King County

Brightwater

TREATMENT SYSTEM

DECISION DETAILS INSIDE!

Dear Community Members:

I am pleased to announce that after four years of careful analysis and public review, I have made my decision on the location for the regional Brightwater Treatment System. The treatment plant will be located at the Route 9 site with a conveyance alignment along Northeast 195th Street and an outfall in Puget Sound off Point Wells. I have also decided the location for each of the construction portals along the conveyance corridor (see pages 2 and 3).

Our growing region needs a new wastewater treatment system to serve south Snohomish County and north King County. This essential public facility is an investment in our region's future. Without it, we risk sewage overflows and a building moratorium that could devastate our economy, our water quality, and our public health.

I chose the Route 9 system for several reasons, many of which are outlined in this document.

Siting a wastewater treatment facility is not easy. But when I became King County Executive, I knew I would face difficult decisions. It is my responsibility to our community and to future generations to make sure our government is planning and building the facilities we need to protect our environment and our economy.

Still, I have not made this decision alone. Since the siting process began in 1999, King County has engaged elected officials from King and Snohomish counties, state agencies, tribal governments, environmental groups, business leaders, and community members in all facets of planning and decision-making on Brightwater.

After listening to concerns and comments, I feel confident we can build a system that enhances the quality of life, not just in the region but also in local areas where the facilities are sited. At the Route 9 site, we can restore forested landscape and habitats, set aside open space for public use, and improve the quality of stormwater that runs from the site to Little Bear Creek. We can build educational facilities and potentially a community center on the site that neighbors and visitors will enjoy using.

Along the conveyance route, tunneling will help us limit construction impacts. Permanent structures will use art and beautiful design to blend in with the communities.

At Route 9 and along the conveyance system, Brightwater will be a good neighbor. We are committed to using the best odor control system in the United States. Brightwater will have no detectable off-site odors.

Please take a moment to learn about the Brightwater decision and how these facilities will fit into our regional wastewater plans and serve communities for decades to come.

Sincerely,

Ron Sims, King County Executive

BRIGHTWATER FACTS

Besides treating wastewater, Brightwater offers many economic benefits to the region. Brightwater is expected to create thousands of jobs over the life of the project, including an estimated 6,000 trade jobs.

DID YOU KNOW?

Brightwater will improve the Route 9 site. Based on preliminary design, Brightwater could:

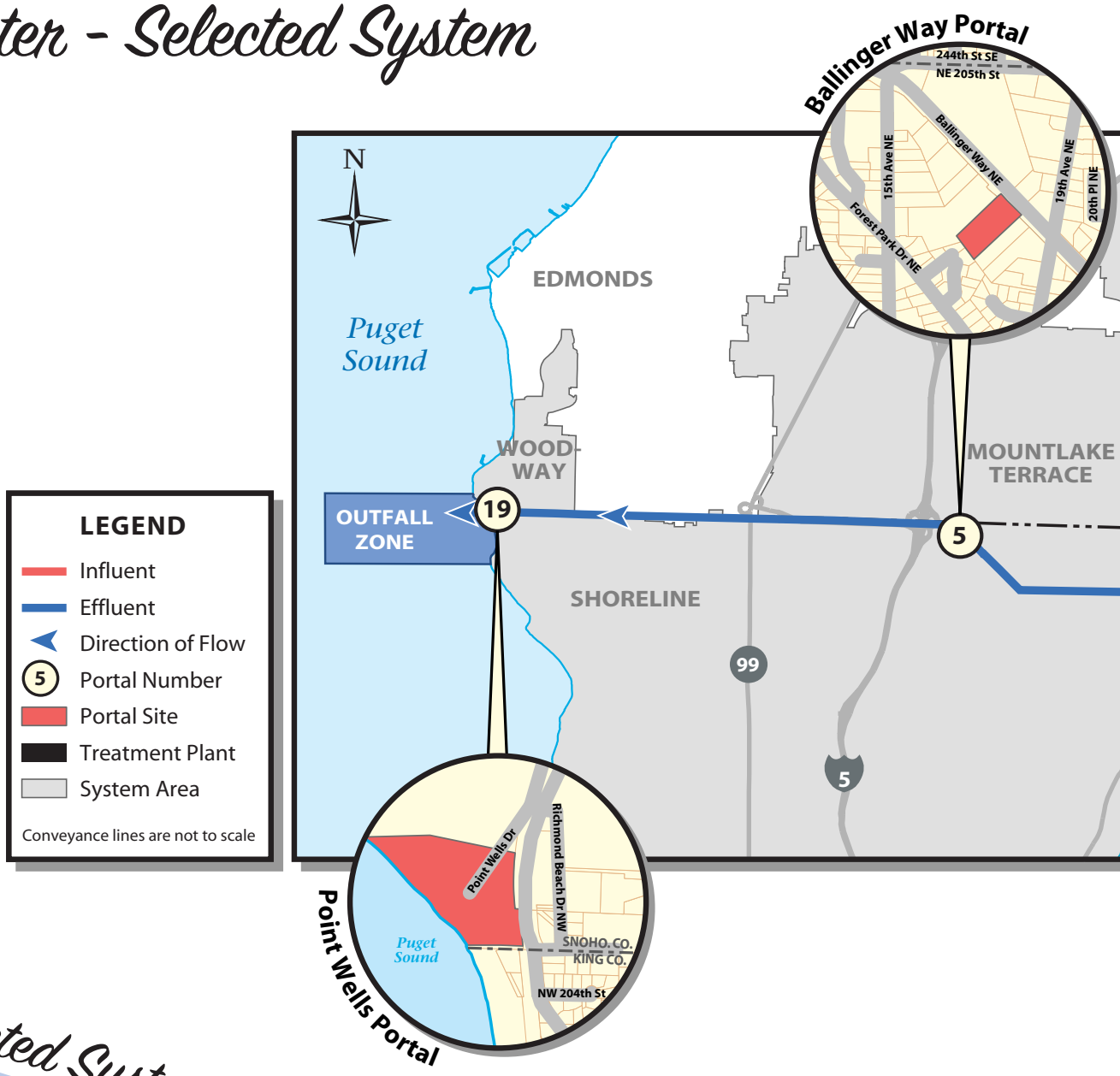
- Daylight streams and enhance fish habitat.
- Double the amount of wetlands.
- Reduce the quantity and improve the quality of stormwater flowing to Little Bear Creek.
- Add 57 acres of native trees and shrubs.
- Create public space for the community to enjoy.

Get Involved – Stay Involved

The siting process has concluded, but there will continue to be many opportunities for the public to be involved in Brightwater. Please see Page 7.

King County
Department of Natural Resources and Parks
Wastewater Treatment Division

Brightwater - Selected System



Selected System Description

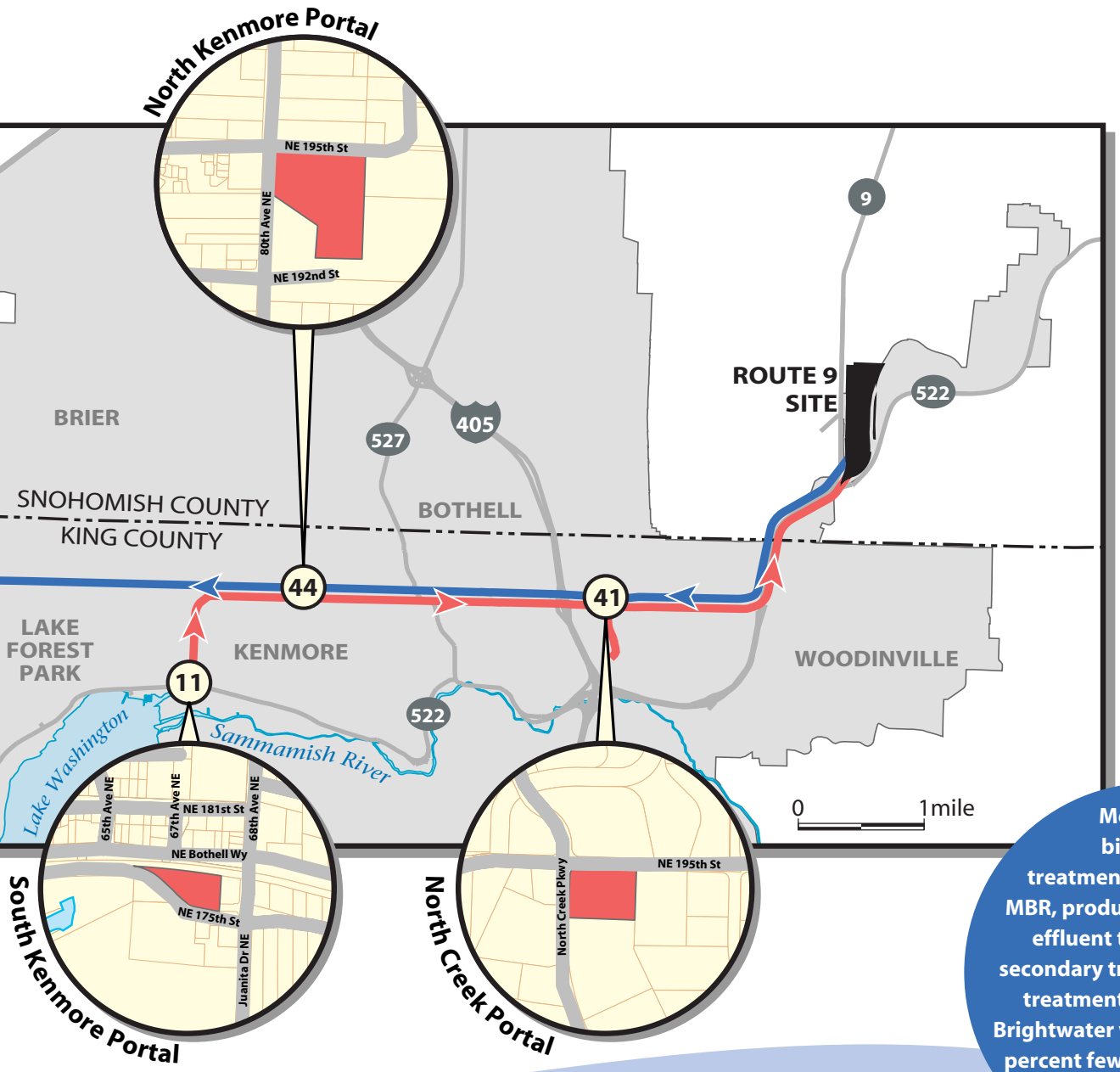
In the United States, most treatment plants treat wastewater to the secondary level, a level of treatment widely required under the Clean Water Act and other laws.

The Brightwater plant will exceed these standards by using membrane bioreactor technology to treat wastewater to a higher level than is now required. This treatment process would be followed by disinfection and discharge through an outfall to Puget Sound. Brightwater will be able to treat an average of 36 million gallons per day (mgd) in 2010, expanding to 54 mgd in 2040.

The selected Brightwater system is composed of a wastewater **treatment plant** at the Route 9 site in unincorporated Snohomish County, a **conveyance pipeline** along Northeast 195th Street and the King/Snohomish County line, and an **outfall** in Puget Sound off Point Wells.

The total area of the Route 9 site is 114 acres. The treatment facilities will comprise 43 to 47 acres. The rest of the site will be augmented with landscaped buffers and wetlands to serve as a natural stormwater treatment system. Land will be set aside for open space and public use.

The 195th street **conveyance system pipeline** will carry **influent** (untreated wastewater) from the north end of Lake Washington to the treatment plant. After treatment and disinfection, the **effluent** (treated



Membrane bioreactor treatment technology, or MBR, produces higher quality effluent than traditional secondary treatment. The MBR treatment process used at Brightwater would discharge 75 percent fewer pollutants than conventional secondary treatment.

wastewater) pipeline will carry wastewater away from the plant. The entire conveyance pipeline will be 15.9 miles long.

We will build the pipelines in **tunnels** using a tunnel boring machine at depths ranging from 40-455 feet. There will be five construction access shafts called **primary portals** along the tunnel alignment. Each primary portal will need about two acres to build, and the portal shafts will range from 40 to 180 feet deep. Four **secondary portal** areas were also identified in the Final EIS, though they are unlikely to be used. If any secondary portals are needed, the siting process would be completed to identify the exact location of the facility within the portal siting area. Secondary portals would need only about one-half acre of land, which is less than the acreage needed for primary portals.

Construction activity at the individual portal areas could last from one to five years. Construction of the entire conveyance system is expected to begin in 2005 and last five and a half years.

The selected **outfall** for Brightwater is off Point Wells. The **diffuser**, where the effluent mixes with the waters of Puget Sound, will extend 5,200 feet offshore from Point Wells and reach a depth of about 600 feet. Outfall construction is expected to take about one year. Studies show that the quality of the treated wastewater and the design of the outfall will protect water quality in Puget Sound.

Parks, trails, habitat enhancements, and **community**-oriented space are examples of some types of mitigation that can be incorporated into Brightwater construction plans.

Why was the Route 9 –

When the siting process began in 1999, King County identified nearly 100 potential sites for Brightwater. After years of study that took into account both engineering and community concerns, the field of candidate sites was eventually narrowed to the three systems and a No Action Alternative evaluated in the Brightwater environmental impact statement, or EIS. Nearly 550 individuals and government agencies participated in the environmental review process by submitting formal comments on the Draft EIS, which was released in Nov. 2002. The Final EIS, released in Nov. 2003, presents a revised proposal that was developed in response to public comment and continued scientific study.

Any of the three action alternatives presented in the EIS could host the Brightwater facilities. However, continued study showed that the Brightwater Route 9 – 195th Street alternative presented clear advantages that made it stand out as the better choice.

At Route 9, Brightwater will produce effluent of such a high quality that it could be reused both on-site and off-site. Future off-site reclaimed water customers could include golf courses, commercial nurseries, sports fields, and industrial parks. **Reclaimed water** would be disinfected using ultraviolet light and/or sodium hypochlorite, a strong form of household bleach.

The Brightwater plant will be easier to engineer and build because:

- The flatter site means less grading and excavation.
- Ample construction staging areas facilitate the storing of equipment and materials.
- There is more flexibility to sequence construction phases.
- Expensive, complex engineering and design requirements like extensive terracing and piling supports won't be necessary.

The Route 9 site is larger – twice the size of the alternative. That means:

- Large landscaped buffers can attractively screen the plant from community view.
- Fewer off-site impacts to the community from construction noise and dust.
- Enough space for worker parking during and after construction.

Brightwater will not rely on wind to dilute or disperse odors because state-of-the-art **odor control** technology will treat odors at the source. The community will not smell Brightwater, regardless of wind conditions.

195th St. system chosen?

It offers environmental benefits. At the Route 9 site, we can:

- Replace auto wrecking yards with forested habitat.
- Enhance and protect Little Bear Creek and nearby wetlands by routing streams and stormwater into new wetlands.

The 195th Street alignment is an efficient conveyance pipeline route because:

- Pipes will be built in tunnels using only five construction areas called primary portals.
- Influent and effluent pipelines can use the same tunnel corridor on part of the alignment.

Point Wells is an excellent outfall location because:

- It provides excellent mixing of waters and minimizes impacts on eelgrass beds – important salmon habitat.
- There is available space onshore for construction staging areas.

This system is flexible. We can:

- More easily respond to changing conditions or additional treatment requirements.
- Take advantage of water reuse opportunities and potentially provide reclaimed water along the effluent (treated wastewater) corridor and in the Sammamish Valley.

Building Brightwater facilities to blend into the community is a priority. **Public art** and attractive **architecture** would add aesthetic appeal to visible structures, while **innovative site design** and landscaping can minimize visual impacts.

Current land uses on the site

Artist's conception of Brightwater at Route 9

Brightwater at Route 9 offers many opportunities to **improve water quality** in streams and in wetlands at the site. Streams that now flow across the site through buried pipes could be daylighted (brought to the surface) and rerouted. Stormwater and daylighted streams could be discharged to **wetlands**, enhancing and improving **habitat**. Rehabilitated areas could be preserved and protected from future development.

Issues considered

Community Matters

Since the siting process began in 1999, King County held hundreds of public meetings in the siting areas to involve the community in all levels of Brightwater decision-making. King County also conducted an extensive environmental review process as required under the State Environmental Policy Act.

Hearing from people who live or work near the proposed alternatives was a significant part of the siting process. It helped King County learn about and respond to various community concerns about Brightwater. Here is a brief summary of some issues we heard about.

Air Quality

Potential for plant-related odors was the overall biggest concern people had about Brightwater. Modern treatment facilities can and do operate without odor. At Brightwater, odors will not impact the community. That is part of King County's commitment to making sure Brightwater is a good neighbor.

At the heart of Brightwater's design is a multiphase approach to prevent odors:

- Treating the wastewater stream with strong bleach will kill odor-causing bacteria.
- Enclosed treatment facilities will capture and prevent the release of foul air.
- Air will be treated with a three-stage chemical scrubber, which uses three different solutions to remove specific odor compounds. Before the air is released, it will move through a carbon scrubber for a fourth stage of odor treatment.

King County will set aside funds to buy more odor control equipment if facilities don't meet these air quality goals.

Water Quality

Many people asked about Brightwater's potential impact on water quality. King County's wastewater treatment system has protected regional water quality for nearly 40 years, and this commitment to clean water extends to lakes, streams, wetlands, aquifers, and wells.

During construction, steps will be taken to control erosion and keep sediment and debris out of storm drains, protecting wetlands, streams, and habitats.

King County would daylight streams and develop new wetlands to improve water quality in salmon-bearing streams like Little Bear Creek. Engineers and geologists studied area aquifers and took over 100 soil samples to ensure drinking water is protected. King County will monitor groundwater during and after construction.

Brightwater will further protect Puget Sound water quality by using a membrane bioreactor system to treat wastewater. This advanced technology removes 75 percent more pollutants from the effluent (treated wastewater) than standard treatment technologies.

Some of this high-quality effluent can be reused on-site for plant processes and irrigation needs.

during the siting process

Aesthetics

Another big concern was how the plant would look. Many people expressed doubts about having an industrial facility in their community. Brightwater will have large landscaped buffers around the site, and there are mitigation opportunities to restore the area around the plant facilities to what existed historically – trees and wetlands. Along the conveyance alignment, permanent structures like a dechlorination facility will be designed and landscaped to fit in with existing land uses.

Environmental Responsibility

People also took an interest in how King County could incorporate sustainable design practices into building Brightwater. In their design plans, engineers and architects will include several earth-friendly elements. King County can build interior features like walls and floors using recycled tiles and other materials. Skylights can reduce the need for artificial lighting. Capturing methane from the treatment processes will generate power, reducing the need to buy electricity. Reclaimed water produced at the plant can be used for plant processes and to irrigate attractively landscaped grounds on-site. These are just a few examples of how Brightwater will be a "green" facility.

Mitigation to minimize project-related impacts might include transportation improvements, installation of soundwalls during construction, or creating public space. Local teachers expressed an interest in developing an environmental education center at Brightwater. The public will have opportunities to be involved in mitigation.

What's Next?

Executive Sims has decided where the Brightwater facilities will be built, but that's not the final decision in the project. Throughout design, permitting, construction, and beyond, many decisions remain. People will still have opportunities to be involved.

For the treatment plant site, project architects are using guidelines developed by community members to design the facilities. The public will get to review the designs and help shape decisions about building materials, colors, and landscaping. Systemwide, people have made many suggestions for mitigation, including habitat restoration and recreational fields. In 2004, the public will be able to review and comment on the system mitigation proposal.

As we move through the design and construction phases of the project, King County will get the necessary permits from federal, state, and local agencies. Many of these permits have public involvement opportunities. Contact the Brightwater project team or your local jurisdiction for details.

Before and during construction, King County will work closely with communities to consider potential impacts and resolve issues. Once the facilities are up and running, King County's commitment to being a good neighbor will continue. Brightwater will offer community access to the facilities through tours, open houses, a 24-hour phone line, and community outreach updates.

FOR QUESTIONS OR COMMENTS ABOUT BRIGHTWATER, TO LEARN ABOUT UPCOMING MEETINGS, OR TO GET ON OUR MAILING LIST, VISIT OUR WEB SITE:
http://dnr.metrokc.gov/wtd/brightwater/

OR, CONTACT THE PROJECT TEAM:
Phone: 206-684-6799, toll-free 1-888-707-8571, or 711 TTY
E-mail: brightwater@metrokc.gov
Write: King County Department of Natural Resources and Parks, Wastewater Treatment Division, Brightwater Project
KSC-NR-0503, 201 South Jackson St.
Seattle, WA 98104-3588

The Brightwater Final Environmental Impact Statement is available on the project Web site:
http://dnr.metrokc.gov/wtd/brightwater/env/

To learn how to get a paper copy or a free compact disc of the Final EIS, please contact the Brightwater project team.

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