King County
Wastewater Treatment Division
Industrial Waste Program
Department of Natural Resources and Parks
201 South Jackson Street, Suite 5513
Seattle, WA 98104-3855
206-477-5300 Fax 206-263-3001
TTY Relay: 711

August 11, 2022

SENT VIA EMAIL ONLY
ELECTRONIC READ RECEIPT REQUESTED

Michael Warren
Harborview Medical Center
325 9th Avenue, Box 359794
Seattle, WA 98195-9794
mwwarren@uw.edu

Issuance of Renewed Wastewater Discharge Authorization No. 712-05 to Harborview Medical Center

Dear Mr. Warren:

The King County Industrial Waste Program (KCIW) has reviewed your application to discharge industrial wastewater to the sanitary sewer system from the Harborview Medical Center facility located at 325 9th Avenue, Seattle, Washington, and has issued the enclosed Minor Discharge Authorization. The enclosed Discharge Authorization No. 712-05 supersedes and cancels Discharge Authorization No. 712-04, effective September 7, 2022.

This discharge authorization permits your facility to discharge limited amounts of industrial wastewater into King County's sanitary sewer system in accordance with the effluent limitations and other requirements and conditions set forth in the document and the regulations outlined in King County Code 28.84.060. As long as your facility maintains compliance with regulations and does not change the nature and volume of your discharge, KCIW will not require your company to apply for an industrial waste discharge permit, a type of control document that would result in additional requirements, oversight, and increased fees.

If your facility proposes to increase the volume of your discharge or change the type or quantities of substances discharged, you must contact KCIW at least 60 days before making these changes.

King County Code 28.84 authorizes a fee for each Minor Discharge Authorization issued by the King County Department of Natural Resources and Parks. The current fee for issuance of a renewed Minor Discharge Authorization is $1,500. King County will send you an invoice for this amount.

If you have any questions about this discharge authorization, please call me at 206-477-5433 or email me at lydia.eng@kingcounty.gov. To learn more about King County's industrial wastewater regulations, visit our program's website at: www.kingcounty.gov/industrialwaste

Sincerely,

DocuSigned by:
Lydia Eng
DC923A9D86F04E3...

Lydia Eng
Compliance Investigator

Enclosure

e-cc: Kevin Cronin, Harborview Medical Center, cronik2@uw.edu
John Wallace, University of Washington, xwallace@uw.edu
Taylor Heiss, University of Washington, heisst22@uw.edu
Julie Howell, Seattle Public Utilities, julie.howell@seattle.gov

King County

MINOR DISCHARGE AUTHORIZATION

King County Industrial Waste Program
201 S. Jackson Street, Room 5513
Seattle, WA 98104-3855

NUMBER 712-05

for

Harborview Medical Center

Facility address: 325 9th Avenue
Seattle, WA 98195-9794

Mailing address: 325 9th Avenue, Box 359794
Seattle, WA 98195-9794

Emergency (24-hour) phone: 253-625-8404

Industry type: Hospital

SIC code: 8062 **EPA Id. No.:** WAD 096767967

Discharge to: West Point Treatment Plant
*Note: This authorization is valid only for the specific discharges shown below:

Discharge process: Wastewater generated by hospital/clinical laboratory operations.

Pretreatment process: Waste Treatment by Generator and Best Management Practices

Effective date: September 7, 2022
Expiration date: September 6, 2027

Permission is hereby granted to discharge industrial wastewater from the above-identified facility into the King County sewer system in accordance with the effluent limitations and monitoring requirements set forth in this authorization.

If the industrial user wishes to continue to discharge after the expiration date, an application must be filed for re-issuance of this discharge authorization at least 90 days prior to the expiration date. For information concerning this King County Discharge Authorization please call Industrial Waste Compliance Investigator Lydia Eng at 206-477-5433.

24-HOUR EMERGENCY NOTIFICATION
West Point Treatment Plant: 206-263-3801
Washington State Department of Ecology: 206-594-0000

I. GENERAL DISCHARGE LIMITATIONS

A. Wastewater Discharge

All wastewater discharged to the sanitary sewer system must comply with local, state, and federal standards designed to protect surface waters, health, and safety in the treatment works and to maintain the quality of biosolids from wastewater treatment plants. Hospital or clinical laboratory operations often generate hazardous waste (defined by Chapter 173-303 WAC) or contain dilutions and mixtures of chemicals in very low concentrations or small quantities. Table 1 of this document contains King County's local sewer limits and best management practices (BMPs).

For additional guidance on proper waste disposal practices and information on reducing the amount of hazardous waste generated and disposed of, see the Laboratory Waste Management Guide published by the Hazardous Waste Management Program in King County.

If you are unsure whether a waste stream is suitable for discharge to the sewer, contact KCIW at 206-477-5300 or info.kciw@kingcounty.gov.

Some important considerations in the discharge of laboratory wastewater include:

- Using process water or other liquids to dilute a discharge, as a partial or complete substitute for adequate treatment, is not allowed.
- Your discharge must meet regulations at the point prior to mixing with non-process water.

Treatment of hazardous wastes, such as elementary neutralization of solutions with pH ranges below 2.0 or above 12.5, is also regulated under the Dangerous Waste Regulations (WAC 173-303-170). For specific guidance, see Ecology standards listed in Publication No. 20-04-017: Focus On: Treatment by Generator (wa.gov).

The industrial user shall not discharge waste, which exceeds the following limitations:

Heavy Metals & Cyanide	Instantaneous Maximum ppm (mg/L)[1]	Daily Average ppm (mg/L)[2]
Arsenic	4.0	1.0
Cadmium	0.6	0.5

[1] The instantaneous maximum is violated whenever the concentration of any sample, including a grab within a series used to calculate daily average concentrations, exceeds the limitation.

[2] The daily average limit is violated: a) for a continuous flow system when a composite sample consisting of four or more consecutive samples collected during a 24-hour period over intervals of 15 minutes or greater exceeds the limitation, or b) for a batch system when any sample exceeds the limitation. A composite sample is defined as at least four grab samples of equal volume taken throughout the processing day from a well-mixed final effluent chamber, and analyzed as a single sample.

Heavy Metals & Cyanide	Instantaneous Maximum ppm (mg/L)[1]	Daily Average ppm (mg/L)[2]
Chromium	5.0	2.75
Copper	8.0	3.0
Lead	4.0	2.0
Mercury	0.2	0.1
Nickel	5.0	2.5
Silver	3.0	1.0
Zinc	10.0	5.0
Cyanide	3.0	2.0

B. Best Management Practices (BMPs)

The chemicals/compounds listed in the table below were found to be commonly used in hospitals and their laboratories. Not all chemicals or compounds used at hospitals are listed in this discharge authorization. King County also recognizes that "best management practices" can be improved upon over time. At this time, the BMP listed is what is currently considered the appropriate BMP. When BMPs do change, King County's intention is to notify you and send addendums detailing the new BMP(s). All wastewater discharged to the sanitary sewer system must comply with local, state, and federal standards.

Common Hospital Waste/Best Management Practices (BMPs)			
Chemical/ Compound	**Source/Location**	**Acceptable to sewer at the following levels (end of process concentration)**	**BMPs**
Total chromium	Chromic acid used for glassware cleaning, x-ray tank cleaning	5.0 mg/L - instantaneous 2.75 mg/L - daily average	Substitute with a less toxic cleaning solution
Total mercury	Thermometers, blood pressure reservoirs, stains	0.2 mg/L - instantaneous 0.1 mg/L - daily average	Replace with digital equipment or products that do not contain mercury
Total mercury/Total silver	Rinse waters from dental offices – removal and/or placement of amalgam fillings	It is not acceptable to send amalgam to the sewer without treatment (contains mercury and silver).	Follow King County Guidelines for Dental Offices; Install ISO certified amalgam separator, submit the One-Time Compliance Report
Total silver	X-ray fixer solution – Radiology	3.0 mg/L - instantaneous 1.0 mg/L - daily average	Silver recovery unit, metallic replacement units, minimum two cartridges[3] in series or collect and recycle off-site
Glutaraldehyde cold sterilant solution	Used as a disinfectant in Hematology, Pathology, Histology, and dental offices	Less than 4.0% Spent cold sterilant solutions containing less than 4.0% glutaraldehyde may be discharged to the sanitary sewer provided the solution is used per the	Treatment (detoxify) with a commercially available chemical deactivation compound that breaks the aldehyde bond. For spent solutions (less than 4.0%

[3] Cartridges must be sized and maintained according to the manufacturer's recommendations.

Common Hospital Waste/Best Management Practices (BMPs)			
Chemical/ Compound	**Source/Location**	**Acceptable to sewer at the following levels (end of process concentration)**	**BMPs**
		manufacturer's directions and only in quantities needed. After discharging the solution down the drain, flush with several gallons of water so it does not sit in the sink trap.	follow procedures found in King County Glutaraldehyde Policy. Treatment by Generator - Aldehyde Deactivation (wa.gov)
OPA (ortho-phthalaldehyde)	Used as a disinfectant	Less than 0.01%	Deactivate by treating with glycine. Add 25 grams (or two tablespoons) of glycine per one gallon of waste OPA. Treatment by Generator - Aldehyde Deactivation (wa.gov)
Formaldehyde	Used as a preservative and or a disinfectant in Hematology, Pathology, and Histology	0.1% in water	Treatment (detoxify) with a commercially available chemical deactivation compound Treatment by Generator - Aldehyde Deactivation (wa.gov)
Total xylenes (CAS No. 1330-20-7)	Extractions and slide cleaning	2.2 mg/l	Recycling via distillation or disposed of as ignitable hazardous waste
Ethanol	Stain lines in Cytology, Hematology, and Pathology	Less than 24.0% in water	Use filtration device that removes impurities and allows re-use of the reagent, or dispose of as ignitable hazardous waste.
Methanol	Stain lines in Cytology, Hematology, and Pathology	Less than 10.0% in water	
Isopropanol	Stain lines in Cytology, Hematology, and Pathology	Less than 10.0% in water	
Various pharmaceuticals, including waste-controlled substances (partially used, expired, or unused drugs)	Pharmacy/Patient rooms and patient care areas facility-wide	Not acceptable to the sewer	Various options; see pharmaceuticals section below.

C. Pharmaceuticals

For the management of pharmaceuticals, you must adhere to the guidelines found in Ecology's Dangerous Waste Pharmaceuticals Guide.

This guide outlines the basic requirements for health care facilities managing dangerous waste pharmaceuticals in Washington state. Health care facilities must comply with the state's Dangerous Waste Regulations. Ecology's new rule, WAC 173-303-555: Special requirements for the management of dangerous waste pharmaceuticals, went into effect in October 2020.

Most unused, expired, or partially used drugs are categorized as hazardous waste and are not acceptable for discharge to the sewer. Other management options include returning to reverse distributors or designating the drugs and working with a hazardous waste or controlled substances disposal company.

D. Radioactive Compounds

Only radioactive compounds with very short half-lives are allowed into the sewer at concentrations approved by the Washington State Department of Health (see WAC 246-221-290 - Appendix A - Table III). Most radioactive waste will need to be collected and disposed of as low-level radioactive waste. For specific guidance, contact the Washington State Department of Health at 360-236-3244.

E. Operating Criteria

There shall be no odor of solvent, gasoline, or hydrogen sulfide (rotten egg odor), oil sheen, unusual color, or visible turbidity. The discharge must remain translucent. If any of the discharge limits are exceeded, you must stop discharging and notify KCIW 206-477-5300.

F. Corrosive Substances

Limits

Instantaneous minimum:	pH 5.0 (standard units)
Daily minimum:	pH 5.5 (standard units)
Maximum:	pH 12.0 (standard units)

The instantaneous minimum pH limit is violated whenever any single grab sample or any instantaneous recording is less than pH 5.0.

The daily minimum pH limit is violated whenever any continuous recording of 15 minutes or longer remains below pH 5.5 or when each pH value of four consecutive grab samples collected at 15-minute intervals or longer within a 24-hour period remains below pH 5.5.

Discharges of caustic solutions greater than pH 12.0 are prohibited unless King County provides prior written authorization. For these situations, the authorized caustic solution discharges above pH 12.0 must be less than pH 12.5 and must not contain an equivalent weight of sodium hydroxide (NaOH) that exceeds a daily loading rate of 21 pounds/day. The authorized discharge of caustic solutions greater than pH 12.0 shall be subject to special conditions to protect worker safety and the POTW.

G. Fats, Oils, and Grease (FOG)

FOG Accumulations and Obstructions
Discharges of FOG shall not result in significant accumulations which, either alone or in combination with other wastes, are capable of obstructing flow or interfering with the operations or performance of the POTW.

Nonpolar FOG (mineral/petroleum origin)
Nonpolar FOG limit: 100 mg/L

The limit for nonpolar FOG is violated when either:

- The arithmetic mean of the concentration from the individual analyses of three grab samples, taken no more frequently than 5-minute intervals, exceeds the limitation, or
- The concentration of a single composite sample of three grab samples, taken no more frequently than 5-minute intervals, exceeds the limitation.

Industrial users that violate the nonpolar FOG limit may be required to complete, for King County review and approval, a FOG control plan.

Polar FOG (Animal and Vegetable Origin)
Industrial users that have the potential to discharge polar FOG shall minimize free-floating polar FOG. Industrial users must minimize the use of emulsifying agents, such as cleaners or detergents, to only the quantity needed to maintain industrial activities at their facility and to not impact the POTW.

Industrial users may not add emulsifying agents prior to or within FOG-removal devices, exclusively for the purposes of emulsifying free-floating FOG.

Industrial users that discharge free-floating polar FOG will be required to complete, for King County review and approval, a FOG control plan.

King County has the authority to include aqueous concentration-based discharge limits for polar FOG or total FOG (i.e., the sum of polar and nonpolar FOG) in permits and discharge authorizations issued to industrial users that primarily discharge FOG of animal or vegetable origin. The concentration-based limits shall be based on what can be achieved through the implementation of a treatment technology that the Wastewater Treatment Division Director determines represents all known, available, and reasonable methods of prevention, control, and treatment.

H. Flammable or Explosive Materials

No person shall discharge any pollutant, as defined in 40 CFR 403.5, that creates a fire or explosion hazard in any sewer or treatment works, including, but not limited to, waste

streams with a closed cup flashpoint of less than 140° Fahrenheit or 60° Centigrade using the test methods specified in 40 CFR 261.21.

At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system), be more than 5 percent nor any single reading be more than 10 percent of the lower explosive limit (LEL) of the meter.

Pollutants subject to this prohibition include, but are not limited to, gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and sulfides, and any other substances that King County, the fire department, the State, or the U.S. Environmental Protection Agency have notified the user are a fire hazard or a hazard to the system.

I. High Temperature

The industrial user shall not discharge material with a temperature in excess of 65 °C or 150 °F.

J. Hydrogen Sulfide

The following are atmospheric hydrogen sulfide limits as measured at a monitoring location designated by King County:

- Short-Term Limit: 15.0 parts per million volume (ppmv) as a 15-minute average
- 8-Hour Limit: 10.0 ppmv as an 8-hour average
- Weekly Limit: 3.0 ppmv as a 7-day average

More stringent weekly atmospheric hydrogen sulfide limits may be developed and imposed on a case-by-case basis depending on nuisance conditions or risks to workers and sewer infrastructure.

Aqueous soluble sulfide limits may be established on a case-by-case basis depending on the volume of discharge and conditions in the receiving sewer, including oxygen content, pH, and existing sulfide concentrations.

K. Organic Compounds

No person shall discharge any organic pollutants that result in the presence of toxic gases, vapors, or fumes within public or private sewer or treatment works in a quantity that may cause acute worker health and safety problems. Organic pollutants subject to this restriction include, but are not limited to, the following:

- Any organic compound listed in the “Total Toxic Organics (TTO)” definition provided in 40 CFR Section 433.11(e) and 40 CFR Section 413.02(i)
- Acetone, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK), xylenes

Industrial users are required to implement source control strategies and best management practices to minimize the concentration of any of the aforementioned organic pollutants.

L. Settleable Solids

Settleable solids concentrations: 7.0 ml/L

II. GENERAL CONDITIONS

A. All requirements of the King County Code pertaining to the discharge of wastes into the municipal sewer system are hereby made a condition of this discharge authorization.

B. All pretreatment systems used to bring the permittee's discharge into compliance with King County's discharge limitations and all compliance monitoring equipment shall be maintained continuously in satisfactory and effective operations by the permittee at the permittee's expense, and shall be subject to periodic inspections by authorized KCIW personnel. These systems shall be attended at all times during discharge to the King County sewerage system. In the event that such equipment fails, the permittee must notify KCIW immediately and take spill prevention precautions.

C. The industrial discharger shall implement measures to prevent accidental spills or discharges of prohibited substances to the municipal sewer system. Such measures include, but are not limited to, secondary containment of chemicals and wastes, elimination of connections to the municipal sewer system, and spill response equipment.

D. Any facility changes, which will result in a change in the character or volume of the pollutants discharged to the municipal sewer system, must be reported to your KCIW representative. Any facility changes that will cause the violation of the effluent limitations specified herein will not be allowed.

E. In the event the permittee is unable to comply with any of the conditions of this discharge authorization because of breakdown of equipment or facilities, an accident caused by human error, negligence, or any other cause, such as an act of nature the company shall:

1. Take immediate action to stop, contain, and clean up the unauthorized discharges and correct the problem.

2. Immediately notify KCIW so steps can be taken to prevent damage to the sewer system.

3. For discharge violations, collect a sample and submit new data to KCIW within 14 days of becoming aware of the violation.

4. Submit a written report within 14 days describing the breakdown, the actual quantity and quality of resulting waste discharged, corrective action taken, and the steps taken to prevent recurrence.

F. Compliance with these requirements does not relieve the permittee from responsibility to maintain continuous compliance with the conditions of this discharge authorization or the resulting liability for failure to comply.

G. The permittee shall, at all reasonable times, allow authorized representatives of KCIW to enter that portion of the premises where an effluent source or disposal system is located or in which any records are required to be kept under the terms and conditions of this discharge authorization.

H. Nothing in this discharge authorization shall be construed as excusing the permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations including discharge into waters of the state. Any such discharge is subject to regulation and enforcement action by the Washington State Department of Ecology.

I. This discharge authorization does not authorize discharge after its expiration date. If the permittee wishes to continue to discharge after the expiration date, an application must be filed for reissuance of this discharge authorization at least 90 days prior to the expiration date. If the permittee submits its reapplication in the time specified herein, the permittee shall be deemed to have an effective wastewater discharge authorization until KCIW issues or denies the new wastewater discharge authorization. If the permittee fails to file its reapplication in the time period specified herein, the permittee will be deemed to be discharging without authorization.

DocuSigned by:
Lydia Eng
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Compliance Investigator: _____ Date: August 11, 2022

Lydia Eng