycle.

#### Why hasn't the tide gate been replaced and enlarged as studies have recommended?

The County has conducted engineering studies to evaluate alternatives to improve the discharge of stormwater and reduce the impacts of localized flooding. The 1998 study completed by Entranco recommended the existing outfall be replaced with a 42-inch diameter outfall pipe with tide gate.

Kitsap County consulted with State and Federal resource agencies (WA Dept of Fish and Wildlife, National Marine Fisheries Service, US Army Corps of Engineers, etc.) plus local Tribes on the proposal to replace the tide gate. Since the current tide gate system is considered a full fish passage barrier, the resource agencies require that any project to replace the tide gate must allow full fish passage year-round and at all life stages. We have not yet found a solution to meet these criteria without full removal of the tide gate and allowing natural tidal exchange.

**Would a larger tide gate have prevented this flood event?**

The severe flooding on December 27, 2022 was a saltwater storm surge that caused multiple shoreline locations to be overtopped by seawater. The shoreline area from Norwegian Point Park to Point No Point Park was overtopped by seawater as well as many other areas throughout the County. The existing tide gate at Point No Point functioned as designed by preventing saltwater from entering the marsh through the tide gate at higher tides. While stormwater drainage flows were also involved in the flooding due to the higher than expected tides, the tide gate would have remained closed, regardless of its size, and no stormwater would have drained.

**Who has the duty to maintain the drainage system?**

Kitsap County Parks owns the property adjacent to the lighthouse and the eastern shoreline and has a license agreement to operate and maintain the lighthouse property from the United States Coast Guard (USCG). Parks maintains this property for public access, recreational use, and historic preservation.

Kitsap County Public Works maintains Point No Point Road and the drainage system that is within the Right of Way. There is a system of stormwater catch basins, cross culverts and roadside ditches that allow stormwater to flow and equalize across Point No Point Road.

Hillview Lane is a private road and the Hillview Lane property owners are responsible for maintenance of the private culvert across Hillview Lane.

**When were the ditches along PNP Road last cleaned & why have they not been maintained?**

Public Works completed extensive ditch maintenance along the marsh in Sep/Oct of 2018. Parks also completed maintenance on channels within the marsh that lead to the tide gate. Catch basins and cross culverts are inspected annually and cleaned as needed. Water flows through the ditches and culverts along Point No Point Road. The marsh when full is essentially one large body of water with a common surface level. Standing water seen in the road ditches, even in the dry summer months, is groundwater level that is exposed in the excavated ditches.

Grade changes along Point No Point Road are nearly flat, so natural drainage is slow. The system drains when tidal conditions allow as demonstrated by the recent storm response. As soon as the high water was discharged through the tide gate and by pumping, the roadway dried out.

Stormwater catch basins and culverts were inspected and cleaned between January 17-19 and are clear to flow. Due to the amount of rainfall, there will still be standing water in ditches. This is primarily groundwater levels exposed in the ditches.

**What steps were taken to prevent this event from occurring – i.e. what fall maintenance was done to the system? What was done to be ready knowing the tides were predicted?**

The severe flooding on December 27 was a saltwater storm surge event caused by multiple locations being overtopped by seawater, rather than a stormwater drainage issue.

Public Works surveys estimate that the Point No Point area experienced high-water levels in excess of 13.5 feet of tidal elevation with an unknown additional level of storm surge from wind driven waves. The perimeter shoreline was overtopped in multiple locations from the Thors Road entrance to the County Park past the lighthouse and to Norwegian Point.

The predicted high tides of 12 feet recur annually and are known, manageable, events at Point No Point. On December 27, however, there were other extreme weather effects that led to the overtopping of the perimeter beach berm all along the shoreline from Point No Point to Norwegian Point and beyond.

For example, the National Oceanic and Atmospheric Administration (NOAA) reported observed water levels on December 27 throughout Puget Sound were 1.5 to 2 feet above the predicted high tides due to the low-pressure weather system and wind driven waves. The NWS did not predict this level of water.

Additionally, the Kitsap Public Utility District rain data for Hansville reported 3.55 inches of rainfall accumulated from December 23 thru December 27 and a total of 6.87 inches in December. The 610-acre watershed that flows to this marsh was surcharged with stormwater.

As discussed in the previous responses, the system was maintained and inspected prior to the winter season and this storm event.

**What is the plan to prepare before the next king tide event?**

The predicted high tides of around 12 feet in elevation from January 23-27 present the next window of potential overtopping of the shoreline at Point No Point and Norwegian Point. Storm surge and wind driven waves would increase the height of the water; however, currently neither NOAA nor the National Weather Service is predicting lower than normal surface pressures, extreme storm surges, wind-driven waves, or heavy precipitation.

Nevertheless, Public Works constructed a sandbag floodwall along Point No Point Road at the County Park at a tidal elevation of 14.0 feet and greater. Road crews have additional supersacks loaded and staged to reinforce the wall as needed.

Stormwater crews have the four pumps staged and ready to redeploy when needed.

The ditches, stormwater catch basins, and culverts have been inspected and are clear to flow within the tidal restrictions of the system. Water levels inside the marsh are regulated by the tidal elevations outside the marsh. Tidal elevations above 6 feet restrict the outflow from the tide gate and higher tides close the check valve completely.

The current tide cycle allows discharge through the tide gate for only about one-third of the 24-hour tide cycle.

## What lessons have been learned?

This severe flooding of December 27 was a saltwater storm surge event caused by multiple locations being overtopped by seawater.

Public Works surveys estimate that the Point No Point area experienced high-water levels in excess of 13.5 feet of tidal elevation with an unknown additional level of storm surge from wind driven waves. The perimeter shoreline was overtopped in multiple locations from the Thors Road entrance to the County Park past the lighthouse and to Norwegian Point.

The variance in atmospheric pressure caused by the low-pressure storm system had a significant impact on the level of the seawater in Admiralty Inlet and Puget Sound. NOAA is reporting observed water levels were more than two feet higher than predicted in locations in Puget Sound due to the conditions on December 27th. Variable barometric pressure impacts on tide levels need to be considered when designing shoreline restoration and improvements.

This extreme event affected the entire shoreline of Kitsap County and many locations within Puget Sound. It has been observed throughout the Sound that shorelines with large quantities of large woody debris and established, robust vegetation proved to be more resilient to the impacts of this storm and limited the level of overtopping. More heavily developed areas, such as the north shore between Point No Point and Norwegian Point and other developed shorelines through Kitsap County, were vulnerable.

## What is the status on financial assistance for uninsured losses – County or Federal ?

Information on damage to homes from the flooding that was collected by the Department of Community Development was sent to Washington State Emergency Management. Kitsap County is waiting to hear if our county will qualify for a new state assistance program designed to reimburse underinsured homeowners and businesses. The level of damage did not meet the threshold for FEMA/ federal assistance.

## Will there be resources are available to residents if it looks like we will have flooding again?

Residents are responsible for securing sandbags to protect their homes and out-buildings. Sandbags are available for purchase at local hardware stores. On a case-by-case basis, Kitsap County Emergency Management may be able to assist some residents with sandbags.

## What role do the various parties play & who has jurisdiction over what?

**Kitsap County Parks** owns the property surrounding the lighthouse and has a license agreement with the USCG to operate and maintain the lighthouse property from the USCG. Parks maintains the grounds, parking lot, and restroom facility, and oversees a contract with the Lighthouse Society for the maintenance of the lighthouse and historic buildings.

**Kitsap County Public Works** maintains Point No Point Road and ditches within the Right of Way. Public Works also maintains the tide gate on the eastern shore south of the lighthouse.

**Local Tribe(s)** hold treaty rights in their usual and accustomed areas and are consulted by the State and Federal resource agencies on all proposed projects that may impact their treaty rights.

**Washington State Department of Fish and Wildlife** is the state agency authorized to review and permit Hydraulic Project Approvals, such as are required to replace the tide gate, raise the roadway, enlarge drainage systems, or private property projects in the shoreline such as bulkheads and beach repairs, etc.

**Kitsap County Department of Community Development (DCD)** is the County permit agency responsible for the occupancy approvals of all structures, environmental permits such as shoreline improvements or restoration, and site development permits. DCD is also the home of the County Floodplain Administration and is responsible for collaboration with the National Flood Insurance Program/FEMA as administered by the Washington State Department of Ecology. It is DCD's responsibility to conduct post-disaster assessments of structures as it relates to the suitability for occupancy, needs for repairs, and expediting of permits for those repairs.

**Kitsap Public Health District** is responsible for ensuring Kitsap County waterways are safe and sanitary so that residents don't get sick from polluted water or contaminated shellfish. This is accomplished through permitting, sampling, identifying and correcting problems, and posting warnings.

### What is the status of Point No Point Road and access to the County Park parking lot?

Point No Point Road is restricted to local traffic only to enable property owners, service vehicles and contractors to access properties. The County park parking lot is closed to vehicles. Residents should not use Point No Point Road for vehicular access to the County park.

### What is the plan to restore the beach berm?

The Parks Department is entering into a contract with a Coastal Engineering firm to prepare design alternatives for the restoration of the beach berm. The analysis is anticipated to commence beginning in February and will take approximately four to six weeks to complete. This effort requires coordination with multiple resource agencies, including Washington Department of Fish and Wildlife, Washington Department of Ecology, US Army Corps of Engineers, and the Tribes, to evaluate the most appropriate alternative to pursue required permitting. Parks staff will pursue the most viable and expeditious solution. In the interim, the temporary flood wall will remain in place to mitigate potential tidal flooding.

### What other resources are available if I'd like to explore flood mitigation of my property or other resources to prepare for future events?

FEMA has many resources that can be found at the following links:

- **Flood Mitigation Assistance (FMA) Grant**

<https://www.fema.gov/grants/mitigation/floods>

- **Reducing Flood Risk to Residential Buildings That Cannot Be Elevated**

[https://www.fema.gov/sites/default/files/2020-07/fema\\_P1037\\_reducing\\_flood\\_risk\\_residential\\_buildings\\_cannot\\_be\\_elevated\\_2015.pdf?utm\\_medium=email&utm\\_source=govdelivery](https://www.fema.gov/sites/default/files/2020-07/fema_P1037_reducing_flood_risk_residential_buildings_cannot_be_elevated_2015.pdf?utm_medium=email&utm_source=govdelivery)

•Answers to Questions About Substantially Improved/Substantially Damaged Buildings

[https://www.fema.gov/sites/default/files/2020-07/fema\\_p213\\_08232018.pdf?utm\\_medium=email&utm\\_source=govdelivery](https://www.fema.gov/sites/default/files/2020-07/fema_p213_08232018.pdf?utm_medium=email&utm_source=govdelivery)

•National Flood Insurance Program

<https://www.FloodSmart.gov>

•FEMA Flood Insurance Information

<https://www.fema.gov/flood-insurance>

•FEMA Federal Insurance and Mitigation Administration Fact Sheet - After the Flood: Advice for Salvaging Damaged Family Treasures

[https://www.fema.gov/sites/default/files/2020-06/Flood\\_FIMA\\_Fact\\_Sheet\\_advice\\_salvaging.pdf](https://www.fema.gov/sites/default/files/2020-06/Flood_FIMA_Fact_Sheet_advice_salvaging.pdf)

**How can I stay updated?**

Updates are posted at the KC Coastal page (<https://kcowa.us/kccoastal>). You can submit questions, request assistance and find helpful information. You can also call Kitsap1 if with questions. They'll take your question and get it to the right subject matter expert for a response.

**For updates and links visit KC Coastal**



Visit the KC Coastal web page for updates and related information.  
[Kcowa.us/KCCoastal](https://kcowa.us/KCCoastal)

Submit questions and request assistance from the link on this site.

**Or call Kitsap1**  
360.337.5777  
[help@kitsap1.com](mailto:help@kitsap1.com)

—See the next page for the Point No Point Tide Gate graphic—

# POINT NO POINT TIDE GATE LOCATED IN EASTERN SHORELINE

Predicted tides and approx. observed water levels - December 27, 2022

