

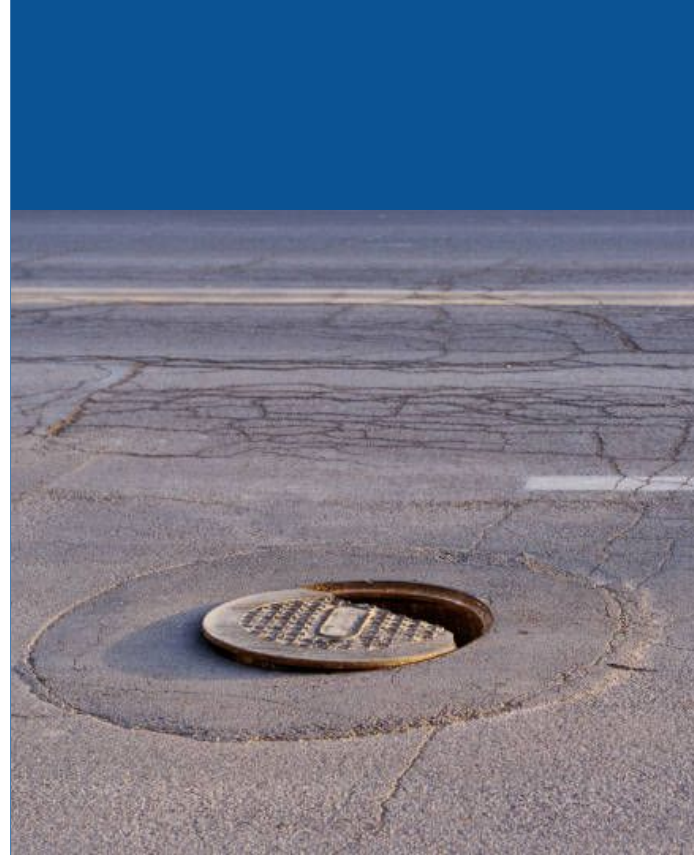
# Fats, Oils, and Grease (FOG): How the City of Lansing Plans to Stop the Clog

Audrey Wilfong

Catalyst Leadership Circle Fellow

University of Michigan, School of Public Health

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# Background

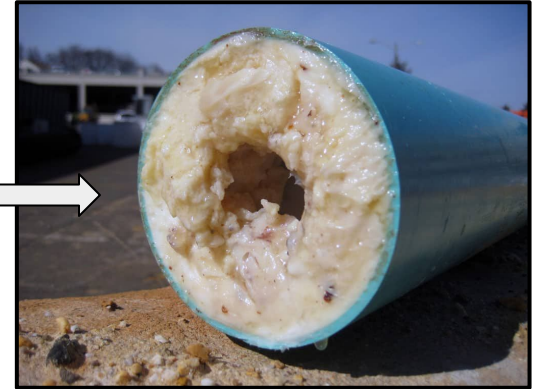
# Lansing's sewers have been clogged by FOG



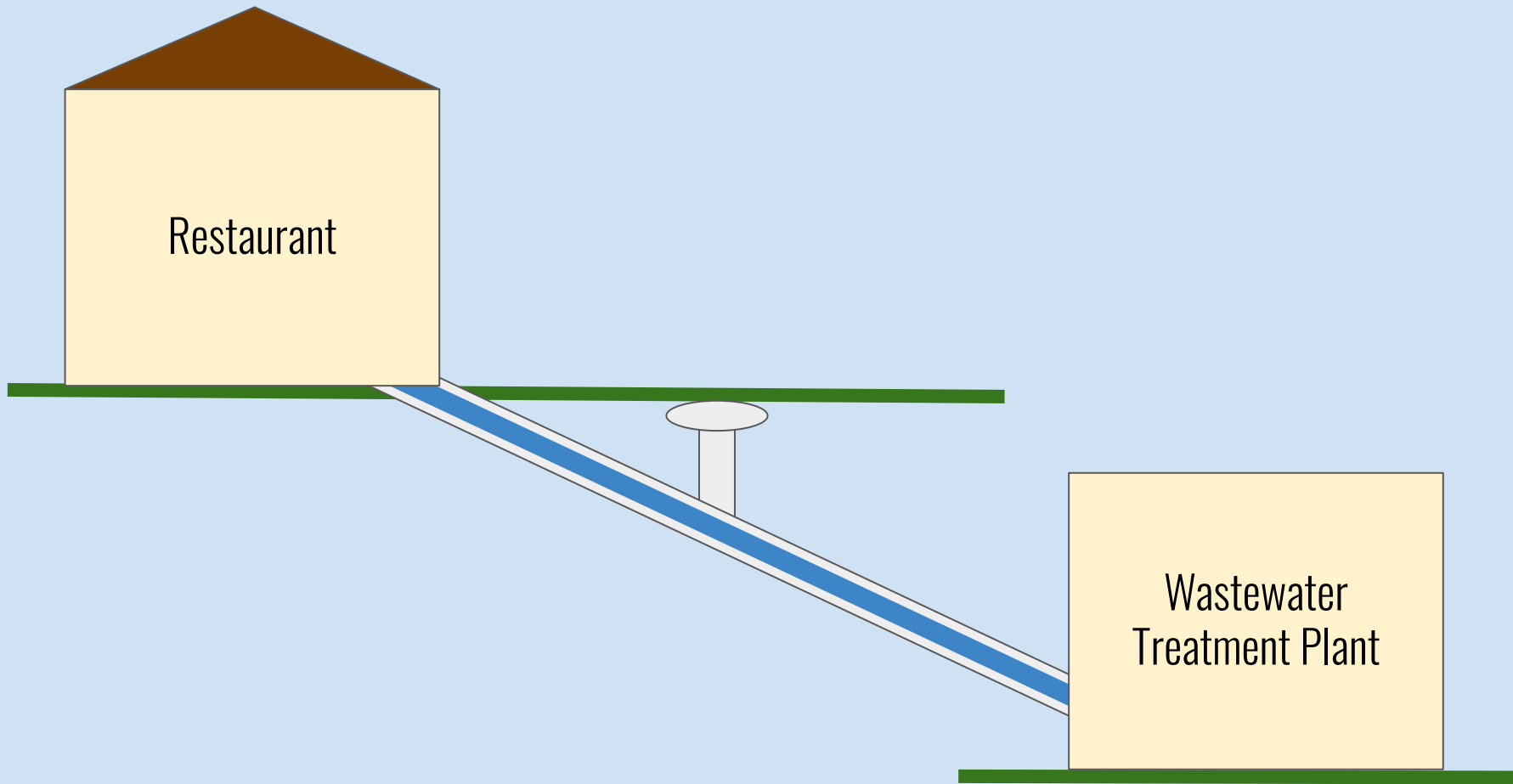
FOG left over from food preparation

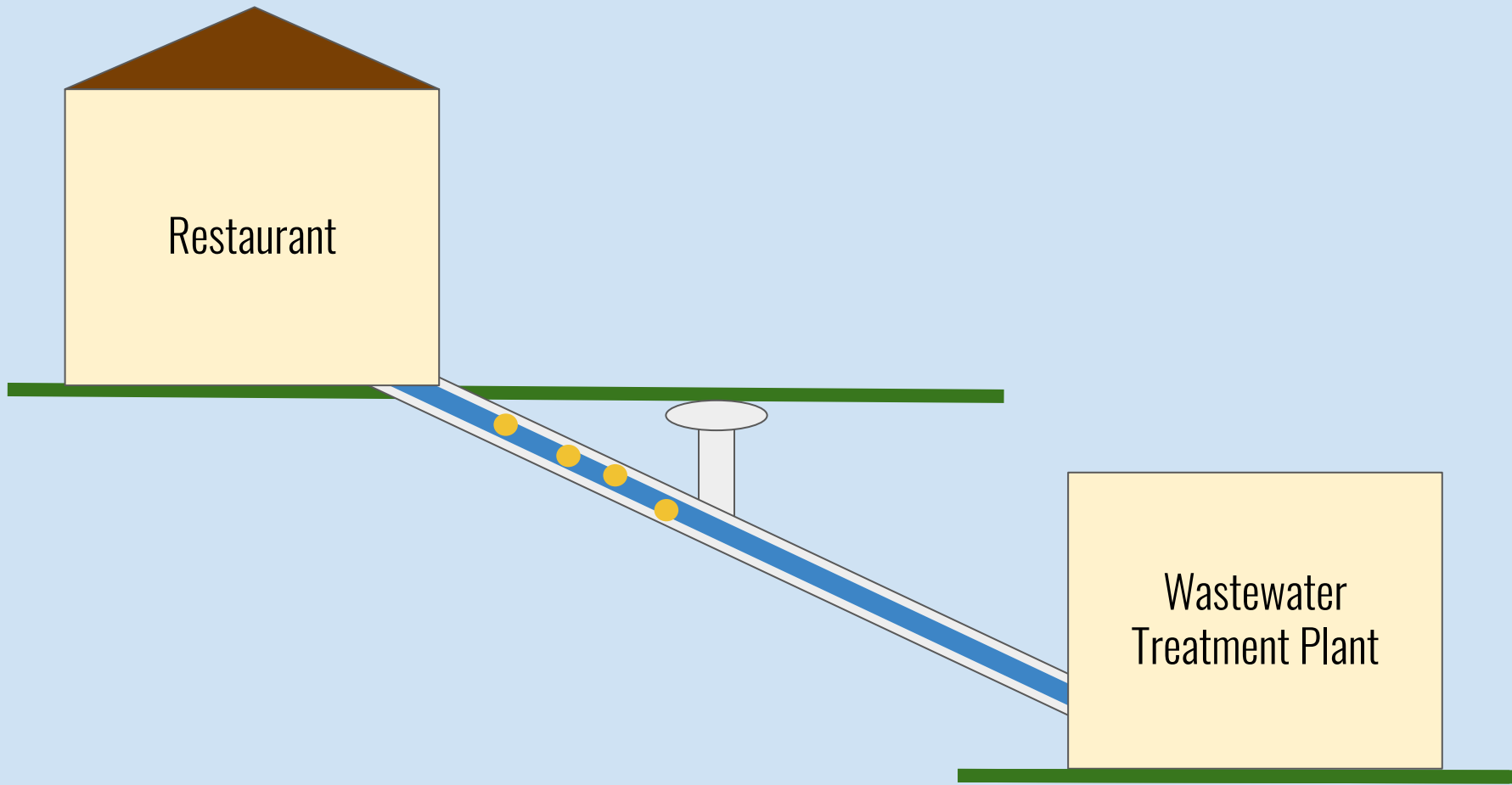


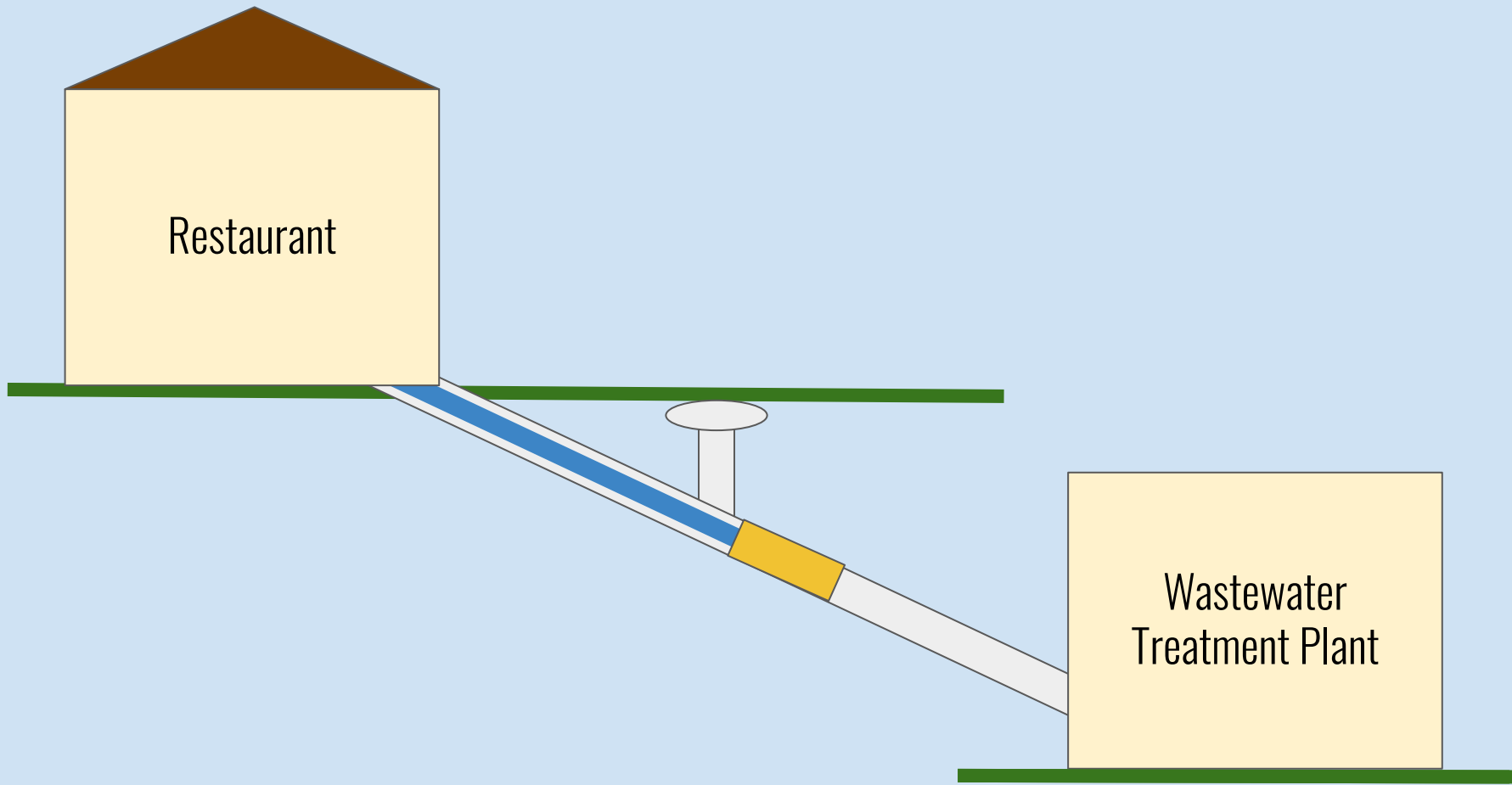
FOG being poured down the drain

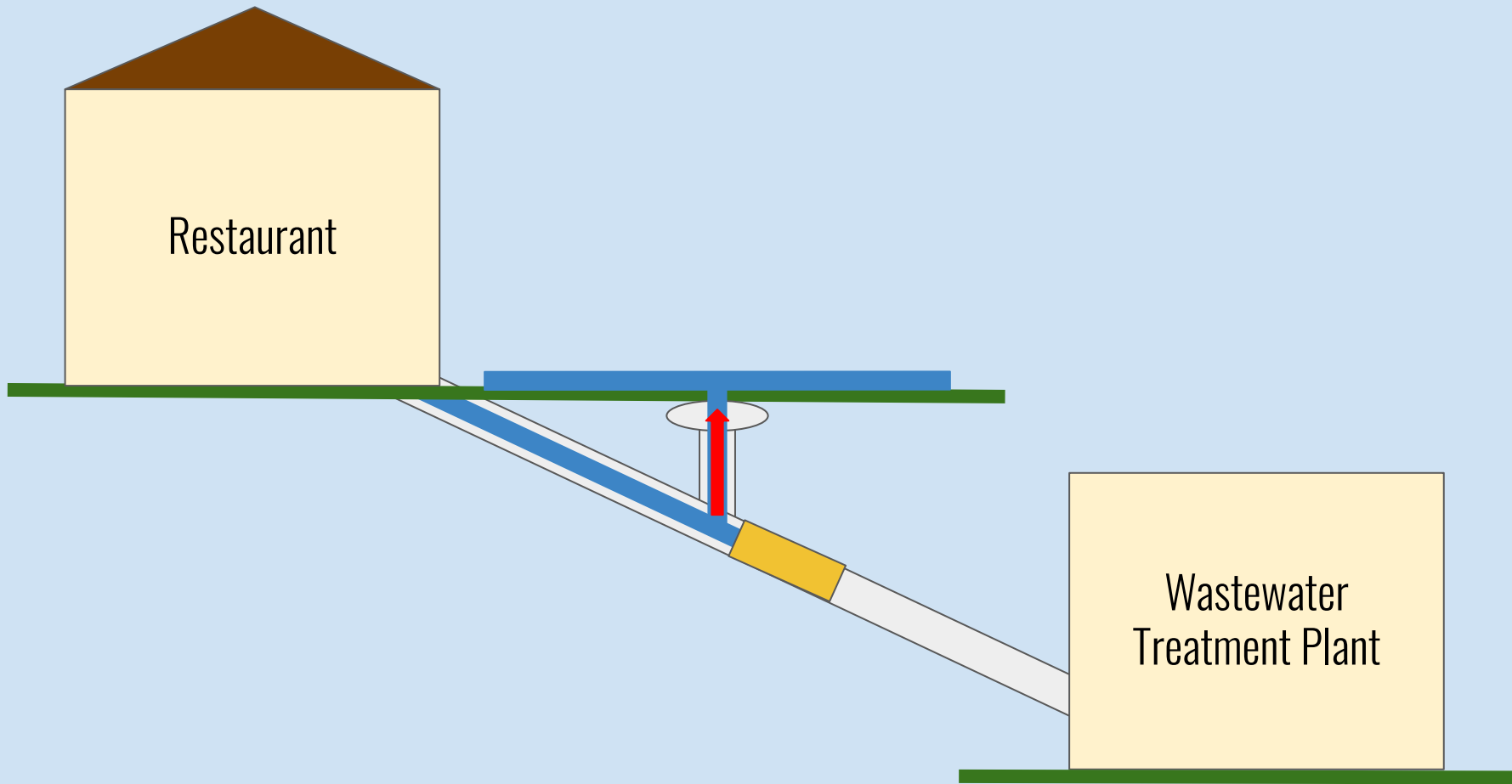


FOG buildup in the sewer system



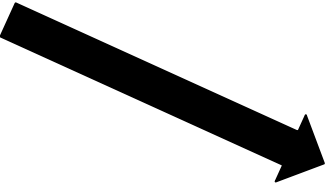
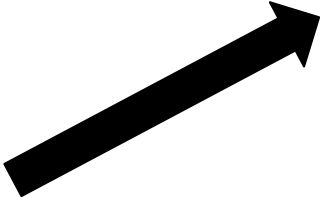




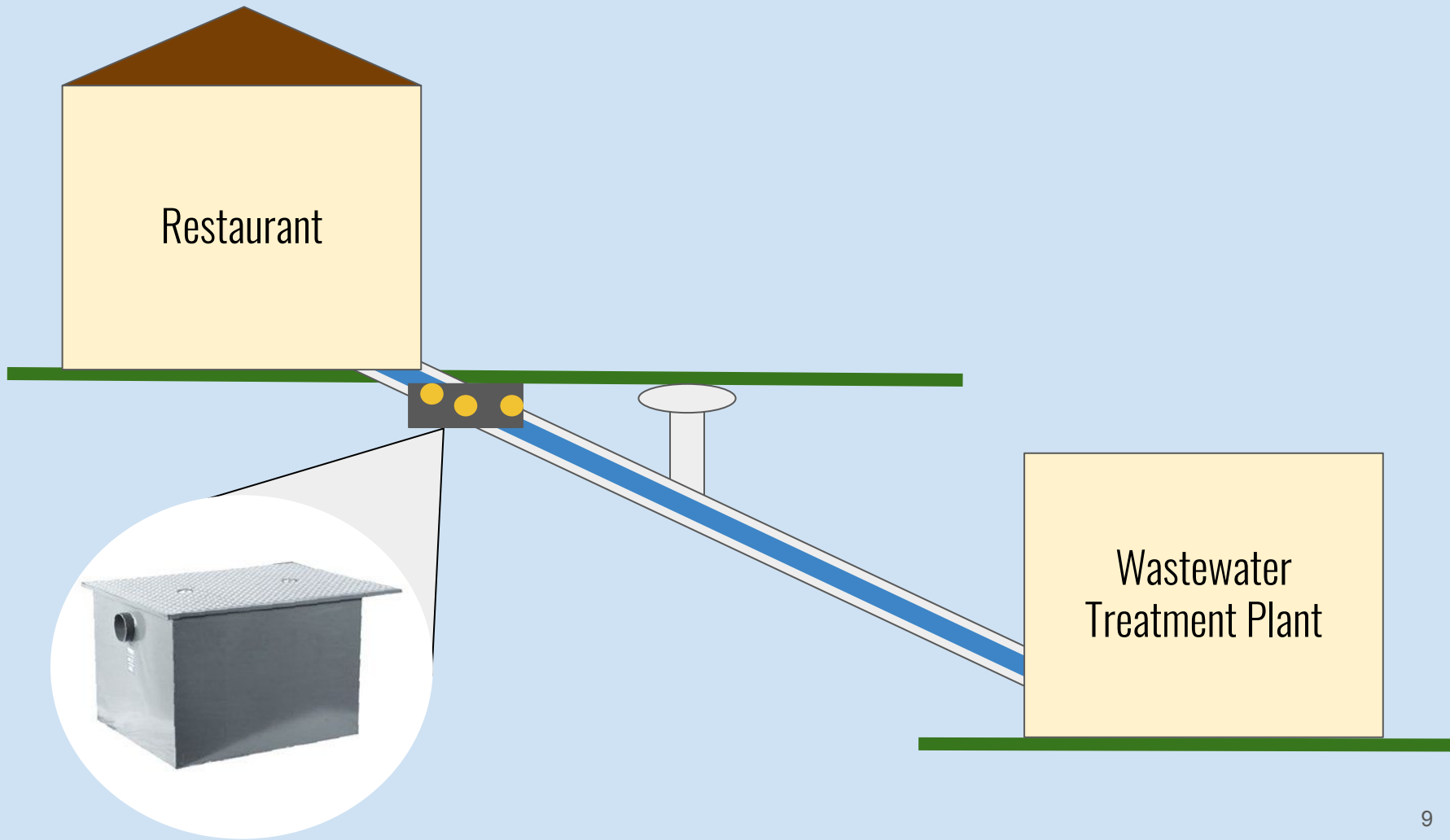




Sanitary Sewer Overflow (SSO)







# Approach

# We amended Ord. 1040 to reflect better enforcement of grease interceptor inspection and maintenance at food service establishments (FSEs)

Ordinance no. \_\_\_\_\_

An ordinance of the City of Lansing, Michigan, to amend the Code of Ordinances of the City of Lansing by amending Chapter 1040, Sections 1040.01 and 1040.12 to update the ordinance to reflect stricter enforcement of fats, oils, and grease disposal and installation and maintenance of grease interceptors/traps.

## CHAPTER 1040. SEWERS GENERALLY<sup>1</sup>

### 1040.01. Definitions.

As used in this chapter and in Chapters 1042 through 1046:

**Best management practices (BMPs)** means methods or techniques found to be the most effective in achieving an objective such as preventing or minimizing pollution. In this chapter, BMPs refer to methods and techniques used by food service establishments and other facilities that may have an impact on the sewer system by the deposition of fats, oils, and grease, to prevent or minimize the deposition of fats, oils, and grease from cooking, baking, processing, manufacturing, and other processes in private sewer laterals and public sewer lines, structures, and wastewater treatment facilities.

**Billing and collection charge** means that portion of the user charge for billing for a collection service.

**BOD or biochemical oxygen demand** means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedure in five days at twenty degrees Centigrade, expressed in parts per million by weight.

**Building drain** means that portion of the lowest horizontal piping of a drainage system which receives the discharge from soil, waste and other drain pipes inside the walls of the building and conveys it to the building sewer.

**Building sewer** means the sewer that connects the building drain to a public sewer or other place of disposal and conveys the sewage of one building.

**City** means the City of Lansing.

**Combined sewer** means a sewer receiving both surface run-off and sanitary sewage.

**Debt service charge** means that portion of the user charge for capital cost retirement.

### 1040.12. Grease, oil and sand interceptors.

- ~~(a) **Required; Specifications.** Grease, oil and sand interceptors shall be provided when, in the opinion of the Director of Public Service or the Plumbing Board, such interceptors are necessary for the proper handling of liquid wastes containing grease in excessive amounts, flammable wastes, sand or other harmful ingredients, except that such interceptors shall not be required for private living quarters of dwelling units. All such interceptors shall be of a type and capacity approved by the Director or the Board and shall be located so as to be readily accessible for cleaning and inspection. Grease and oil interceptors shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature, and shall be substantially constructed, watertight and equipped with easily removable covers which, when bolted in place, are gastight and watertight.~~
- ~~(b) **Maintenance.** When installed, all grease, oil and sand interceptors shall be maintained by the owner, at his or her expense, in continuously efficient operation at all times.~~
- (a) **Interceptors/traps required.**
- (1) **Grease interceptors/traps shall be provided and maintained in proper operating condition at all times at the expense of the property owner to the proper handling of liquid waste containing FOG. Grease interceptors/traps shall be required for all food service establishments and may be required for other users as determined necessary by the Public Service Director or the Plumbing Board. Grease interceptors/traps shall be sized, constructed, and installed as required by the City's specifications and subject to the Public Service Director's approval. At a minimum, grease interceptors/traps shall be cleaned and maintained per the manufacturer's specifications and as provided by this section at the property owner's expense.**

# We created outreach materials for FSEs

## Best Management Practices (BMPs) for Fats, Oils, and Grease (FOG)

The best way to prevent sewer blockages from FOG is to use Best Management Practices. The most common BMPs for Food Service Establishments (FSEs) are listed in the table below.

BMP	Reason	Benefit to FSEs
Train employees on Best Management Practices (BMPs), including the proper methods of FOG disposal. Provide refresher training periodically.	Employees are more willing to support an effort if they understand the importance of it.	Subsequent benefits of BMPs will have a better chance of being implemented.
Post “No Grease” signs or posters prominently in the workplace.	Signs serve as a constant reminder for employees working in kitchens.	These reminders will help minimize the amount of grease discharged to traps and interceptors, which will also reduce the cost of cleanup and disposal.
Install screens on all kitchen drains. Screens should be easily removable for cleaning. The holes should be less than 3/16”.	Drain screens prevent food particles containing FOG from entering into the sewer system and causing sewer blockages.	This will reduce the amount of material going to grease traps and interceptors, which means they will require less frequent cleaning. This will reduce overall maintenance costs.
Avoid pouring water over 140°F down a drain that is connected to a grease trap or interceptor.	Water temperatures over 140°F will dissolve grease which may congeal or solidify in the wastewater collection system as the water cools down.	Using water less than 140°F where applicable will reduce gas or electric energy costs for heating the water. This will also prevent FOG “pass through” in grease interceptors.
Scrape or dry-wipe excess food and solidified grease from pots, pans, fryers, utensils, screens, and mats, then dispose of it in the garbage receptacle.	By dry-wiping pots, pans, and dishware and disposing of food wastes in garbage receptacles, the material will not be sent to the grease traps or interceptors. Instead, it will go to the landfill.	This will reduce the amount of material going to the grease traps and interceptors, which means less cleaning will be necessary. This will reduce overall maintenance costs.

# We also created outreach materials for residents

## STOP THE CLOGS

### WHAT IS FOG?

FOG refers to fats, oils, and grease from cooking and kitchen cleanup. Some common sources include:

- Meat fats
- Food scraps
- Lard/shortening
- Baking goods
- Butter/margarine
- Cooking oil
- Sauces
- Dairy products
- Salad dressings

### WHY DO CLOGS HAPPEN?

When poured down the drain, fats, oils, and grease can cause significant problems in wastewater treatment plants.

Clogs can be caused by improper disposal. A partial or total blockage can occur, causing water to back up or not work properly.

To help prevent these clogs, check out these simple tips below.

### DO:

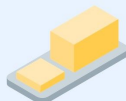
- Place cooled oil and grease into covered containers.
- Scrape food scraps into trash can.
- Use a paper towel to wipe off excess oils, and grease from dishes and into trash bins.
- Install a screen in the sink to catch food scraps.
- Encourage family, friends, and neighbors to help keep fats, oils, and grease out of the sewer system.

### DO NOT:

- Do not pour oil or grease down the drain.
- Do not put food scraps down the drain.
- Do not pour liquid foods down the drain.
- Do not run water over greasy dishes or fryers.
- Do not use chemicals to remove clogs, since they can damage the sewer system.
- Do not rely on the garbage disposal to dispose of grease.

## KNOW YOUR

When we wash fats, oils, and grease down the drain, they build up in pipes and contribute to blockages.



**FATS** are solid at room temperature and include butter, peanut butter, poultry skin, cream, ice cream, and lard.



**OILS** are liquid at room temperature and include vegetable oil, corn oil, and olive oil.



**GREASE** is liquid at high temperatures but solidifies when cooled. It includes cooking oil, bacon, sausage, and salad dressings.

## A FOG-Free Holiday Season

Keep fats, oils, and grease out of the sewer.

As we prepare for the holiday season, the City of Lansing wants to remind residents to properly dispose of fats, oils, and grease (FOG).

FOG residue from turkey, gravy, and other classic holiday dishes accumulate in our sewer pipes and can cause backups, usually through kitchen and bathroom drains. These blockages can result in sanitary sewer overflows, which pollute our streets and streams.



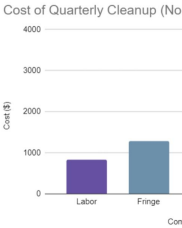
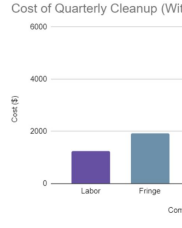

To keep our wastewater flowing, make sure you dispose of FOG properly in a trash can.

Instead of pouring FOG from pots and pans down drains, pour it into a glass jar or coffee can to then dispose of in the trash can once it has cooled. Prior to washing pots, pans, and dishes, wipe away all FOG and dispose of FOG-laden paper towels in the trash can.



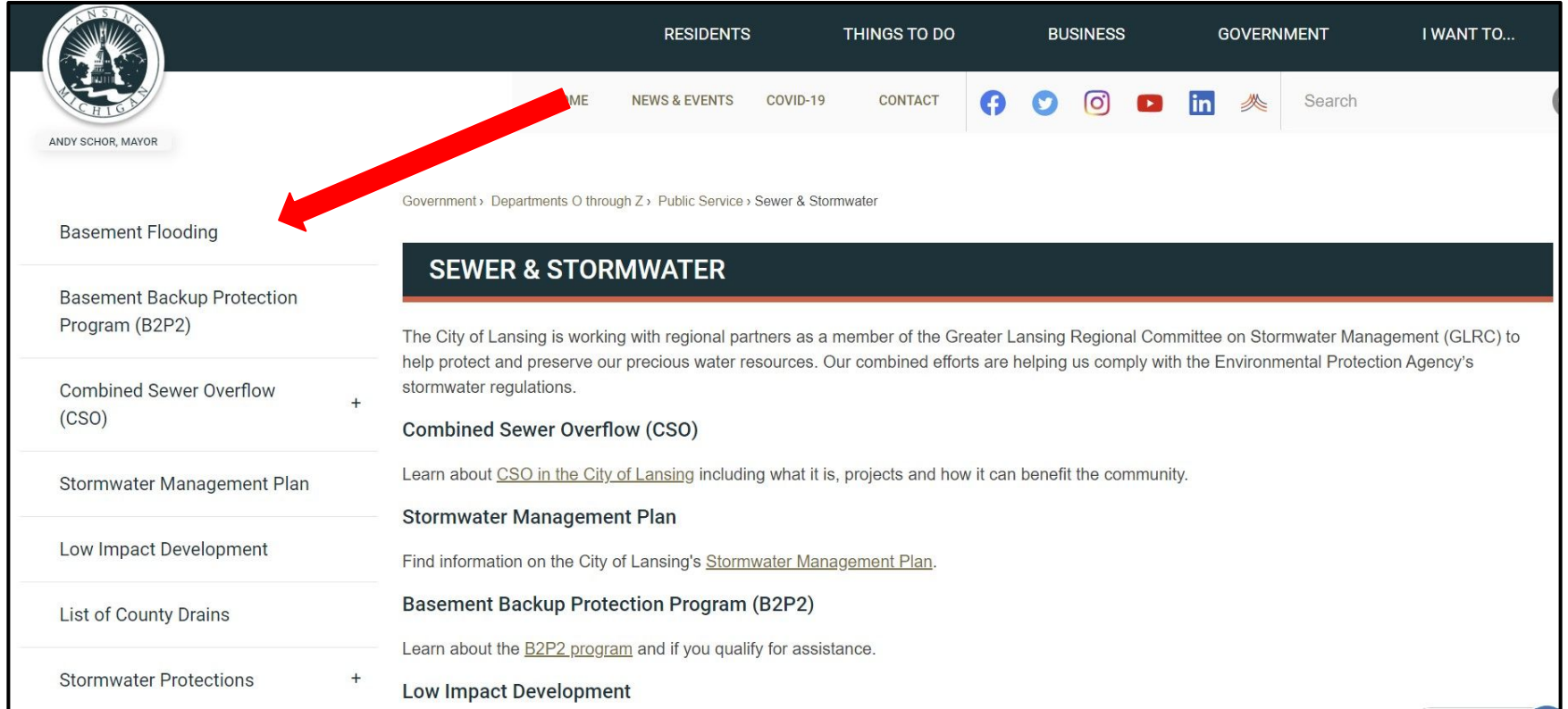
# Next Steps

# We need to send the amended ordinance packet to City Council\*

<p>An ordinance of the City of Lansing by amending ordinance to reflect stricter enforcement and maintenance of grease in</p> <p>CHA</p> <p><b>1040.01. Definitions.</b></p> <p>As used in this chapter and in C</p> <p><b>Best management practices (B</b> achieving an objective such as preventing techniques used by food service establishments by the deposition of fats, oils, from cooking, baking, processing, m lines, structures, and wastewater tre</p> <p><i>Billing and collection charge me</i></p> <p><i>BOD or biochemical oxygen der</i> organic matter under standard labora per million by weight.</p> <p><i>Building drain</i> means that porti discharge from soil, waste and other sewer.</p> <p><i>Building sewer</i> means the sewer and conveys the sewage of one build</p> <p><b>City</b> means the City of Lansing.</p> <p><i>Combined sewer</i> means a sewer</p> <p><i>Debt service charge</i> means that</p>	 <p><b>Problem</b></p> <ul style="list-style-type: none"> <li>Fats, oils, and grease</li> <li>FOG includes meat f</li> <li>When poured down</li> <li>FOG buildup leads to public health and th waterways.</li> <li>The cost to clean up</li> </ul> <p><b>Solution</b></p> <ul style="list-style-type: none"> <li>Approve the amend health and save the</li> </ul> 	<p><b>The Real Cost of</b></p> <p>The City of Lansing currently has 17 tro</p> <p>The cost of one cleanup without soap =</p> <p>Cost of Quarterly Cleanup (No Soap)</p>  <p>Cost (\$)</p> <p>Labor Fringe</p> <p>The cost of one cleanup with soap = \$5,000</p> <p>Cost of Quarterly Cleanup (With Soap)</p>  <p>Cost (\$)</p> <p>Labor Fringe</p>	<p><b>Public Health</b></p> <ul style="list-style-type: none"> <li>Sanitary sewer overflows release untreated or partially treated sewage. Bacteria, viruses, protozoa, intestinal worms, mold, and fungi found in raw sewage are a serious threat to public health.</li> <li>Mild: mild gastroenteritis, including stomach cramps and diarrhea</li> <li>Life threatening: cholera, dysentery, hepatitis B, cryptosporidiosis, and severe gastroenteritis</li> <li>The public may be exposed through:             <ul style="list-style-type: none"> <li>sewage in drinking water</li> <li>direct contact with raw sewage on streets, in buildings, and in recreational waters</li> <li>eating fish or shellfish from polluted waters</li> </ul> </li> </ul> 	<p><b>Organism</b></p> <p><b>Viruses</b> (ex: Norovirus)</p> <p><b>Protozoa</b> (ex: Cryptosporidium)</p> <p><b>Bacteria</b> (ex: E. coli)</p> <p><b>Helminths</b> (ex: Tapeworm)</p>	<p><b>Health Effects</b></p> <ul style="list-style-type: none"> <li>Diarrhea</li> <li>Gastroenteritis</li> <li>Hepatitis</li> <li>Meningitis</li> <li>Pneumonia</li> <li>Paralysis</li> <li>Respiratory infections</li> <li>Abdominal cramps</li> <li>Intestinal parasites</li> <li>Severe diarrhea</li> <li>Ulcers</li> <li>Abdominal pain</li> <li>Cholera</li> <li>Food poisoning</li> <li>Severe diarrhea</li> <li>Typhoid fever</li> <li>Anemia</li> <li>Chest pain</li> <li>Digestive problems</li> <li>Fever</li> <li>Insomnia</li> <li>Muscle aches</li> <li>Vomiting</li> </ul>
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# We also need to add the outreach materials to the City's website



The screenshot shows the City of Lansing website navigation and content. The top navigation bar includes: RESIDENTS, THINGS TO DO, BUSINESS, GOVERNMENT, and I WANT TO... Below this is a secondary navigation bar with: HOME, NEWS & EVENTS, COVID-19, CONTACT, social media icons (Facebook, Twitter, Instagram, YouTube, LinkedIn), and a search bar. The left sidebar contains a list of links: Basement Flooding, Basement Backup Protection Program (B2P2), Combined Sewer Overflow (CSO), Stormwater Management Plan, Low Impact Development, List of County Drains, and Stormwater Protections. The main content area is titled 'SEWER & STORMWATER' and contains the following text: 'The City of Lansing is working with regional partners as a member of the Greater Lansing Regional Committee on Stormwater Management (GLRC) to help protect and preserve our precious water resources. Our combined efforts are helping us comply with the Environmental Protection Agency's stormwater regulations.' Below this are sections for 'Combined Sewer Overflow (CSO)', 'Stormwater Management Plan', 'Basement Backup Protection Program (B2P2)', and 'Low Impact Development'. A red arrow points from the 'Basement Flooding' link in the sidebar to the 'SEWER & STORMWATER' header.

Basement Flooding

Basement Backup Protection Program (B2P2)

Combined Sewer Overflow (CSO)

Stormwater Management Plan

Low Impact Development

List of County Drains

Stormwater Protections

SEWER & STORMWATER

The City of Lansing is working with regional partners as a member of the Greater Lansing Regional Committee on Stormwater Management (GLRC) to help protect and preserve our precious water resources. Our combined efforts are helping us comply with the Environmental Protection Agency's stormwater regulations.

**Combined Sewer Overflow (CSO)**

Learn about [CSO in the City of Lansing](#) including what it is, projects and how it can benefit the community.

**Stormwater Management Plan**

Find information on the City of Lansing's [Stormwater Management Plan](#).

**Basement Backup Protection Program (B2P2)**

Learn about the [B2P2 program](#) and if you qualify for assistance.

**Low Impact Development**



## Special thanks to

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Marcus Kirkpatrick, Parks & Rec Director (Delta)

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(Ferndale)

Everyone at the Graham Sustainability Institute!

# Thank you

Questions?  
Comments?  
Concerns?



Photo Credit: Audrey Wilfong