

**From:** [Stephanie Morrison](#)  
**To:** ["Andy Duyck \(andy@duyckmachine.com\)"; "Art Larrance \(art.l@comcast.net\)"; "Dave Waffle \(dwaffle@beavertonoregon.gov\)"; Diane Taniguchi-Dennis; Eli Bonilla; Hennings, Lori \(lori.hennings@oregonmetro.gov\); Jody Newcomer; "John Jackson \(workduck44@gmail.com\)"; Mark Jockers; "Matt Wellner"; "Mike McKillip \(big.mike.71@hotmail.com\)"; "Molly Brown"; "Nafisa Fai \(nafisa@panafricanplanninggroup.org\)"; Stephanie Morrison; "Stu Peterson - Macadam Forbes \(stu@macadamforbes.com\)"; terry.song@murraysmith.us; "Tony Weller \(tweller@cesnw.com\)"](#)  
**Cc:** [Ashley \(ashley@tualatinriverkeepers.org\); Bob Ludlum \(skitterb@frontier.com\); Christine White; dfeik33@comcast.net; Ezra Hammer; Gerold Mannall \(gmannall@outlook.com\); Preet; Savannah Edson \(savannahe@metlandgroup.com\); Shannon Huggins; Sherilyn Lombos <slombos@tualatin.gov>; Teresa Long \(teresal@aaieng.com\); Thomas Beck \(tom@beck.org\); Timothy Sautter \(thsautter@gmail.com\); Victoria Lowe \(v.lowe2@frontier.com\)](#)  
**Subject:** May 13, 2020 CWAC Additional Meeting Materials  
**Date:** Friday, May 8, 2020 4:14:50 PM  
**Attachments:** [CWAC Meeting Materials 5-13-2020.pdf](#)

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Good afternoon, CWAC and CWAC Interested Persons.

Additional meeting materials for the CWAC meeting scheduled for Wednesday, May 13, 2020, will be mailed to Commission members today and posted to the CWAC section of the Clean Water Services website.

Please contact me ([morrisons@cleanwaterservices.org](mailto:morrisons@cleanwaterservices.org); 503.681.5143) if I may be of assistance.

Thank you,  
Stephanie

**Stephanie Morrison** | Office Manager  
[Clean Water Services](#) | Government & Public Affairs  
2550 SW Hillsboro Hwy | Hillsboro OR 97123  
o 503.681.5143  
[engage news](#) | [facebook](#) | [twitter](#)

**DATE:** May 8, 2020

**TO:** Clean Water Services Advisory Commission Members  
and Interested Parties

**FROM:** Mark Jockers, Government & Public Affairs Director

**SUBJECT: MEETING MATERIALS FOR MAY 13, 2020, CWAC MEETING**

Enclosed please find additional meeting materials for the CWAC meeting scheduled for **Wednesday, May 13, 2020**. Please continue to watch for additional communications via email regarding connecting to the Webex.

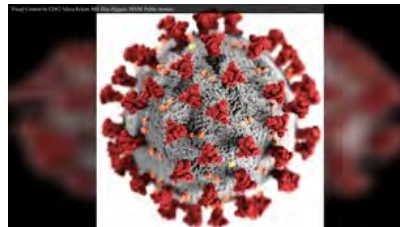
Please contact Stephanie Morrison ([morrison@cleanwaterservices.org](mailto:morrison@cleanwaterservices.org); 503.681.5143) if you have questions.

## Sewer Surveillance of Coronavirus in Wastewater

Kenneth Williamson, Ph.D., P.E.  
Director of Research and Innovation



## SARS-Cov-2



## WE ARE IN A PANDEMIC

- Worldwide, 3.8 million cases, 270,000 dead
- US, 1.25 million cases, 75,000 dead
- Oregon, 2,800 cases, 79 dead
- Washington County, 540 cases, 12 dead

(as of May 7, 2020)



## A LITTLE ABOUT VIRUSES AND COVID-19

- Genetically, viruses are coded with RNA, not DNA
- Viruses attack other living organisms by attaching to the cell membrane, penetrating to the cytoplasm, duplicating its RNA to create a DNA match, inserting that matched DNA into the DNA of the living organism, turning on the DNA of the living organism to replicate the virus' DNA, remaking new RNA from the replicated DNA to create new viruses, breaking out of the host organism (budding) and repeating the cycle.
- Many viruses are selective for cell host types (COVID-19 is primarily associated with the cells lining the alveoli of the lungs).



## A LITTLE ABOUT VIRUSES AND COVID-19

- Humans have a long history of battle with viruses.
- Viruses are controlled by the human immune system; primary medical approach is immunization.
- Widespread viruses historically have caused smallpox, yellow fever, hepatitis, measles, poliomyelitis, colds, and flu.
- Newer ones include viruses that cause hemorrhagic fevers (Lassa fever, Ebola, Hantavirus), Severe Acute Respiratory Syndrome (SARS), West Nile Virus, Human Immunodeficiency Virus (HIV); and SARS-Cov-2, which causes COVID-19.



## WHY IS COVID-19 IN WASTEWATER?

- The body attacks viruses by two main mechanisms:
  - Macrophages (T cells) kill and remove them like lots of other foreign material
  - Antibodies kill and cover them so that they cannot penetrate the cell membrane
- The body excretes the macrophages, dead viruses, used antibodies, etc.
- This excretion contains a genetic signal of RNA that is specific to the COVID-19 virus
- No evidence that COVID-19 is transmitted to humans through feces.



### DATA FROM PARIS, FRANCE

Quantification of SARS-CoV2 genomes in raw (open inverted red triangles) or treated wastewater (full inverted red triangles) from 3 WWTP of the Parisian area. The numbers of COVID-19 total cases in France (in grey) or in the Parisian area (open circle in dark blue) are indicated. Gaussian curves were fitted on data ( $R^2 > 0.95$ ) for modeling the Parisian area where information was lacking.

Wurtzler, et al., 2020

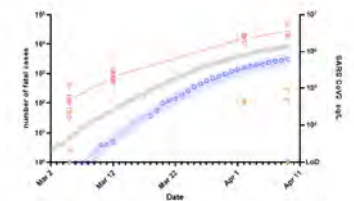
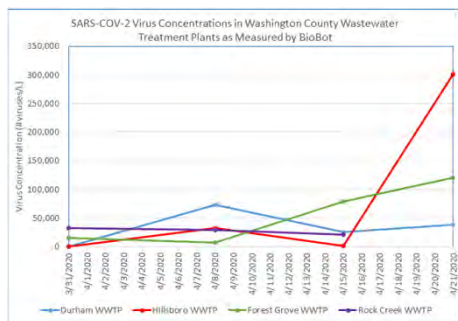


Figure 1: Quantitative time-course monitoring of SARS-CoV2 in wastewater samples from Paris area

### BIOBOT STUDY

- Biobot Analytics began a study of ~100 treatment plants in the US in March, 2020
- CWS provided samples of WWTP influent beginning in late March
- Data results in virus counts/liter
- Some concern about the quality of data

### CWS DATA FROM BIOBOT STUDY



### OSU/CWS COLLABORATIVE STUDY

- Collaborators: Tyler Radniecki and Christine Kelly, School of Chemical, Biological and Environmental Engineering
- Two objectives:
  - Collect samples from our four WWTP's influents, compare results to Biobot study, improve analysis techniques
  - Sample within selected areas of the sewershed that could be areas of concern (nursing homes, hospitals, food processing plants, prisons, schools, etc.)
- Funded by the National Science Foundation RAPID program, Division of Chemical, Bioengineering, Environmental, and Transport Systems, on April 27

### SEWERSHED SAMPLING

- 15 sites, Forest Grove and Rock Creek
- Looking at adding 4 to 5 sites in Hillsboro
- Metadata of manhole placement, land use, collection area, flow
- Mix of hospitals, prisons, retirement communities, nursing homes, low-income communities, food industries, other industries
- Will measure wastewater metadata
- Have been collecting samples for three weeks

### NEXT STEPS

- Expand micro sewershed program to include Portland and Lake Oswego. Partner with OHSU to provide human testing symptomatic and asymptomatic virus infections and antibodies
- Expand testing of treatment plants statewide in partnership with OHA
- Expand testing of treatment plants for cities studied by TRACE research group at OSU (Corvallis, Bend, Newport(?))
- Expand sample processing and analysis, improvement of techniques

**THANKS!!!!**

- CWS Management: Diane, IC Team of Nora, Nate, Bob, Holly, and Mark
- RAD and R&I staff: Scott Mansell, Steve Thompson, Leila Barker, Katie Corliss, Mercie Hodges, Jason Cook
- Durham support: Peter Schauer, Pat Orr
- Business support: Heidi Blasingame, Erin Lowry, Kathy Leader



## New Non-Domestic Waste Ordinance: Introduction and Public Process

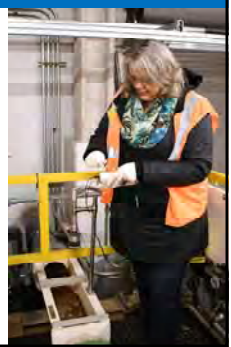
May 13, 2020

Clean Water Services CWAC  
Bob Baumgartner, Regulatory Affairs Director  
Joy Ramirez, Environmental Services Supervisor



### ENVIRONMENTAL SERVICES

- Program area
  - Environmental response
  - Commercial and cost recovery
  - Industrial stormwater
  - Pretreatment program
- Goals
  - Environmental protection
  - Worker safety and public health
  - Plant operations
  - Protect infrastructure
  - Compliance and enforcement



### PRETREATMENT PROGRAM

- Federal program - mandatory
  - Specific industrial sources
  - Permitting, monitoring, enforcement
  - Legal authority
- Local program
  - Expand to where federal program has not kept pace
  - Allows addressing local issues
  - Cost recovery



### WHY UPDATE ORDINANCE?

- Currently exists in two documents (ordinance and R&O)
- Bring consistency and clarity to the regulations
- Different "nontraditional" users
- Response to regulatory agency audits



### RECENT DEQ/EPA AUDIT FOUND:

- Regulatory documents confusing
- Areas of inconsistency between ordinance and R&Os
- Areas inconsistent with federal requirements
- Enforcement not up to date, not a deterrence
- Permits and other implementation documents need improvement



### GOALS FOR ORDINANCE

- Single document
- Single set of rules
- Transparency
- Clarity
- Meet regulatory guidance and rules



## CHANGES

- Clarifies regulation of non-domestic types of wastes, regardless of origin
- Clarifies rules on hauled wastes
- Clarifies applicability of discharge prohibitions
- Incorporates provisions of federal dental mercury program
- Clarifies permit application procedures and requirements
- Clarifies process for permit modification
- Allows administrative extension of expired permits



## MORE

- Enforcement and appeal procedures improved and clarified
  - Penalty computation easier
  - Refined authority for issuing corrective orders
  - Clarified process for suspending and revoking permits
  - Updated statement of authority for inspections, including obtaining administrative search warrants, if needed
  - More expedient process for hearings and appeals



## STATUS

- Produced draft ordinance
- Briefed Board. Received charge to work with CWAC on the public process
- Received external legal review
- Made initial contact with industries
- Seeking CWAC input on public process



## PROPOSED PUBLIC PROCESS

- Targeted outreach to industries, environmental groups, interested community members
  - Provide draft ordinance
  - Provide opportunity for individual briefing
  - Provide opportunity for input
  - Provide draft on public website
  - Summarize responses
- Brief CWAC on responses
- Receive input from CWAC
- Provide revised ordinance draft
- Board presentation



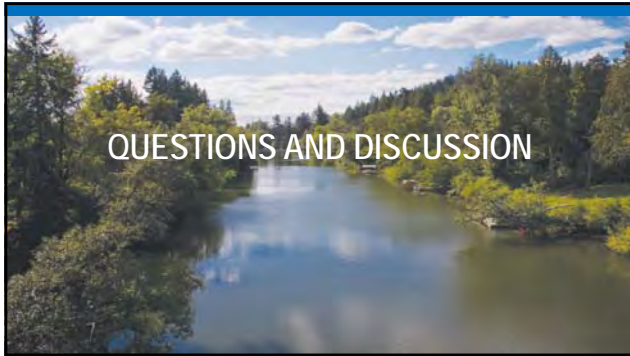
## WHAT WE HEARD FROM INDUSTRIES

- ES Specialists calling permitted industries individually
- Providing background on proposed changes
- Asking how they would like to interact
  - Some want only a copy of the final rule when done
  - Some want a draft to review and may want further interaction
  - Few expressing interest in individual virtual meetings



## PROPOSED SCHEDULE







# INDUSTRIAL PRETREATMENT: DOMESTIC AND NON-DOMESTIC WASTE



## Industrial Pretreatment

Unlike water from your toilet or kitchen sink, wastewater from certain types of industrial facilities has to be pretreated to remove particular pollutants before they go into a wastewater treatment facility.

Clean Water Services and local industries need to know what pollutants are present and what pretreatment is needed to protect public health, infrastructure and treatment facilities. Effective treatment prevents these pollutants from going into local rivers and streams.

## Permits

There are many industries in Washington County, including high tech, chemical manufacturing, brewing and other fermented beverage production, food processing, laboratories, dentists and auto shops. A permit may be required for some users to discharge materials into the wastewater system, depending on each unique situation.

Clean Water Services screens significant industrial users and other smaller users that discharge pollutants to determine if a pretreatment permit is necessary. The permit considers the type of discharge and establishes treatment, monitoring and reporting requirements for each situation. The regulation and permitting process is based on federal and state rules. Clean Water Services currently permits 195 active industries with different types of wastewater discharge permits.



## Domestic and Non-Domestic Waste

A pretreatment permit is not necessary to discharge domestic wastewater such as toilet and sink water from a home, shower water at a hotel or dishwater from an office lunchroom. Non-domestic wastewater, due to its volume or character, is not regular sewage. Non-domestic wastewater can contain substances like industrial chemicals, pesticides, rags, paints, and excessive oil and grease. A permit and pretreatment may be required before this type of wastewater goes into the sanitary system.

For non-domestic wastewater, Clean Water Services will determine which facilities need a permit, based on federal rules and potential impacts to the system.



# INDUSTRIAL PRETREATMENT: DOMESTIC AND NON-DOMESTIC WASTE



## New Ordinance

Clean Water Services has created a new draft ordinance, which combines elements of existing older rules, to update and clarify requirements relating to domestic and non-domestic wastewater. The ordinance is focused on the type of wastewater being discharged rather than the type of facility where wastewater originates. The ordinance includes newer federal streamlining rules and encompasses additional types and sources of wastewater that may flow into the sanitary system that were not explicitly described by the older rules. It's aligned with federal and state regulatory standards, as well as national pretreatment program standards.

The new ordinance does not regulate stormwater that does not enter the sanitary collection system, erosion control, or domestic wastewater from any type of facility. The ordinance does regulate wastewater from industrial facilities and other sources that should be permitted and requires pretreatment to protect public health and infrastructure.

The ordinance defines domestic waste differently than the previous ordinance to focus on regulating discharges that are problematic. It includes new regulation of certain discharges, specifically dental discharges, to keep up with current regulation. It requires keeping records of equipment maintenance to demonstrate effective performance for industries such as those working with fats, oils and greases and offers increased opportunities for users to bring hauled wastes to Clean Water Services. The new ordinance is designed to increase transparency, reduce inconsistencies and improve clarity by organizing the pretreatment rules into a single ordinance rather than distributed between ordinances and rules.

These changes make the ordinance more efficient, effective and transparent than the older rules. It provides tools to ensure continued protection of our community, workers, environment and infrastructure. It more clearly provides for aspects of the local program that allows Clean Water Services to provide protection beyond what the federally required system covers.



## Who's affected?

Industries that currently have industrial wastewater discharge permits with Clean Water Services will experience no real operational changes, but will see minor changes in their permit language to reflect the new ordinance. Some very small industries may qualify for a new type of control mechanism under the new ordinance. This will take advantage of federal streamlining rules to protect the environment and reduce the burden on business operations.



Everything we do at Clean Water Services aims to protect public health while enhancing the natural environment of the Tualatin River Watershed.

  
**Clean Water Services**

2550 SW Hillsboro Highway  
Hillsboro, Oregon 97123  
503.681.3600  
[cleanwaterservices.org](http://cleanwaterservices.org)