



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

PFAS: Source Tracking to Compliance

September 23, 2021

Brian Zuber

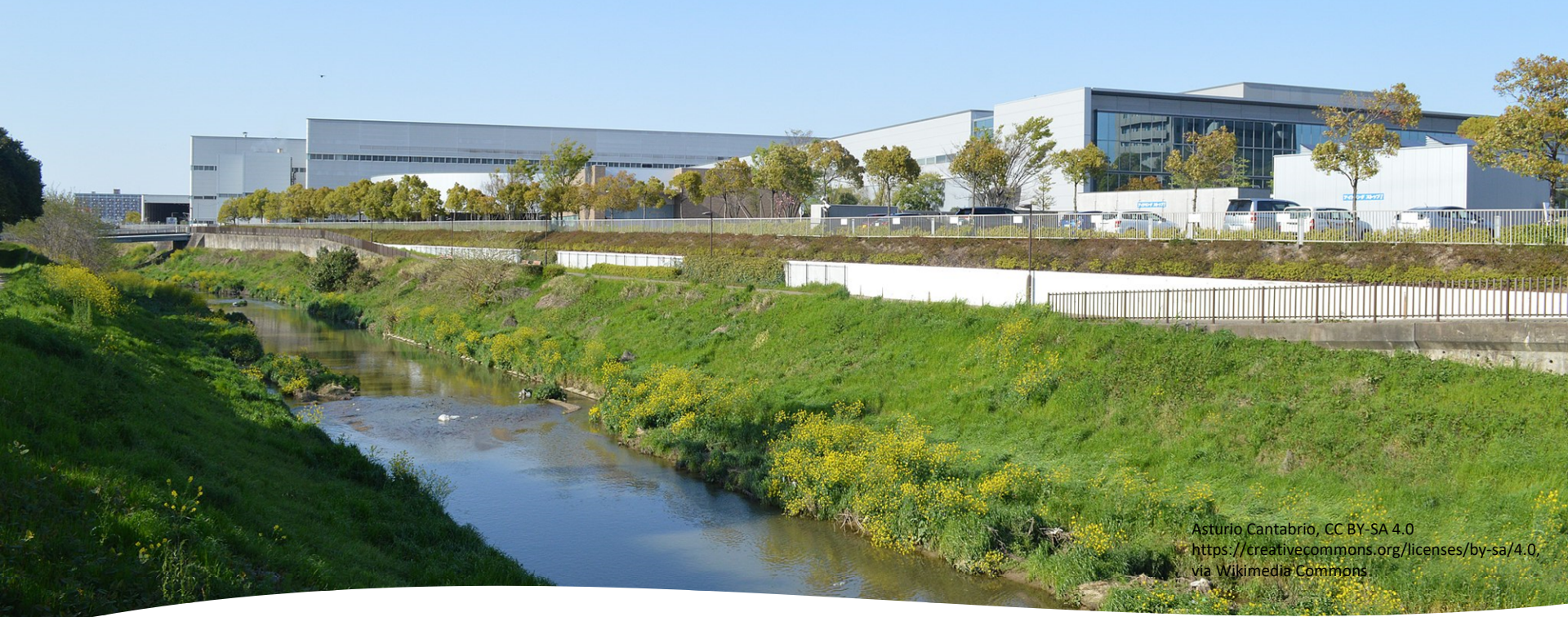
Water Resources Division

Emerging Pollutants Section

517-388-0267 | ZuberB@Michigan.gov

Outline

- NPDES Permits: Individual/General
- PFAS at Industrial Facilities
- PFAS Questions for Facilities
- Surface Water PFAS Criteria
- EGLE's PFAS Surface Water Investigations
- Industrial PFAS Compliance Strategy

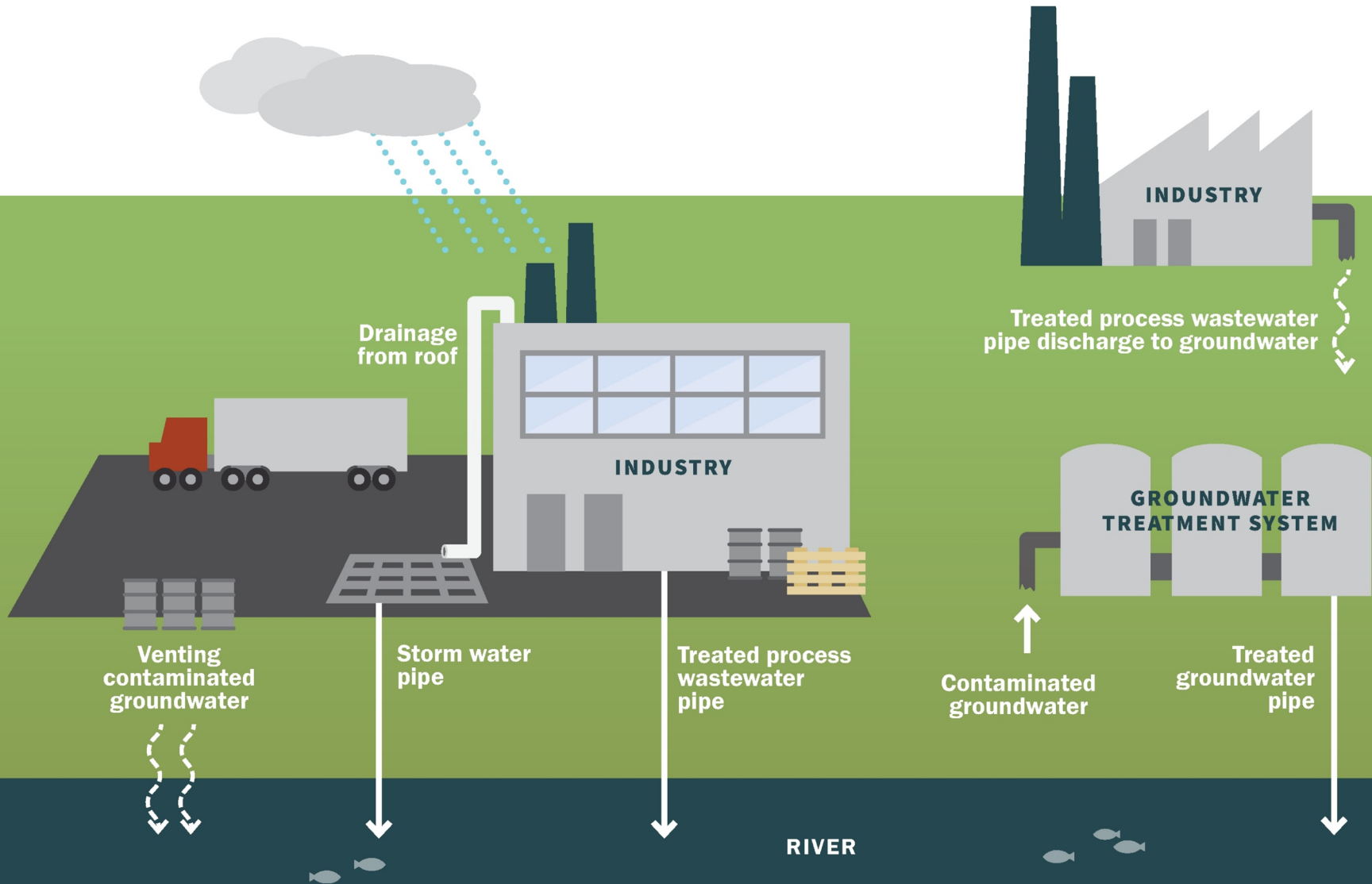


Asturio Cantabrio, CC BY-SA 4.0
<https://creativecommons.org/licenses/by-sa/4.0/>
via Wikimedia Commons

NPDES Permits

- General Permit Examples
 - Hydrostatic Pressure Test Water
 - Non-Contact Cooling Water
 - Industrial Storm Water
- Individual Permits

PFAS from Industrial Direct and Storm Water Discharges



Permit Application Questions

1. Is this facility known to have PFOS and/or PFOA present in wastewater discharged to surface waters of the state?
2. Is this facility a landfill for solid or hazardous waste with a discharge of leachate to a surface water of the state?
3. Is this facility a metal finisher that discharges wastewater associated with this activity to a surface water of the state?
4. Is the discharge from the remediation of a contaminated site to a surface water of the state?
5. Does the facility manufacture paper, corrugated paper, cardboard, paperboard, or packaging paper (coated or uncoated), and discharge wastewater associated with this activity to a surface water of the state?
6. Does the facility conduct car washing as all or part of its operations and discharge car wash wastewater to a surface water of the state?
7. Is this facility a commercial industrial laundry that discharges wastewater associated with this activity to a surface water of the state?
8. Is this facility a chemical manufacturer with a discharge of wastewater associated with this activity to a surface water of the state?
9. Has Aqueous Film-Forming Foam (AFFF) ever been used at the facility for training or testing, or to respond to a fire emergency? Has AFFF ever been stored at this facility? If yes to either, please select "YES."
10. Does this facility manufacture, formulate, or mix paints/pigments and discharge wastewater from these operations to a surface water of the state?
11. Does this facility have a discharge from a leather or hide tanning/finishing operation to a surface water of the state?
12. Does this facility perform carpet and/or upholstery cleaning and discharge wastewater from these operations to a surface water of the state?
13. Is the facility a carpet, rug, or textile manufacturer that discharges wastewater associated with this activity to a surface water of the state?
14. Is this facility a centralized waste treater? Centralized Waste Treaters treat or recover metal-bearing, oily, and organic wastes, wastewater, or used material received from off site, and are regulated under 40 CFR Part 437.
15. Does this facility apply a stain-, dirt-, water-, or fire-resistant coating and/or protectant, and discharge wastewater associated with this activity to a surface water of the state?

Industrial Storm Water Inspection Questions

1. Metal Finishers: Has chrome plating or chromate conversion coating ever been conducted?
2. Metal Finishers: Is there a history of PFAS-based fume suppressant use?
3. Landfills: Does any cap contain paper sludge?
4. Centralized Waste Treaters: Does this facility accept wastes associated with metal finishing, paper mills, AFFF, or landfill leachate?
5. Centralized Waste Treaters: Have any spills or industrial activities involving wastes ever occurred in areas outside containment?
6. Paper Facilities: Has recycled paper or recycled cardboard ever been a source material?
7. Paper Facilities: Has the facility ever manufactured, used, or applied coatings in its process?
8. Has the facility ever manufactured, used, or applied stain/dirt/fire/water-resistant coatings/protectants?
9. Has the facility ever manufactured, formulated, or mixed paints/pigments?
10. Has a PFAS-based chemical ever been used as a part of an industrial activity?
11. Does the facility have information on the type of PFAS chemicals used (e.g., PFOS/PFOA)? If so, what was the timeframe of use?
12. Is there venting (stacks, fans, etc.) from the facility to the outside related to any industrial process?
13. Have there been any historical trainings or fires at the facility where firefighting foam was used? If yes, provide the date(s) and location(s).
14. Do fire extinguishers or fire suppression systems on-site contain Class 2 or B AFFF that contains PFAS?
15. Has there ever been a potential for storm water to come into contact with PFAS-contaminated items (currently or historically) outside the facility?
16. Is there any known soil or groundwater contaminate on the property?
17. Does groundwater infiltrate the storm sewer system?

Sector Specific Questions

1. Has the facility ever used or generated PFAS chemicals in its industrial process or as part of an industrial activity? **Yes/No**
 - a. If yes, please answer the following questions:
 - b. How were/are PFAS chemicals used or generated? **Explain:**
 - c. What was the timeframe of use? **Explain:**
 - d. What type of PFAS (PFOS, PFOA, etc.) are/were used? **Explain:**
 - e. Has there ever been a potential for storm water to come into contact with PFAS-contaminated items (currently or historically) outside the facility? **Yes/No Explain:**
 - f. If there are direct discharges (e.g., process wastewater, non-contact cooling water, GWCU, etc.), is there a potential for PFAS contamination of these discharges? **Yes/No Explain:**
2. Is there venting (stacks, fans, etc.) from the facility to the outside related to any industrial process? **Yes/No**
3. Have there been any historical trainings or fires at the facility where firefighting foam was used? **Yes/No**
 - a. If yes: Please provide the date(s) and location(s). **Explain:**
4. Do fire extinguishers or fire suppressions systems on-site contain Class 2 or B Aqueous Film Forming Foam (AFFF) that contains PFAS? **Yes/No**
 - a. If yes, please answer the following questions:
 - b. If known, what is the reason for keeping PFAS-containing AFFF on-site (e.g., insurance, company policy, fire marshal, government agency)? **Explain:**
 - c. Where is the AFFF contained, stored, or used? **Explain:**
 - d. Have there been any leaks/spills/releases from these systems? **Yes/No Explain:**
5. Is there any known soil or groundwater contamination on the property? **Yes/No**
 - a. If yes: please answer the following questions:
 - b. What type of contamination? **Explain:**
 - c. What is the source (i.e., what process, activity, event) of the contamination? **Explain:**
6. Does groundwater infiltrate the storm sewer system (is there still flow 72 hours since the end of the last rain event)? **Yes/No**

Michigan PFAS Criteria: Surface Water

Rule 57 Toxic Substances of the Part 4 Water Quality Standards

Natural Resource & Environmental Protection Act (NREPA) – Part 31, Water Resources Protection

Compound	HNV* (ng/L)	Established Date
PFOS (Drinking Water Source)	11	March 2014
PFOS	12	March 1014
PFOA (Drinking Water Source)	420	May 2011
PFOA	12,000	May 2011

*Human Noncancer Value (HNV)



Surface Water Investigations

- Survey Surface Water and Fish
- Foam Complaints
- Wastewater Treatment Plants
- Source Tracking

Industrial PFAS Compliance Strategy

- Prioritization of facilities
 - Known or suspected use
 - Metal finishers
 - Paper manufacturers or recyclers
 - Landfills
 - Facilities with Class B AFFF storage, training, and/or use
- Existing sampling data
 - Wastewater
 - Groundwater
 - Storm water
 - Surface water
 - Soils
 - Sanitary



Industrial Direct & Industrial Storm Water Discharges

- Highest priority facilities:
 - Sampled by EGLE
 - Facility directed to sample
- Other facilities with potential:
 - PFAS may be added to WRD compliance sampling inspections

Industrial Direct & Industrial Storm Water Discharges

Addressing industrial discharges of
PFOS/PFOA > WQV through

Administrative Consent Orders

- Enforceable schedules
- Source tracking
- Corrective actions
- Effluent goals
- Monitoring
- Performance certification
- Beyond the ACO

Industrial Pretreatment Program (IPP) Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) Staff

www.mi.gov/ipp



Tom Berdinski: 616-204-7334
BerdinskiT@Michigan.gov

Carla Davidson: 517-243-1249
DavidsonC@Michigan.gov

Anne Tavalire: 248-508-1102
TavalireA@Michigan.gov

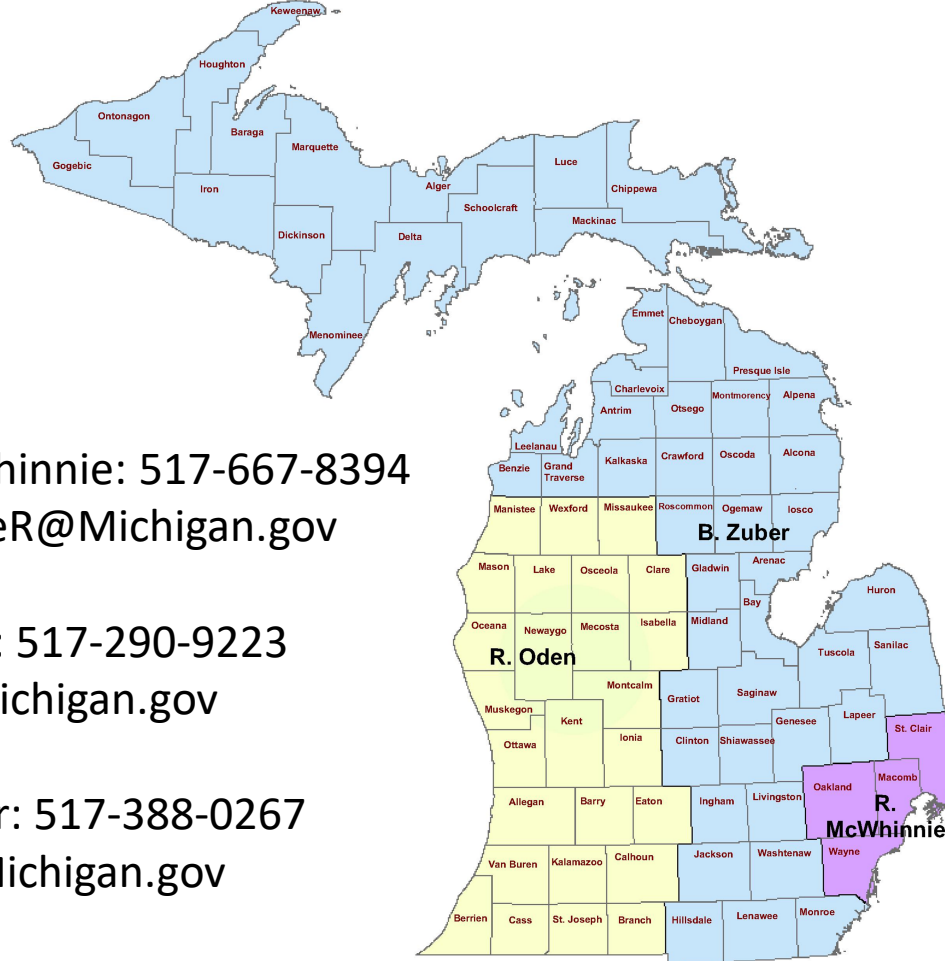
EGLE Water Resources Division

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

www.michigan.gov/wrd ↔ 517-284-5567

5/14/2020

Emerging Pollutants Section Industrial Storm Water Contacts



Ryan McWhinnie: 517-667-8394
McWhinnieR@Michigan.gov

Rikki Oden: 517-290-9223
OdenR@Michigan.gov

Brian Zuber: 517-388-0267
ZuberB@Michigan.gov

EGLE Water Resources Division

MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

www.michigan.gov/wrd ↔ 517-284-5567

5/3/2021

Michigan Department of
Environment, Great Lakes, and Energy

800-662-9278

Michigan.gov/EGLE



Follow us at: Michigan.gov/EGLEConnect