

Industrial Pretreatment Newsletter

Published for industries regulated by the King County Industrial Waste Program (KCIW)



King County

Department of
Natural Resources and Parks
Wastewater Treatment Division
Industrial Waste Program

Summer 2017

*KCIW works with companies to make sure their wastewater is treated properly.
This protects communities, the environment, and the economy.*

Seattle's Seawall Project Wins 2016 EnvirOvation Award

Innovative construction technique keeps excess water out of the sewer

Each year, KCIW presents awards to local facilities whose business practices contribute to regional pollution prevention goals. The EnvirOvation Award recognizes leaders in environmental protection among the companies and facilities with industrial wastewater discharge approvals within the King County sewer service area.

This year, one project stood out.



Setting the scene: rebuilding the Elliott Bay Seawall



City of Seattle Seawall project construction along the waterfront.

The City of Seattle Office of the Waterfront is replacing the seawall along Seattle's waterfront. The new seawall will protect critical infrastructure and utilities and serve as the foundation for projects transforming Seattle's future waterfront.

The complication: how do you build a wall that is mostly submerged underwater?

Part of the project that lies between Stewart and Columbia Streets along Alaskan Way in downtown Seattle involved excavating a hole 40 feet wide and 15 feet deep. As you may imagine, this makes for some unique conditions because there are a several sources of water that enter the site – with Elliott Bay to the west, groundwater flowing from downtown Seattle, and rain/snow from above. In sum, there is an overwhelming amount of water that could potentially enter and exit the excavation.

During a construction project, groundwater or stormwater is often pumped away from the site to keep the work area dry. This process is called dewatering. Typically, the water removed from a construction site is treated and sent to a surface water body, either directly or through a storm drain. If the treated

water does not meet water quality criteria or if direct or indirect discharge is not available, the construction company can get permission to send it to the sanitary sewer.

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The plot thickens: what happens when you have millions of gallons of water to remove from your site?



SDOT used a groundwater freezing technique to keep groundwater out during the Seawall project.

The SDOT project engineers were faced with a difficult problem and serious implications. How to control the large amount of water? Pumping the groundwater out would require treatment, a very expensive process. It could also create seismic issues and put stress on the viaduct structure.

King County's wastewater system is also affected by a project of this nature. When a company requests to send large quantities of water to our system, we need to be able to process it. This requires capacity and resources. If the flow is too high, it could result in combined sewer overflows.

Creative solution: instead of removing the water, keep it from entering the site in the first place.

SDOT opted for an innovative approach: groundwater freezing. They buried pipes 35 feet into the ground. They then circulated a chilled salt water solution, which has a lower freezing point than fresh water, through the pipes to freeze the groundwater in place, keeping the work zone dry. Large chillers keep the salt water running and the pipes cool throughout the summer months. This technology reduced the amount of groundwater entering the work zone eliminating most of the need to dewater.

An innovative approach, saved money & capacity saved; potential combined sewer overflows prevented.

On this project, groundwater freezing prevented the discharge of more than 28 million gallons of wastewater to the sewer. A true win-win for the County, the City, the environment and our ratepayers.

Clean Water Awards – The Envelope Please...

Each spring, KCIW recognizes facilities that have done an excellent job maintaining compliance and preventing pollution. Their work protects communities, the environment, and the economy in our region. This year 68.5 percent of eligible permit holders received awards.



The Commitment to Compliance Award honors facilities that have received a Gold Award for five consecutive years. Congratulations to:

- Alaskan Copper Works - 6th Ave.
- Baker Commodities Inc.
- Boeing Commercial Airplane - North Field
- Seattle Public Utilities - Kent Highlands Landfill
- Tri-Way Industries Inc.

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Clean Water Awards, continued from page 2

The Gold Award honors facilities that have had no violations or late reports during the year. Congratulations to these 51 facilities:

- A.O. Smith Corp.
- Aerojet Rocketdyne Inc.
- Alaskan Copper Works - 6th Ave.
- Aramark Uniform & Career Apparel LLC
- Art Brass Plating Inc.
- ASKO Processing Inc.
- Baker Commodities Inc.
- Black Oxide LLC
- BNSF Railway Co. - Interbay Facility
- Boeing Commercial Airplane - North Field
- Boeing Commercial Airplane - Renton
- Boeing Company - Plant 2 Facility
- Boeing Electronics Center
- BP West Coast Products LLC
- Cedar Grove Composting Inc.
- ConAgra Foods
- Darigold Inc. - Rainier Plant
- Davis Wire Corp.
- Eldec Corp.
- Esterline Hytek Finishes Co.
- Exotic Metals Forming Co.
- Foss Maritime Company
- G & K Services
- Glacier Northwest Inc. - Kenmore Facility
- GM Nameplate Inc.
- Honeywell International Inc.
- Island Spring Inc.
- Kenworth Truck Co.
- Kerry Inc.
- King County Solid Waste Division - Algona Transfer Station
- King County Solid Waste Division - Bow Lake Transfer Station
- King County Solid Waste Division - Houghton Transfer Station
- Magnetic and Penetrant Services Co.
- Mastercraft Metal Finishing Inc.
- National Industrial Concepts
- Northwest Cascade Inc. - Septage Thickening and Dewatering Facility
- Port of Seattle, Sea-Tac International Airport, BW
- Primus International - University Swaging Division
- Protective Coatings Inc.
- Red Dot Corporation
- Safeway Inc. - Beverage Plant
- Seattle Public Utilities - Kent Highlands Landfill
- Skills Inc. - Auburn Facility
- Spiration Inc. dba Olympus Respiratory America
- Starbucks Coffee Company - Kent Flexline Facility
- Ste. Michelle Wine Estates
- Terex Washington Inc. - North Campus
- Terex Washington Inc. - South Campus
- Tim's Cascade Snacks
- TOC Holdings Co.
- Tri-Way Industries Inc.

The Silver Award honors facilities that have met requirements with no more than one late report or a few self-monitoring violations. Congratulations to these 25 facilities:

- Boeing Commercial Airplane - Auburn
- Ceradyne Inc., a 3M Company - Seattle
- CMC ICOS Biologics Inc.
- Darigold Inc. - Issaquah Plant
- Encore Oils LLC
- King County Solid Waste Division - Renton Transfer Station
- MicroSurgical Technology
- National Products Inc.
- Pacific Iron and Metal Inc.
- Phillips 66 Company - Renton Terminal
- Port of Seattle, Sea-Tac International Airport, IWS
- Precor Inc. - Plant 2
- Prototron Circuits Inc.
- Qualawash Holdings LLC
- Rabanco Recycling Co.
- Sanofi-Aventis U.S. LLC
- Seattle Public Utilities - South Transfer Station
- Shasta Beverages
- Smith Brothers Farms Milk Plant
- Trident Seafoods Corp.
- UniSea Inc.
- University of Washington Seattle Campus
- Waste Management National Services - 8th Avenue South Reload Facility
- Western Pneumatic Tube Company LLC
- Western Washington Coca-Cola Bottling LLC

Changes, even small ones, can affect your permit!

Here's how to stay in compliance

Have you or are you planning to...

- ✓ Make changes to your manufacturing process?
- ✓ Add or modify your process line(s)?
- ✓ Make any changes to your pretreatment system, including chemical changes, the addition or removal of pretreatment system components, etc.
- ✓ Begin accepting a new waste?
- ✓ Change any of the products you use in production or pretreatment?
- ✓ Change the brand of any of the products you use in production or pretreatment?
- ✓ Move the place you store your chemicals?
- ✓ Change the amount of materials you process?
- ✓ Modify or change the approved sample site?
- ✓ Make changes that will result in a significant increase (>20%) in your daily discharge volume?

If you answered yes to any of these questions, contact your King County Industrial Waste Investigator.

Why? You need formal approval to make changes. Getting approval can save you from receiving a violation notice from KCIW, which could lead to fines.

Your permit is directly connected to the information you submitted in your application. If you are planning a change and are not sure if it is different from what is in your application, your investigator can evaluate the change and provide you with direction.

Even small changes can affect your permit. Your KCIW investigator can help you stay in compliance. Please contact your investigator if you have made or are considering making changes.

The earlier you let us know about any changes, the quicker we can help you.



We will work with you so you can stay in compliance.

Who is your investigator?

Check your permit and/or DA or
Call 206-477-5300 and ask us.

Concerned about what your investigator might tell you?

In some cases the changes you make won't affect your permit, but there is a chance they will. Even a small change can have big effects on the chemistry of the wastewater you send to the system. It is much better to handle this in advance than to face a possible violation after it is discovered later. KCIW will work quickly and efficiently to help you stay in compliance with your permit or make needed changes to your permit. And you can continue your role in keeping King County's waters clean.

Did you request a split sample from your King County Industrial Waste Specialist?

Businesses can ask for a portion (or “split sample”) of King County’s samples to perform their own analysis. King County will average the business’s data with King County’s own data. But, the business’s data must be valid.

Please use the King County chain of custody (COC) form for split samples

King County Industrial Waste (KCIW) requires a documented chain of custody for all split samples. The King County COC form keeps the transfer of samples valid for King County and simple for the company and the laboratory. Using another COC form, such as one provided by your laboratory, is acceptable provided that all the information is transferred from the county form. If a chain of custody cannot be established, your data could be considered invalid.

Tips for using the COC form and handling split samples

Sample ID

- The Sample ID column **1** contains the identification number KCIW assigns to the split sample.

Custody Tape

- The “Custody Tape” column **2** lets the laboratory know that King County sealed the sample container. The custody tape should be intact when the laboratory receives the container. This indicates that the sample container has not been opened after King County relinquished it.

Split Sample Chain of Custody Record



Industrial Waste Program
201 South Jackson Street, Room 513
Seattle, Washington 98104-3855
206-477-5300

Company/Agency Name

1	Sample ID	Locator	Collect Date	Collect Type (Grab/Composite)	Parameter	No. of Containers	Container Type	2 Custody Tape?	3 Preservation	Comments
			Time							
			hrs	GR C				Y N		
			hrs	GR C				Y N		
			hrs	GR C				Y N		
			hrs	GR C				Y N		
			hrs	GR C				Y N		

4 RELINQUISHED BY				5 RECEIVED BY			
Signature:		Date:		Signature:		Date:	
Printed Name:		Time:		Printed Name:		Time:	
Organization: KCIW				Organization:			

6 RELINQUISHED BY				7 RECEIVED BY			
Signature:		Date:		Signature:		Date:	
Printed Name:		Time:		Printed Name:		Time:	
Organization:		Custody tape intact? Y N		Organization:		Custody tape intact? Y N	

KCIW – white copy

Sampled company – yellow copy

Analytical lab – pink copy

(Continued on page 6)

Preservation

King County uses the “Preservation” ③ column on the COC form to let the company representative and the laboratory know if we added anything to the sample to preserve it.

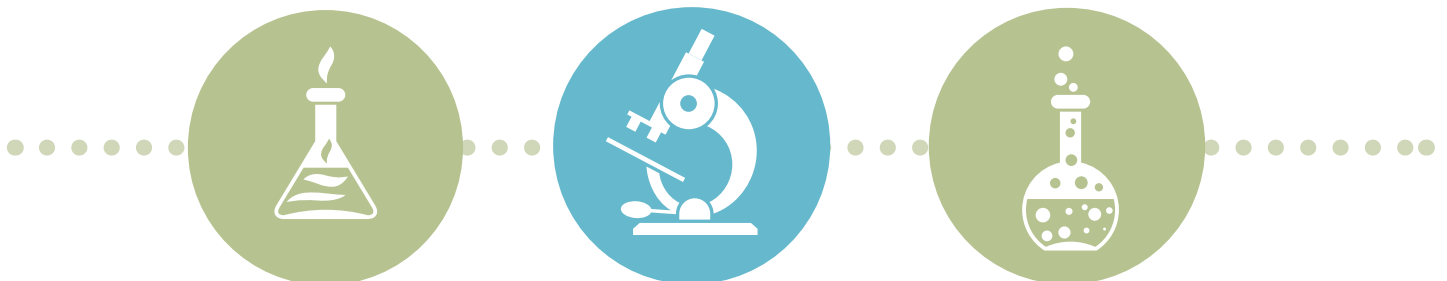
- Please let the laboratory know that King County does not preserve metal samples in the field. The sample will be marked ‘no preservation’ on both the COC form ③ and on the label on the split sample bottle. Why is this important? The County cannot validate split sample results if laboratories analyze them as if they had been preserved in the field.
 - » **What you can do:** give the COC form to the laboratory conducting the analyses and let them know that the metal samples are not preserved.
- King County staff will clearly mark the COC form ③ and the container labels letting the laboratory know if a sample required testing for interferences in the field at the time of collection or if it has been preserved in the field. These samples include: Cyanide, volatile organics (VOA), semi volatile organics (BNA), and Fats Oils & Grease (FOG).
 - » **What you can do:** give the COC form to the laboratory conducting the analyses

Relinquishing the Sample

- When King County “Relinquishes” ④ the sample, the company representative signs in the top line “Received By” ⑤ box.
 - » **King County keeps the top white sheet of the triplicate form and gives the bottom pink and yellow sheets to the company.**
- When the split sample is taken to a laboratory for analysis, the company representative will sign in the second “Relinquished By” ⑥ box, and a representative at the laboratory will sign in the “Received by” ⑦ box.
 - » **The company representative will then retain the top pink sheet of the COC form for their records.**

Ask the KCIW Specialist to help you with your sampling questions

The county relies on you to collect a representative sample of your discharge but we are here to help. KCIW Specialists are available to answer sampling questions, explain what we do, discuss good field sampling protocols and practices, and can point out things that would improve your sampling technique and documentation. Please ask them next time they are at your facility.



KCIW's 2017 Fees and Charges

King County's Industrial Waste Program is funded by fees paid by businesses. Each year, the director of the Wastewater Treatment division reviews and sets fees to recover the cost of operating the program. Changes in 2017 include the following:

- The fee period is changing to January 1 through December 31. (Previously, KCIW's fee period ran from July 1 through June 30.) The 2016-2017 fees will remain in effect until the end of 2017. The new fees (below) will go into effect January 1, 2018. KCIW will continue to communicate the new fees in the middle of each year to give facilities time to plan for fee changes.
- The fees for issuing permits and authorizations are increasing to recover costs.
- Annual Administration and Monitoring fees and Post Violations fees remain the same for the third year in a row. KCIW is doing a thorough review and planning to update these fees. (See article page 9)
- Surcharge fees continue to change. KCIW updated the surcharge fee in 2016 and will implement the change over 4 years. 2018 is the second year of implementation. (See article below).

Second Year for Revised Surcharge

King County is implementing changes to its surcharge fees over four years. The second year begins January, 2018.

Facilities pay a surcharge for treating high-strength wastewater, which is more concentrated than domestic wastewater. The surcharge is typically assessed to food and beverage manufacturing facilities and other sources of high strength wastewater.

The County made two major changes:

- Updated the way treatment costs are allocated to reflect today's treatment systems.
- Used recent data instead of long-term average data to determine a facility's waste strength.

King County has had some of the lowest charges for biological oxygen demand treatment on the West Coast. When they are fully implemented, these changes will bring our fees in line with our peer agencies.



KCIW fees and charges (Effective January 1, 2018 through December 31, 2018)

1 High strength surcharge fees	
Biochemical Oxygen Demand	\$0.3287/ pound
Total Suspended Solids	\$0.4390/ pound
2 Monitoring fees	
Heavy Metals	\$0.003579/ gallon
FOG (fats, oils, and grease)	\$0.000382/ gallon
Special Monitoring Fees	Variable
3 Permit and authorization issuance fees	
Waste Discharge Permit	\$6,000
Major Discharge Authorization	\$3,000
Minor Discharge Authorization	\$1,750
Letter of Authorization	\$1,000
Construction Dewatering Letter of Authorization	\$800
4 Post-violation fees	
<i>Administrative</i>	
Full Enforcement Action	\$5,000
Enforcement - No Further Action	\$2,500
Inspection	\$535
<i>Sampling and Analysis</i>	
BNA (Semi-volatile Organics)	\$1,605
Cyanide	\$755
Cyanide Amenable to Chlorination	\$1,005
FOG (Nonpolar) Set of 3 Samples	\$645
FOG (Free-floating) Grab	\$505
Heavy Metals	\$695
pH Grab	\$505
pH Continuous	\$1,010
SETV (Settleable Solids)	\$555
VOA (Volatile Organics)	\$1,305
4 Fines	
Up to \$10,000 per violation per day	

1 High strength surcharge fees

Businesses that send “high-strength” or more concentrated waste to the sewer pay an extra surcharge based on how much material is in their wastewater. High-strength waste contains a higher concentration of “total suspended solids” (TSS) and “biochemical oxygen demand” (BOD) than typical wastewater. BOD is a measure of organic material that uses up oxygen in the water. It costs more to treat high-strength waste because we have to take more out of the water. The surcharge fee covers the cost of treating this high-strength waste and administration of the surcharge program. Administration costs represent approximately 10 percent of the overall cost of the surcharge program.

2 Monitoring fees

Additional fees are required to monitor facilities to make sure they stay in compliance. These fees pay for the cost of required inspections, sampling and analysis, and overall management of the permit.

3 Permit and authorization issuance fees

King County issues different types of approvals for facilities to send industrial wastewater into the sewer. The type of approval needed depends on the industrial process, the volume of wastewater, and whether it is short or long-term. Permit and authorization fees cover up to a 5-year period. Fees are set to recover the cost of issuing the documents only. Facilities with permits pay a separate fee for the cost of monitoring to ensure compliance (see No. 2). Industrial users are not charged for any revisions of a permit initiated by the County.

4 Post-violation fees

Facilities that violate the regulations are required to reimburse King County for the costs associated with the violation. Post-violation fees include the cost of preparing enforcement documents, additional inspections, additional sampling, and analysis. Based on King County Code, the Wastewater Treatment Division seeks to recover the full cost associated with violations from those that violate the rules.

5 Fines

Fines for violations can reach \$10,000 per day per violation. Businesses are also liable for any damages and additional costs caused by their discharges, such as the cost to clean a blocked sewer line.

Future Updates to KCIW's Fee Structure

KCIW's fee structure needs an update. The complex formula in the King County Code does not fit today's broad industrial base.

Monitoring (annual) fees are based on the volume of sewage flow. But various industries use water differently—water volume does not reflect the level-of-effort to monitor every kind of customer. Issuance fees for permits and authorizations are one-size-fits-all.

Part of the fee formula from the King County Code

$$\text{Heavy metals monthly charge} = \frac{[Q_T - Q_S] [\text{Cost}_{\text{HM}}]}{12}$$

$$\text{Oil and grease monthly charge} = \frac{[Q_T - Q_S] [\text{Cost}_{\text{OG}}]}{12}$$

Where:

Q_T = measured sewage flow, 100 cubic feet per year

Q_S = computed sanitary flow, 100 cubic feet per year

We want to hear from you.

Fees from regulated industries fund KCIW's program. In 2017, KCIW is asking customers what to consider when updating the fee structure. Here is what we are thinking:

- Fees should reflect KCIW's cost of providing service to each type of facility.
- A fee structure established in Code should be flexible to meet the needs of different industries today and in the future.
- Keep it simple for KCIW to administer – focus on serving industries instead of complex billing formulas.
- Make system easy to understand and consistent, so businesses can plan.
- Consider business needs when implementing the changes:
 - » Increase fees over time
 - » Reduce fees quickly.

Have we got it right? Anything to add? Send us an email at info.kciw@kingcounty.gov.

Did you know...

most KCIW fees pay for staff time and the other costs of working with facilities to keep pollutants out of the sewer system. Keeping pollutants out of the sewer system is essential to creating clean resources from wastewater.



Wastewater Treatment plants go 'Platinum' in 2016



South Treatment Plant, Renton, WA

Four of King County's treatment plants were honored with Platinum Peak Performance Awards from the National Association of Clean Water Agencies headquartered in Washington D.C. To earn the awards, the treatment plants must meet 100 percent compliance with the effluent discharge limits set by permits under the federal Clean Water Act and the state's Water Pollution Control Law. Your work to keep pollutants out of the sewer system directly contributes to this success. Thank you for all you do.

Read and see more at: <https://kingcountywtd.com/2017/06/21/treatment-plants-go-platinum-in-2016/>

KING COUNTY NEEDS A STRONG ECONOMY AND A CLEAN ENVIRONMENT. KCIW SUPPORTS BOTH.



This material is provided in alternative formats upon request by calling 206-477-5300 and TTY relay: 711

Contact information

King County Industrial Waste Program
201 S. Jackson St., Room 513
Seattle WA 98104-3855
Ph: 206-477-5300 and TTY Relay: 711
Fax: 206-263-3001

Email: info.kciw@kingcounty.gov

Web: www.kingcounty.gov/IndustrialWaste



Creating Resources from Wastewater