



## North Beach force main maintenance

**Completed – Winter 2012**

### Project status

King County has completed an updated assessment of the NBFM. The last service life assessment was carried out in 1989. Based on previous coupon sample testing results and anticipated useful life range estimates another set of tests were performed. In August 2012, the County's contractor acquired cored samples from the NBFM, a pressure pipeline extending from North Beach Pump Station to the Carkeek Park Pump Station/Wet Weather Facility. In addition, a corrosion expert acquired samples of soils and groundwater at the location where the pipeline sample was removed.

Analysis of these samples indicates that the North Beach Force Main could provide 30 - 40 more years of service. The new tests indicated that pitting continues to occur, but based on remaining pipeline wall thickness, the observed pitting rates, and current levels of graphitization, the force main has decades of useful life remaining. They also concluded from the analyses that the conditions do not indicate imminent failure of the pipeline.

King County will continue to monitor the condition of the pipeline over time. The County expects to find that it requires rehabilitation or replacement some time prior to the 30 - 40 years remaining life indicated during the recent assessment, but not in the immediate future. For more information, you can download the [final report here](#) .

### King County's latest assessment

King County's most recent assessment used information provided by an Acoustic Listening Device (ALD) called a SmartBall and GIS technology to identify areas of trapped gas that would likely be the areas of higher internal corrosion. Evaluating these areas can provide a more conservative estimate of remaining service life. The ALD is a technology that was not available in 1989.



Planning Design Construction **Operations**

#### 24-hour emergency and odor reporting:

Contact West Point Treatment Plant at ☐ 206-263-3801 ☐.



[North Beach Force Main](#) ☐ .  
August 2012



King County crews installed a new manhole in order to evaluate the force main. August 2011.



[Approximate coupon locations along the North Beach Force Main](#) ☐ , January 2012

*Force main core sample*

## Project need

The North Beach Force Main runs parallel to the Burlington Northern Railroad tracks for approximately 4,700 ft within the tidal zone of Puget Sound. Flows from the North Beach Pump Station are conveyed through the 14-inch diameter, 7,490-foot long cast iron force main to the Carkeek Wet Weather Facility where they are either pumped to the county's [West Point Treatment Plant](#) or, in large storm events, treated on site.

The County establishes a design life of about 50 years for pipelines like the North Beach Force Main (NBFM), but in practice, the pipelines often last longer than that. To avoid premature replacement of usable assets, King County performs inspections and condition assessments throughout the life of wastewater pipelines. King County carried out a project to evaluate the condition of the North Beach Force Main, installed in 1963.

## Library

**You can download and view documents (PDF files) using a [PDF Reader](#).**

## Project updates

- [North Beach Force Main Assessment work beginning the week of August 13](#) , August 2012
- A State Environmental Policy Act (SEPA) Determination of Nonsignificance (DNS) was [issued](#) on May 18, 2012, for the North Beach Force Main Coupon Inspection Project
- [Maintenance work at the North Beach Pump Station beginning week of July 25](#), July 2011

## Force main inspection reports

- [North Beach Force Main Condition Assessment Project Final Report](#), December 2012
- [North Beach Force Main Inspection Report](#), August 2011  
The King County Wastewater Treatment Division retained the services of Pure Technologies (Pure) to perform a SmartBall survey of the North Beach Force Main on Tuesday August 23, 2011. The purpose of the SmartBall survey is to identify and locate leaks and/or pockets of trapped gas.
- [North Beach Force Main Report](#), May 1989  
This report covers excavation and evaluation made during the months of April and May 1989 of the METRO (King County) North Beach Force Main located on Puget Sound in northwest Seattle, Washington.



*Launching the acoustic listening device (SmartBall) at the access point to the force main. August 2011.*

**Contact us**

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