

**FOG**

**CHRONICLES**

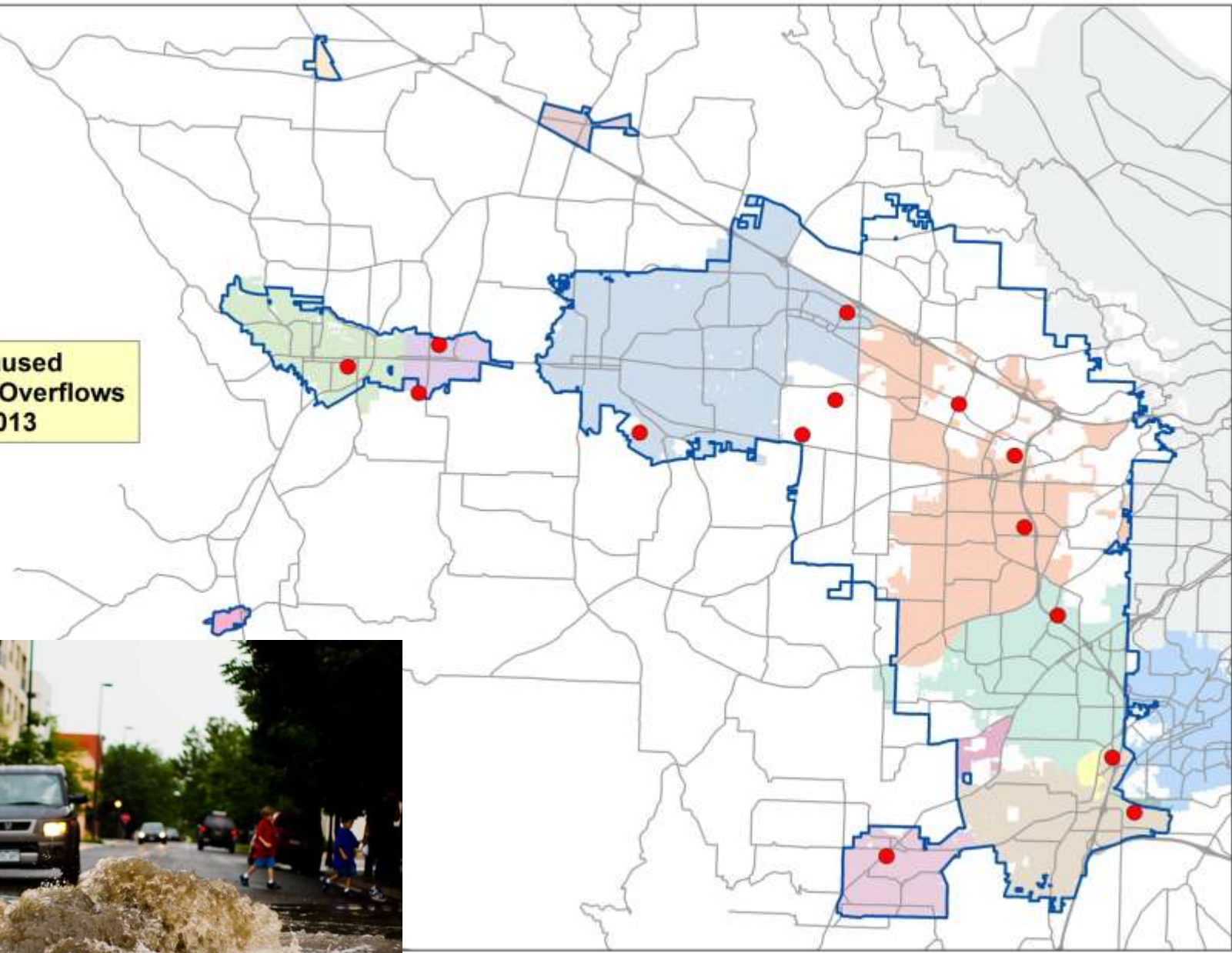
**ORWEF March 2017**

**Vince Chavez**

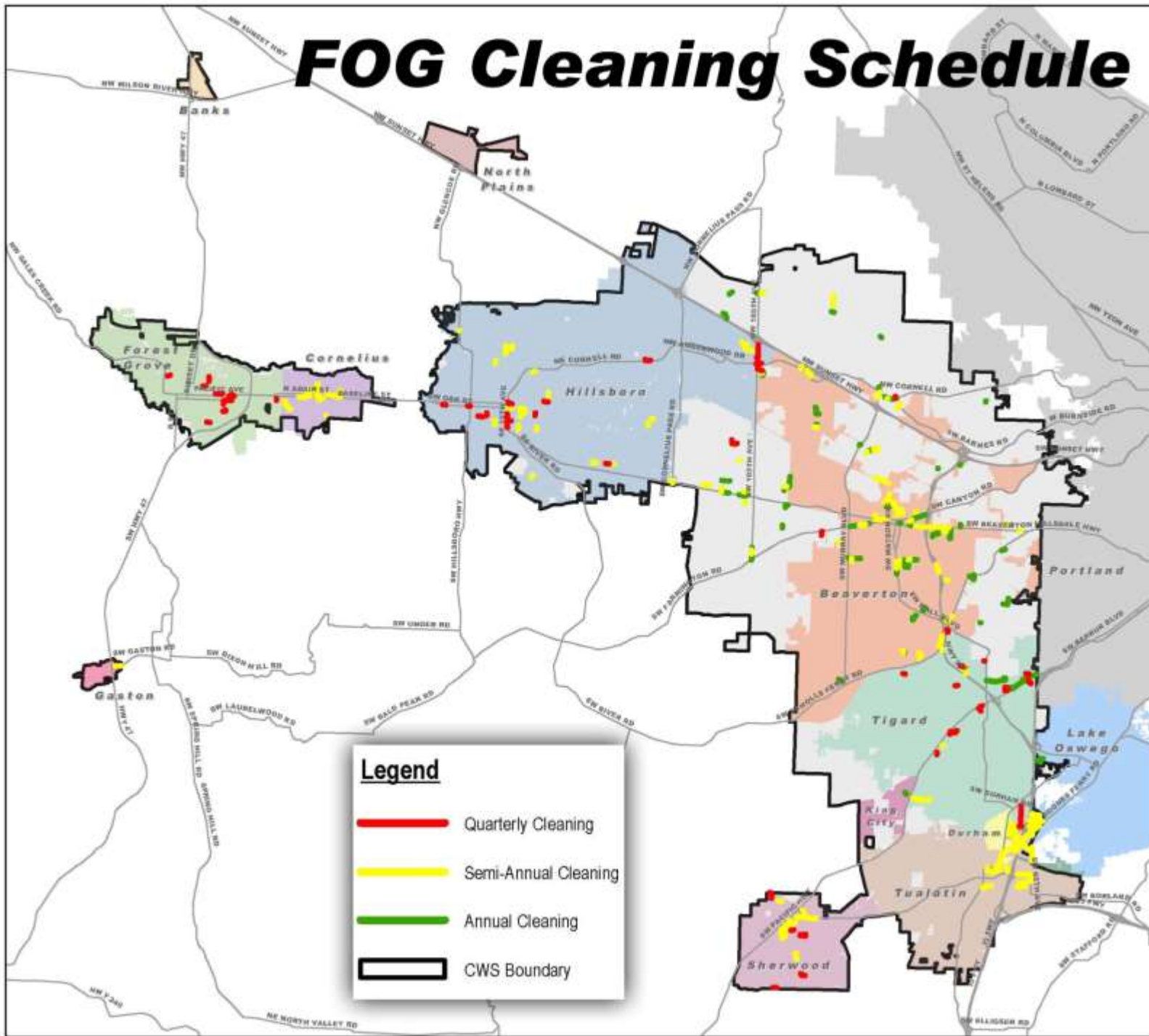
FOG Program Coordinator

503 896-7164 [chavezv@cleanwaterservices.org](mailto:chavezv@cleanwaterservices.org)

**Grease Caused  
Sanitary Sewer Overflows  
2008 - 2013**

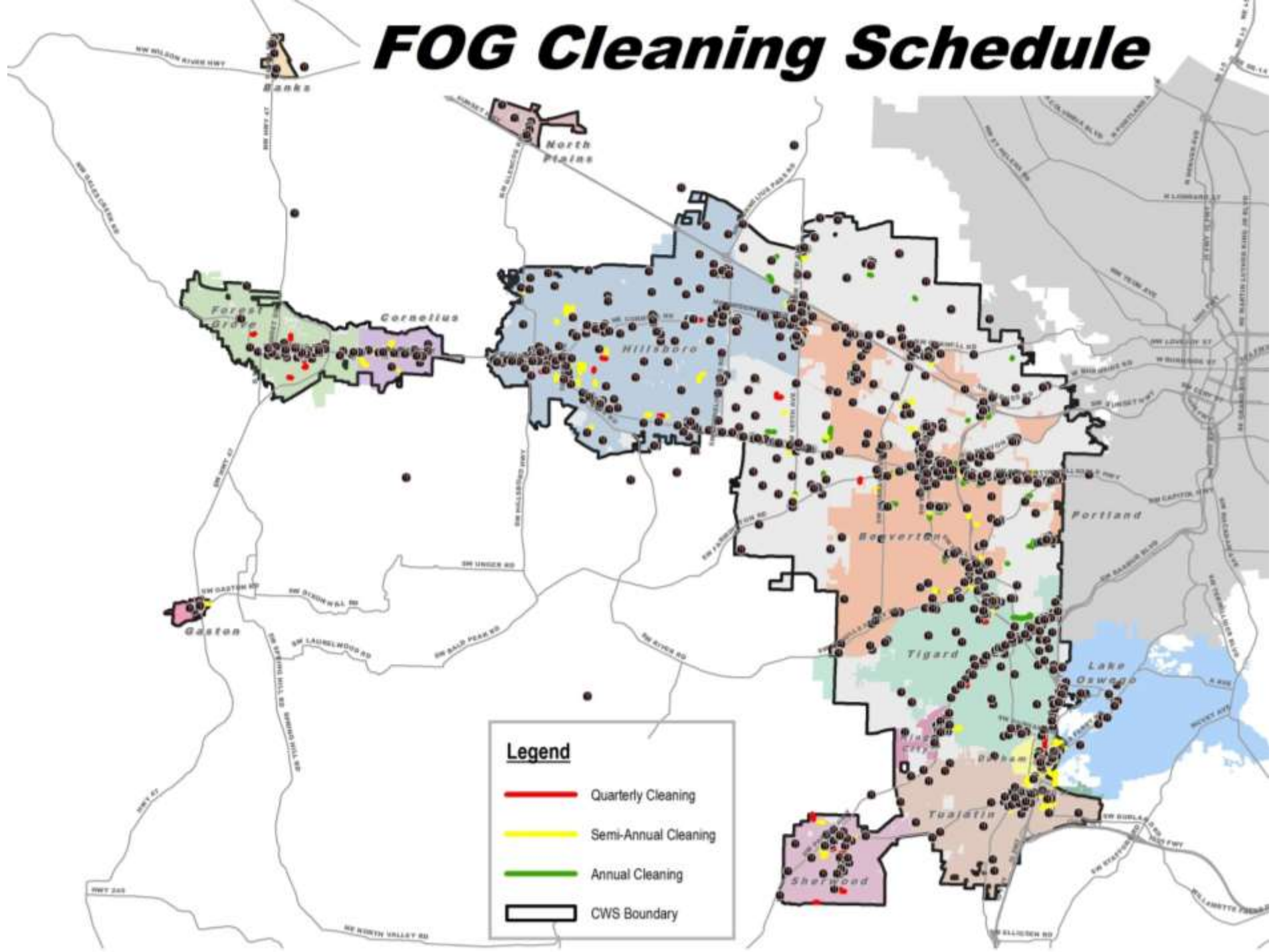


# FOG Cleaning Schedule





# FOG Cleaning Schedule



## New Season's Market

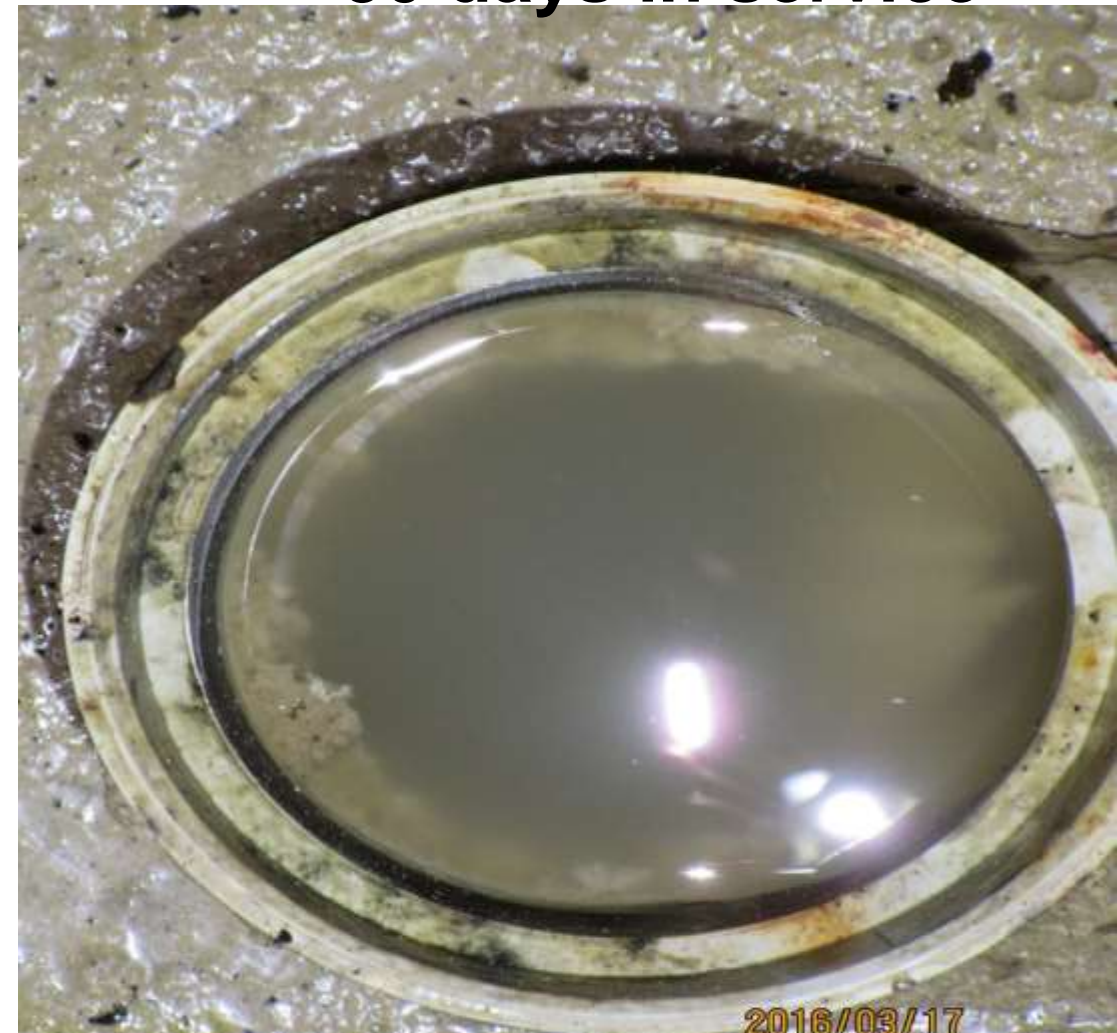
- Very heavy food production
- Plumbing Engineer's design - anticipated 90 days



**20 days in service**



**30 days in service**



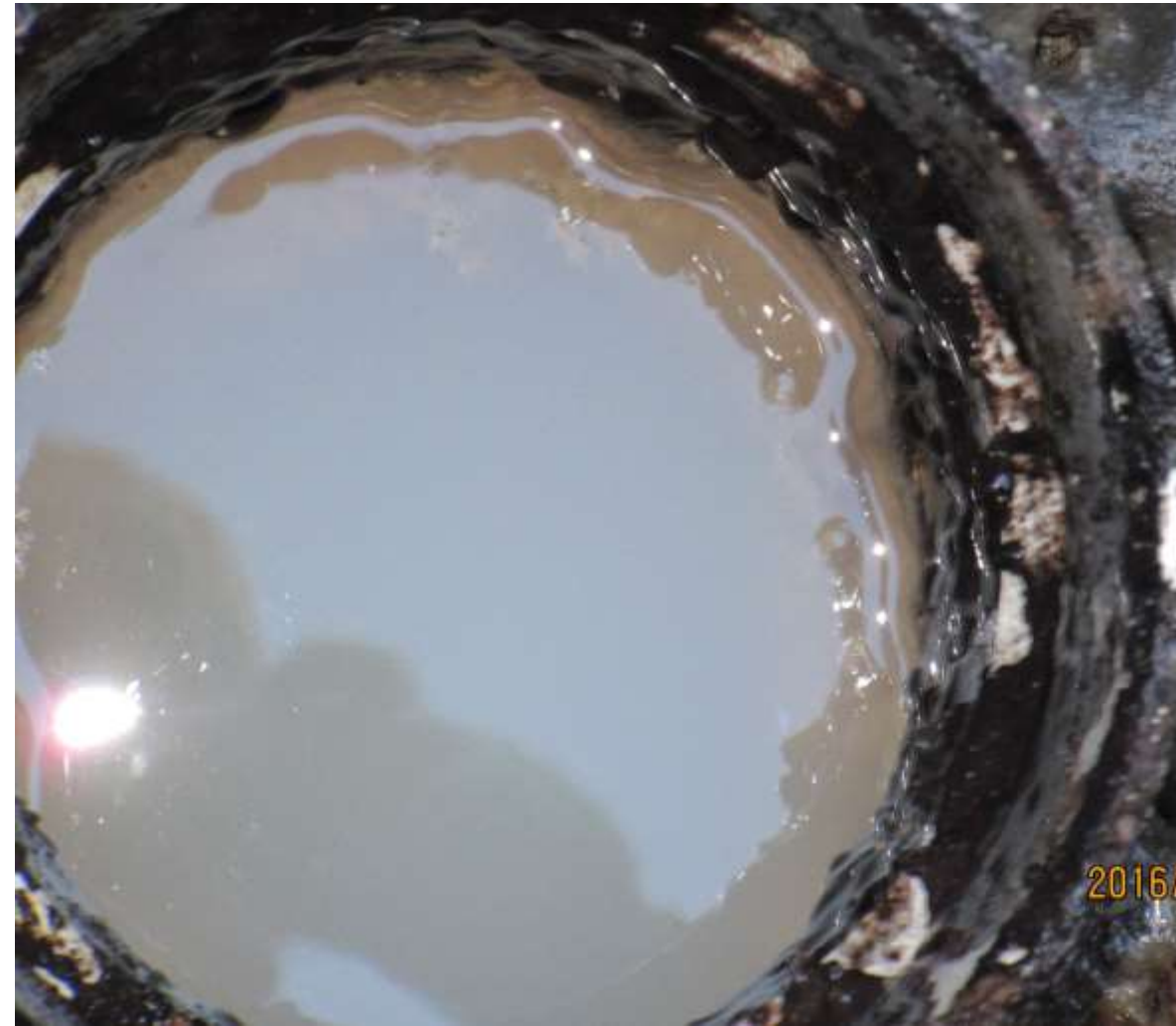


## Discovery Frequency – 30 days / likely to be 24 - 26 days

- Works out fine for the Sewer Agency
- Not so fine for long term operational costs



## 69 days in service - Very Heavy By-Pass





## Red Robin

- Heavy food production
- Expecting to take over sales from Wilsonville & Beaverton
- Plumbing Engineer's design - anticipated 90 days (1<sup>st</sup> spec 1000 gallon)



**22 days in service**



**43 days in service**





## Regulatory Frequency – 30 days

- Works out fine for the Sewer Agency
- Not so fine for long term operational costs



## **73 days in service - Heavy By-Pass**





# Did they choose the right grease interceptor?







2016/02/03





### **Cacaklacks & Zeeks - (2 more kitchens coming on board)**

- High food production
- Using 2 of 4 kitchens: No ware washing, only 3comps, Handwash (s), Foodprep (s), floor drain (s)
- Plumbing Engineer's design - anticipated 30 days (Regulatory Frequency 20 days)







# Local Pumper invoice

\$ 110.00 - per service

\$ 11.00 - 10% environmental fee

\$ **121.00** - Total per service

\$ **1452.00** – Total yearly costs

## Legacy Metal 35/70 HGI

### **25% rule**

15 inches total depth

3.75 working depth (FOG & solids)

An effective frequency would  
be least every 5 days

$$365/5 = 73$$

$$73 \times \$121.00 = \$8,833.00$$



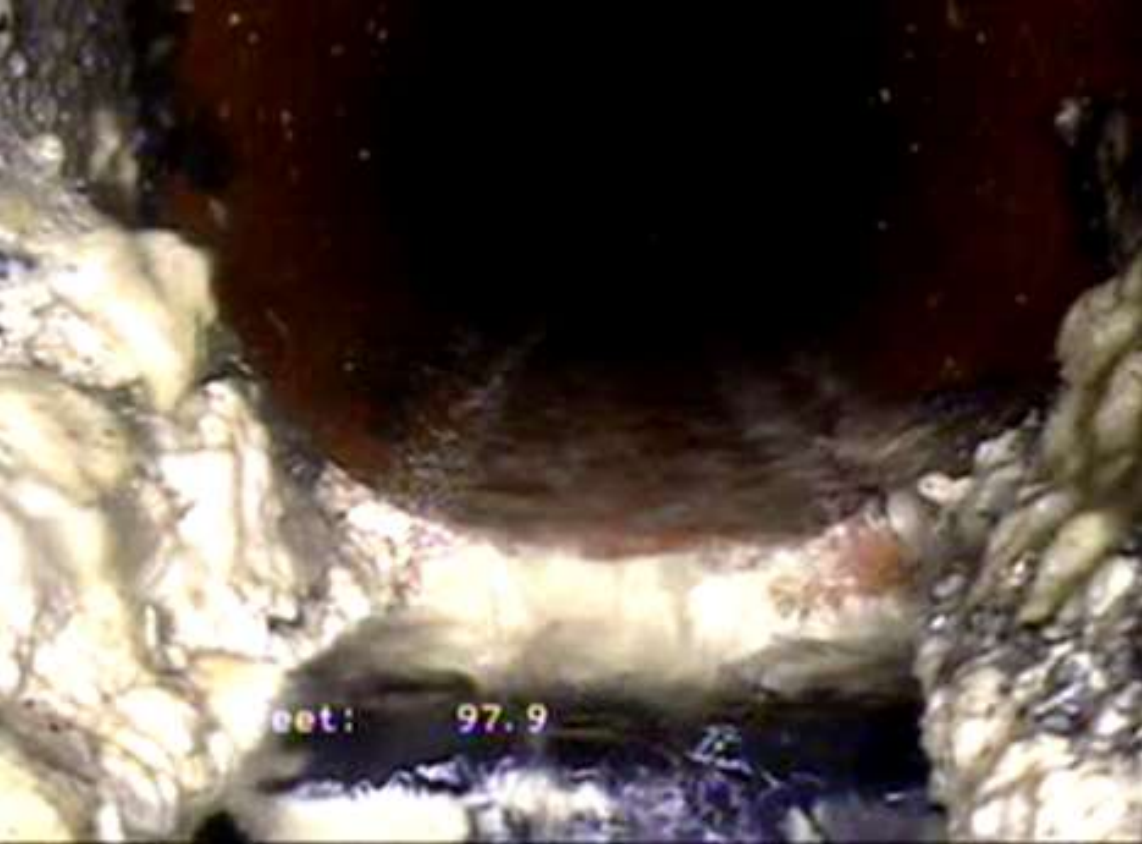




Western States Alliance







**Directly discharging additives into the HGI**



**Contractors just punch a hole come back in 3 – 6 months**



**Between 180 - 260 days after additives were stopped from being used**





## County Health Dept closed FSE

Video Poker place

### Chronic issues with Back-ups

#### Contacted Sewer Agency

- Understand reason for backups
- All F&D connected
- 3comp, handwash, Prep, Mop
- Pumper info – long time since service, outstanding bill
- Potential to impact food service in leased space next door
- Potential to cause health hazard in building
- Next door creates far more FOG
- HGI's same brand/model
- No issues – next door

#### Fix to re-open FSE

- Service HGI
- Jet line between HGI & Public
- Provide invoice for services rendered







## FSE Thai - food service

Basement space Next door

- Drains & utility sink not connected
- This food service is in the basement
- Far more FOG production here



### Same size of HGI

- Dishwasher is hooked-up
- Except drains in upper right photo
- HGI too small for operation
- Flushing out HGI and pushing to Public







**How many backups ?**





Can the onions just be washed off?

&

What about the food wrapping paper / bottom box?









### OVERFLOW DOCUMENTATION FORM

Use this form to record information about overflows from the sanitary sewer system. When complete, email this form to [event@cleanwaterservices.org](mailto:event@cleanwaterservices.org).

Report date: November 13, 2015	Report completed by: Clarence Gladden	Phone: 503 615-6587
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Location of overflow: Address or description: 346 se 2<sup>ND</sup> Ave. in Basement of busu

Date and time overflow began: 11/13/15 11:00	Date and time City was notified: 11/13/15 11:30	How was City notified? city crews responded to lateral blockage	Date and time City arrived at site: 11/13/15 11:45	Date and time overflow ended: 11/13/15 12:00
---	--	--	---	---

Was this overflow from the public sanitary sewer system? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	Was this overflow from the private system (including inside a building) <b>and</b> caused by a problem in the <b>public</b> sewer system? <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	If this overflow was from the private system (including inside a building) <b>and</b> caused by a problem in the <b>private</b> sewer system, did the overflow reach the stormwater system or a body of water? <input type="checkbox"/> yes <input checked="" type="checkbox"/> no
---	--	---

If either of the first two questions above is answered "yes," you must call OERS, DEQ and CWS as soon as possible but always within 24 hours of the overflow. If the overflow is entirely within a building, or is due to a private system problem, you must call DEQ and CWS (not OERS). See the Sanitary Sewer Overflow Response sheet in the sampling pack for detailed information on reporting.

<b>DEQ:</b> Mark Hynson 503-229-5295 Water Quality 503-229-5263	<b>CWS:</b> (day) 503-547-8100 (after hrs) 503- 681-3600	<b>OERS:</b> 1-800-452-0311
--	---	-----------------------------

Date and time DEQ and OERS notified: 11/13/15 1:51 PM	DEQ person contacted Mark Hynson	OERS incident number 1015-2490
--	-------------------------------------	-----------------------------------

The overflow was from a:  manhole  No.  damaged pipe  force main  pump station  
 private cleanout  private plumbing fixture  other (describe)

The overflow was caused by:  grease  roots  other blockage  high flows due to rainfall  
 vandalism  contractor damage  other pipe break  other (describe)

Did the overflow reach a catch basin, ditch, or storm drain?  yes  no

Did the overflow reach a stream, pond, wetland, or other body of water?  yes  no Name

Were samples taken of the water body?  yes  no

Estimated flow rate and total volume of overflow: < 100 gallons How was this estimate made? Homeowner estimate

Were signs posted at the site of the overflow?  yes  no Describe any other public notice actions

Describe the cause of the overflow and the City's response to stop and clean up the overflow: The Las Parrillas business operates a commonsary out of this building. The operator on site told us he selfcleans the outside grease trap. He said he also runs a snake down his lateral fairly often and recently hired a contractor to water jet his lateral about a month ago. The grease blockage in the main Line was isolated to this lateral and was what caused the overflow into the business' basement. For this reason the City's leagle team opted not to help with the cleanup. City crews jetted the main line to clear the blockage and restore flow. This line was previously cleaned and TV'd last March of 2015. At that time grease was observed in the lateral of this business (see provided pictures). Our F.O.G personal spoke with the owner about the grease issue.







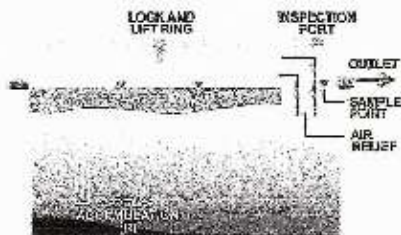


## Preferred Pumper Program FOG Pump Out Report

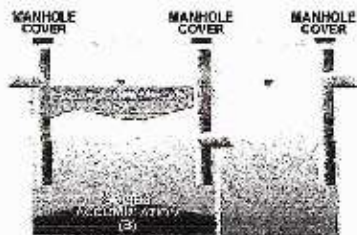
Business: Ava Rosasena Store # \_\_\_\_\_ Phone: \_\_\_\_\_

Address: 4555 SW Hall Blvd. Beaverton, OR 97005

Street \_\_\_\_\_ City \_\_\_\_\_ Zip \_\_\_\_\_



Hydromechanical



Gravity

**REMINDER: FOG Layer DOES include oil. Only (3) GRD's Per Sheet.**

	GRD #1 ( <input checked="" type="checkbox"/> Hydro <input type="checkbox"/> Gravity)	GRD #2 ( <input checked="" type="checkbox"/> Hydro <input type="checkbox"/> Gravity)	GRD #3 ( <input type="checkbox"/> Hydro <input type="checkbox"/> Gravity)
Location	Coffee Shop	Bakery	
FOG	1 inches	inches	inches
Solids	1.5 inches	inches	inches
Total Gallons	<i>Emergency</i>		
Condition <small>(check only three that apply)</small>	<input type="checkbox"/> Fully Functional	<input type="checkbox"/> Fully Functional	<input type="checkbox"/> Fully Functional
	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Needs Repair	<input type="checkbox"/> Needs Repair
	<input type="checkbox"/> Needs Inspection	<input type="checkbox"/> Needs Inspection	<input type="checkbox"/> Needs Inspection
Explanation	<i>emergency pump-out</i>		
Notified Manager of GRD Condition?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

Certification: I hereby certify that all information provided herein is true and correct to the best of my knowledge. The Grease Removal Device serving this establishment was cleaned completely of residual fats, oils, grease and other solid materials.

Pro-Pump Sanitation Solutions, LLC

Print name of waste hauling company

Print name of person who performed service

Date

*Greg Pattison*

*7-28-16*

Send completed form within 10 days to:

Name of municipality: (check one or write in) Vince Chavez- Clean Water Services

- Portland    Gresham    Wilsonville    Troutdale    Water Environment Services  
 Clean Water Services    Newberg    Canby    Oak Lodge Sanitary District

# DARLING

INTERNATIONAL

2341 Marc Avenue  
Tosoma, Wp 95427  
Ph 253.577.3922  
Fax 253.577.7611

Account Number 437942  
Account Name Jace Bell  
Address 19305 SW Martinazzi ave  
City Tualatin State OR

Route Number 551  
Manifest/Ticket Number 8675309  
Pump Out Date 8/1/16  
Odometer Reading 188122  
Pump Out Start Time 10:15  
Pump Out End Time 11:06  
Pumping Methodology FP

Interceptor/Trap Capacity 35 Gallons Length \_\_\_\_\_ Width \_\_\_\_\_ Depth \_\_\_\_\_

GREASE INTERCEPTOR	(inches)
Total depth of the interceptor?	
Approximate depth of fats, oils & grease? (inlet cell)	
Approximate depth of solid materials on bottom? (inlet cell)	
Approximate depth of water? (inlet cell)	

GREASE TRAP	(inches)
Total depth of the grease trap?	<u>12</u>
Approximate depth of fats, oils & grease?	<u>Full</u>
Approximate depth of solid materials on bottom?	
Approximate depth of water?	

	YES	NO
Lids/cover accessible?		
Trash or non-food debris inside Interceptor?		
Inlet fixture clear of grease & solids?		
Inlet fixture in place & in good condition?		
Outlet fixture clear of grease & solids?		
Outlet fixture in place & in good condition?		
Outlet fixture clear of grease & solids?		
Outlet fixture in place & in good condition?		
Debris & w/s free of accumulated materials?		
Interceptor functioning properly?		
Interceptor in need of any repairs?		

	YES	NO
Lids/cover accessible?	<input checked="" type="checkbox"/>	
Trash or non-food debris?		<input checked="" type="checkbox"/>
Trap baffles removed & cleaned?	<input checked="" type="checkbox"/>	
Trap refilled with water?	<input checked="" type="checkbox"/>	
Trap free of accumulated materials?	<input checked="" type="checkbox"/>	
Trap functioning properly?	<input checked="" type="checkbox"/>	
Trap in need of any repairs?	<input checked="" type="checkbox"/>	

*\* Emergency service requested by Charles So. Customer says*

*grease trap, floor drains and toilets have been backing up. Call a plumber for Hydro jet*

Facility manager or on duty personnel notified of the pump out, and condition of the grease interceptor/grease trap?  
Copy of FOG Interceptor/Grease Trap Pump Out Report left at the establishment for the facility manager?

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Certification

I hereby certify that all information provided herein is true and accurate to the best of my knowledge and that the trap or interceptor service for this establishment was cleaned completely of residual fats, oils, grease and solids materials.

X *Mike Bathy*  
Signature of Service Technician providing Trap Pump Out

8/1/16  
Month/Day/Year

3937  
Vehicle Unit Number

X *[Signature]*  
Signature of Manager or Representative of Facility

8/1/16  
Month/Day/Year

PLU  
Title/Position

(Information contained below for office use only)

Governing Waste Water District

Contact Person





**FOG case study begins – F&D connections & Increase food service**

**April 19<sup>th</sup>, 2012**

**Laurel Parc 15850 NW Central Drive, Portland, OR**



**New Addition  
New Meals - 210 meals/day**

**Nursing Home  
220 meals/day**

**MH 801844**



**Top of the Line  
Medical Building  
No food service**

**1<sup>st</sup> MH with FOG issues  
Laurel Parc is the only FSE  
discharging to this point.**



# Basic set-up for any Commercial/Industrial food operation

This equipment keeps pushing  
food scrapes and FOG downstream

Public Sewer "conveyance"  
**on to the**  
**WASTEWATER TREATMENT PLANT**





**Garbage Grinder**



**Water Heater Booster**

**Work Horses of a Commercial/Industrial Kitchen**



**Additives**



**Injecting??**

**FOG abatement system Hydromechanical Grease Interceptor (HGI) 50/100**

**3 comp sink plus two other connections.**

**One of the connections is being used for additives to by-pass the HGI**



# Pre-wash/garbage grinders & Dishwasher

are not  
providing FOG protection







**Kitchen Lateral**



**Downstream MH**





MH 801785

Sewer Use: Sanitary  
Total Length: 111.0  
Direction of Survey: Downstream  
Surveyor Name: jerry  
Certificate Number: u-307-4470  
Weather: Dry  
Street: nw central drive  
Shape: Circular  
Purpose: Maintenance Related  
Pre-Cleaning: No Pre-Cleaning  
Date: 07/19/2012

Start Time: 8:51 AM

**The Perfect Strom**

**Anything can  
dislodge  
this  
grease log**

**Two other feeds  
coming into MH**



**Plumbing codes are written, so garbage grinders and dishwashers can connected directly to the public system.**

**WHY:**

Grease interceptor will fill to fast with the garbage grinder.

Dishwasher will flush out the FOG from the grease interceptor.

These are not reasons to by-pass pretreatment, but an indicator that the pretreatment system is too small for the operation





# Drains that should be connected



First cycle  
from  
dishwasher  
impacting  
downstream MH



Screens in handwash sink  
used to dump something



**Can't get lid off  
pushes hose in to vacuum**







## 13 months in service

Inaccessibility for maintenance & inspection

- Problem for Plastic as well as fiber glass models





# Trying cleaning the Square through the Circle

I reached my arm past  
the  
24" concrete riser

What happens when  
the concrete riser is 7'





N.W. LAIDLAW ROAD

N.W. 153RD TERRACE

N.W. SOUTH PARC STREET

25295  
25294

25291

**Walgreens**  
Vintage Bldg # 18,227 Sq Ft

**Library**

**TACO BELL**

**CHEV'S DYNASTY**

**TOY STOP**

**QFC QUALITY FOODS CENTER**

**BETHANY FAMILY VET CLINIC**

**EDWARD JONES**

**W.D. SHERIFF**

**Bravo Cafe**

**Toy Stop**

**HILLMAN**

**QFC QUALITY FOODS CENTER**

**BETHANY FAMILY VET CLINIC**

**EDWARD JONES**

**W.D. SHERIFF**

**Bravo Cafe**

25293

N.W. CHANTICLEER LANE

25289

25288

25577

24019

**Bank of America** 4,700 Sq Ft

**Bank of America** 1,800 Sq Ft

**W's Bar** 800 Sq Ft

**WYLET LUNCH** 2,254 Sq Ft

**All Bar Drink L-8** 2,848 Sq Ft

**Physical Therapy Associates** 4,001 Sq Ft

**Starbucks L-4** 1,200 Sq Ft

**Starbucks L-5** 1,200 Sq Ft

**Ann Coltrane's C-4** 3,700 Sq Ft

**Ann Coltrane's C-3** 1,212 Sq Ft

**AVAILABLE** 628 SF

**AVAILABLE** 2,300 SF

**unleashed**

**BETHANY FAMILY DENTAL** 3,400 Sq Ft

**CHASE BANK** 3,000 Sq Ft

N.W. CENTRAL DRIVE

BETHANY BLVD.

FH

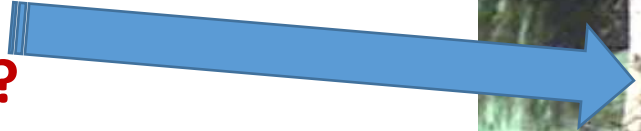




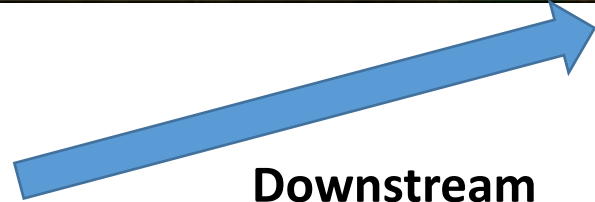


**What are the questions we should be asking?**

**QFC lateral**



**Biscuits Cafe**

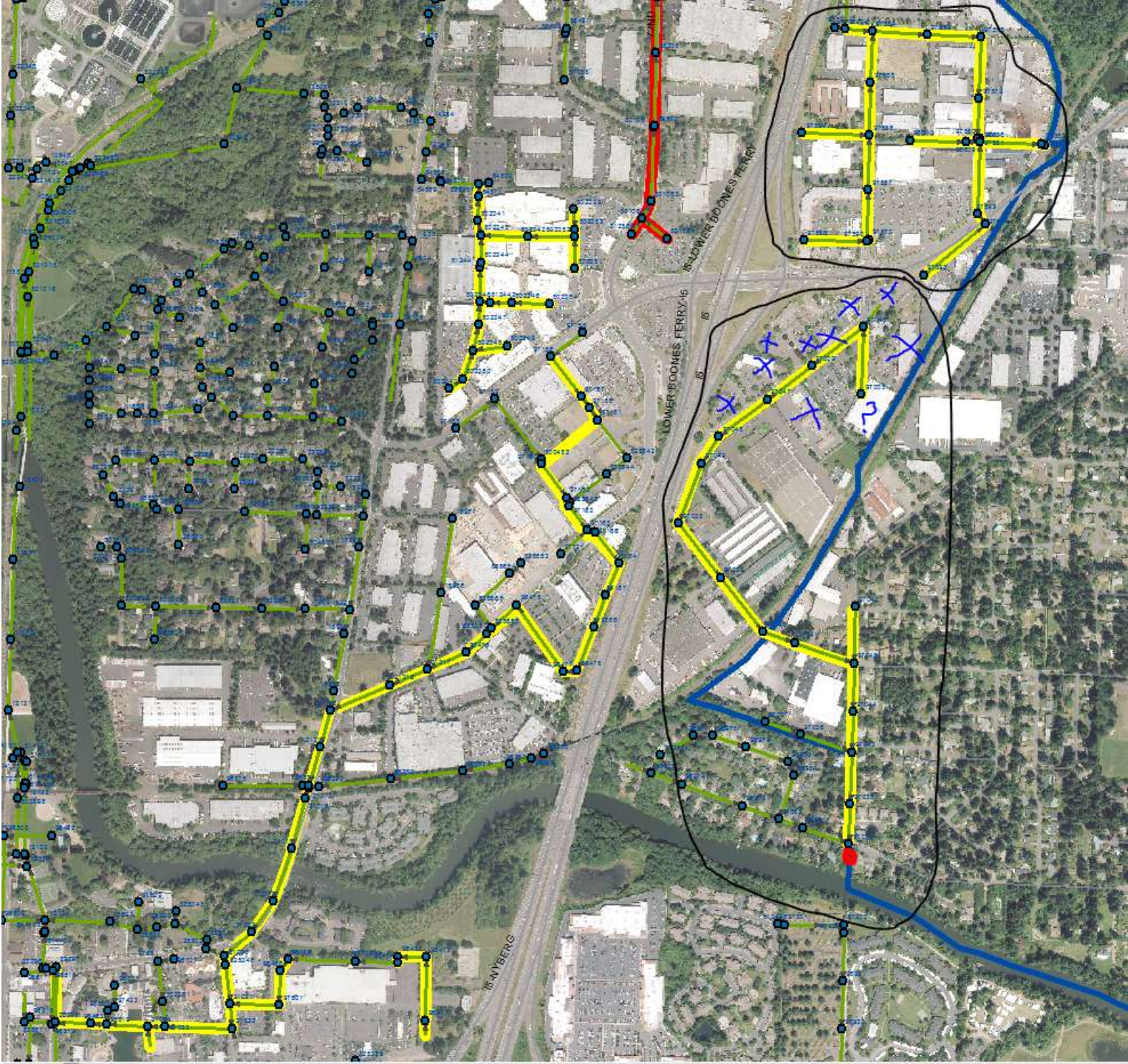


**Downstream Biscuits Cafe**





**Protect  
Your  
Permit**





Right  
the  
first  
time ?





## Case Study: Survey Inspections find

- 95% of HGI are set-up with limited/difficult access
- Only 3 compartment sink is connected
- Not on a proper cleaning frequency!

### Findings:

How hard do we let them make it?





## Case Study: Survey Inspections find:

- 89% of GGIs have too many concrete risers
- 65% have accessibility problems due to landscaping
- 96% are not maintained effectively
- How many are already leaking?



**Short of getting inside !!**

- Proper cleaning is not happening



**Long Term Investment**

- Cut from 30-40 to 7-15 years

## GRD Location is Very Important



Where's the accessibility to PRESSURE WASH

Did this really get dug out for every service?







**What issues  
is this  
Creating**









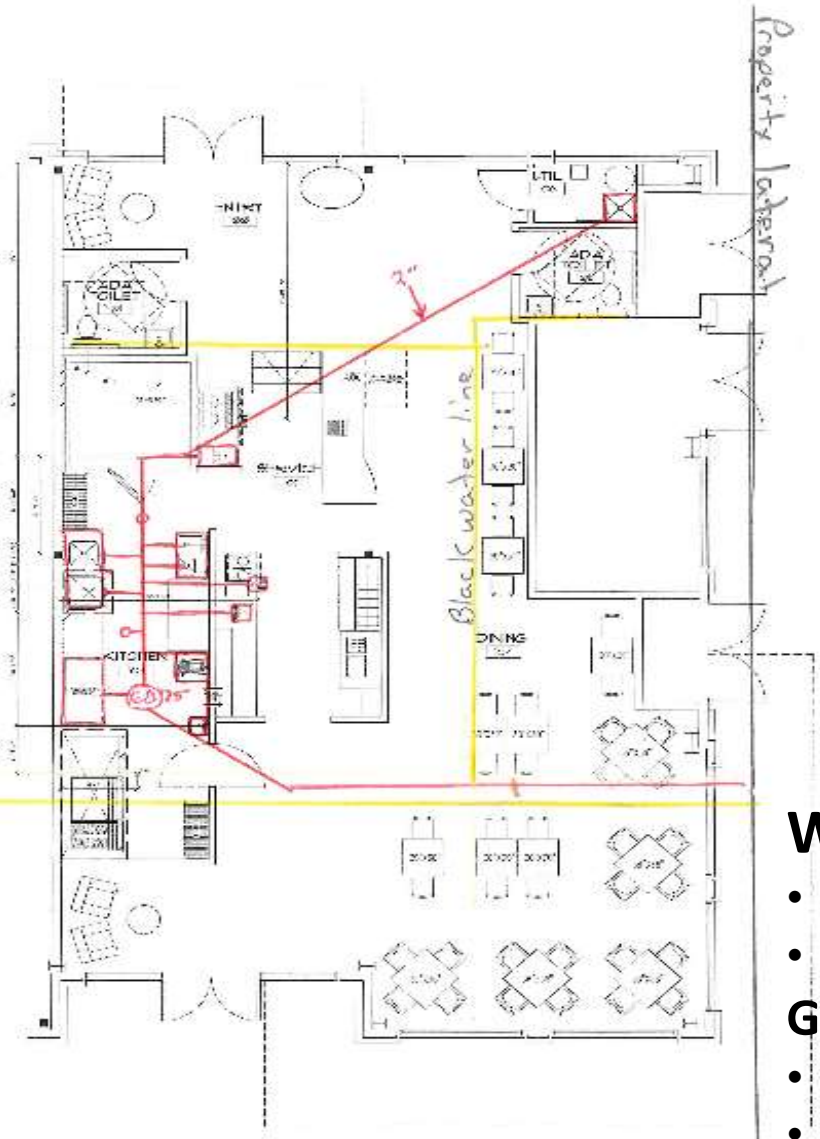








State Farm →



Lugano Cafe  
 18041 SW Lower Boones Ferry Rd #6  
 Tualatin Sewer main

**Waste water is separated**

- Black Water = Yellow
- Grey Water = Red

**Grease Interceptor is still inside**

- Possible Backups inside food service area
- Possible septic hoses in food service area
- Possible mobile unit blowing exhaust in Food service area

Public Sewer Main

1. PLUMBING LOCATIONS  
 SCALE: 1/4" = 1'-0"

**NW PRECISION DESIGN**  
 2020 NW Industrial Blvd  
 Seaside, OR 97138  
 Phone: (503) 744-3444 Fax: (503) 744-3444

Lugano Cafe  
 18041 SW Lower Boones Ferry Rd #6, Tualatin, OR 97146

Project Number: 17072  
 Date: 1/20/2020  
 Drawing No: 100

4.3





**Compliance  
of the  
local Sewer use Ordinance**





# Challenges & Opportunities

- **Regulatory complexity and lack of alignment**
- **Costs, Capacity and Compliance**
- **Retrofitting existing problems, costs and incentives**
- **Education and outreach**
- **Plan review and support**
- **Effective Sizing**
  
- **Energy Recovery**







Never ever give up!



**F**ats **R**ags **O**il **G**rease