

# PRETREATMENT ORDINANCE CHANGES

***-Fat, Oil, & Grease for FSEs-***

***-Local Limits for Industries-***

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WRA Board Workshop

September 18, 2018



*Working Together for Clean Water*



# Fat, Oil, & Grease Ordinance Changes

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*Working Together for Clean Water*



# Agenda

- Why was FOG Ordinance reviewed
- Who was included in the review
- What was discovered from the review
- Conclusions & proposed changes to the FOG Ordinance

# Why was FOG Ordinance reviewed?

- The WRA was tasked to complete a thorough review of the current FOG Ordinance
- The FOG Ordinance was adopted in 2006/2007 and last reviewed and revised in 2010
- Industrial local limits in Pretreatment Ordinance needed updated

# Current FOG Ordinance

- Intent / Origin (Why we have one)
- Current sizing method
- Exceptions
  - Physical constraint
  - Economic hardship
- Grandfathered status & upgrade triggers

# Why do we have a FOG Ordinance?

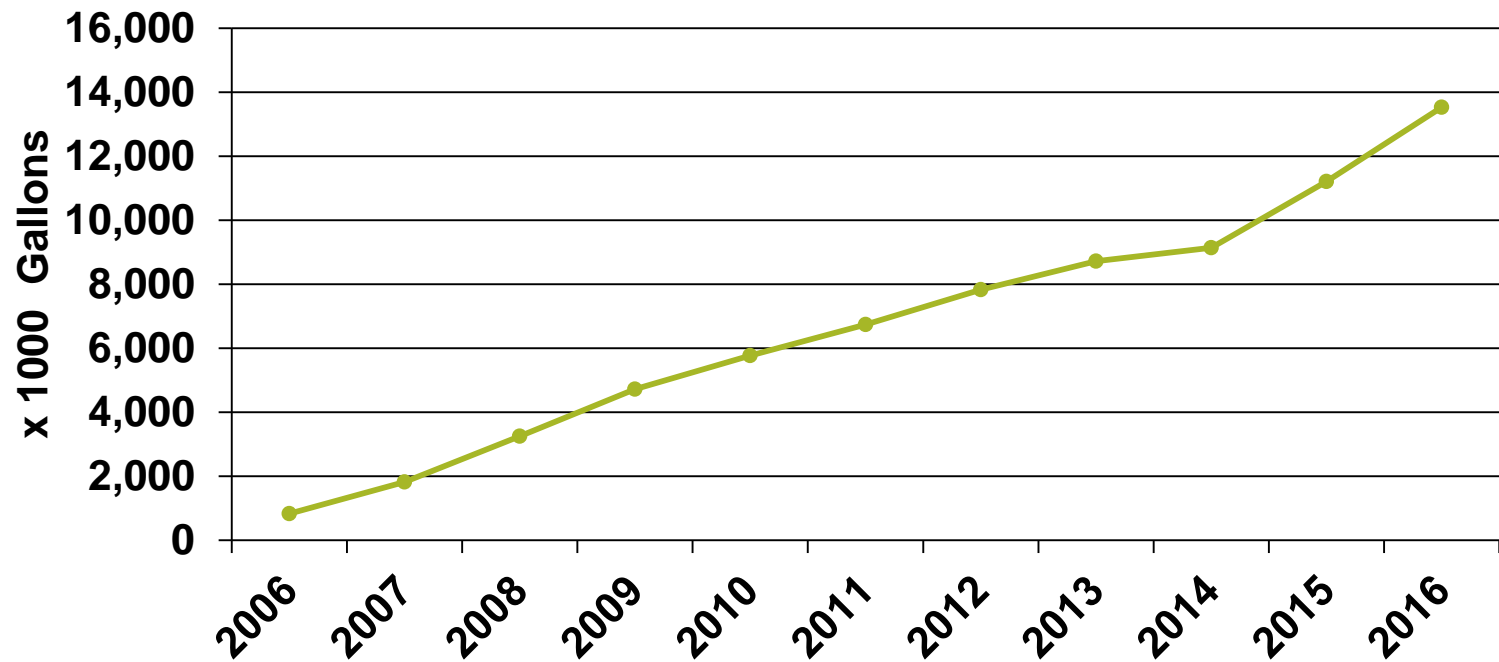


- EPA mandate
  - Requires us to eliminate SSO occurrences
- 40 CFR 403.5(b)(3)
  - FOG control is part of a larger Pretreatment program
- Protect the sanitary sewer infrastructure
- Protect the environment and public health

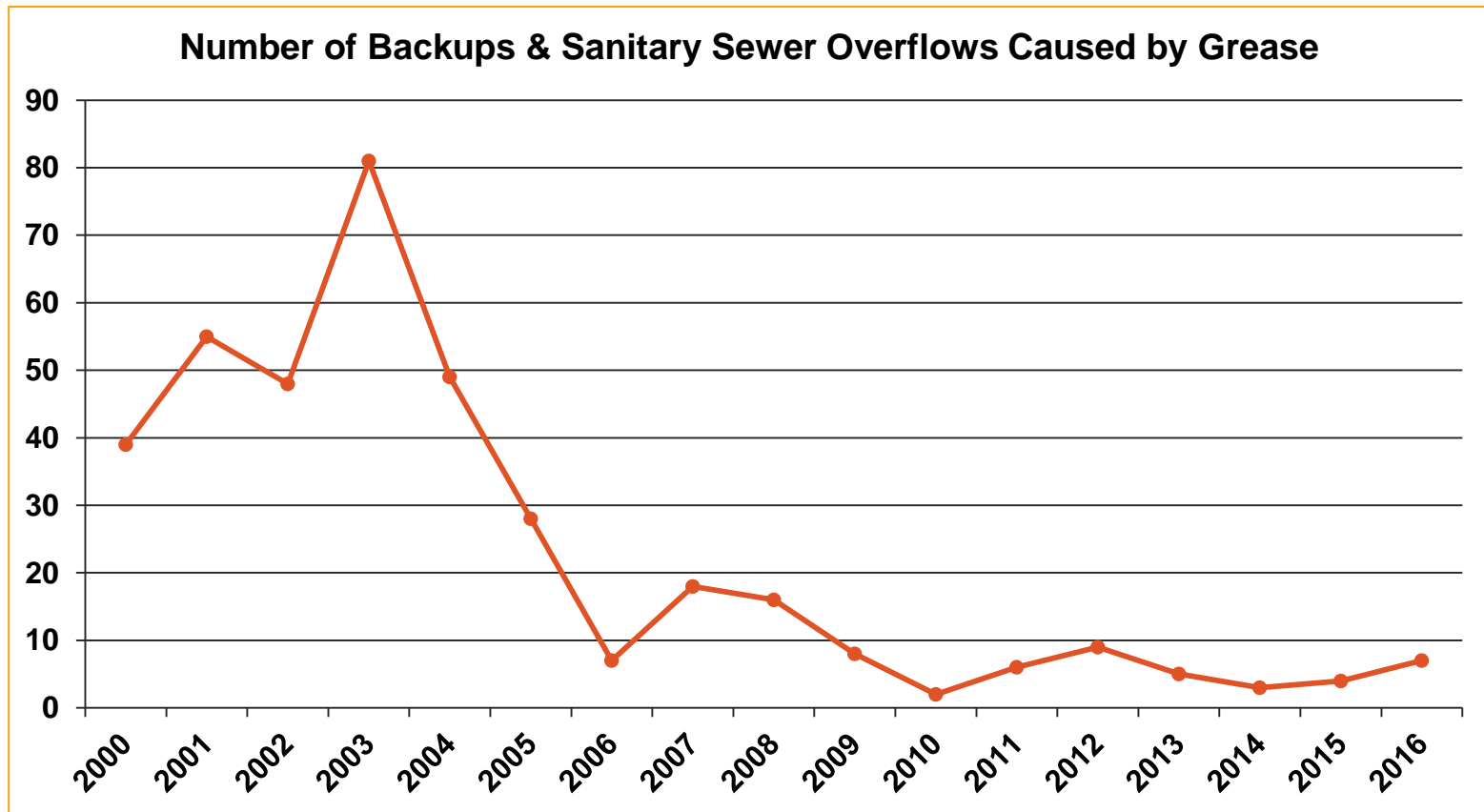


# Proper FOG Disposal Protects Sewers

**Grease Interceptor & Trap Waste Removed by Haulers**



# Des Moines' FOG-related Backups & SSOs





# Grease Removal Devices

- Grease Trap
- Grease Interceptor



# Grease Interceptor Sizing

- Exterior grease interceptors:
  - 1,000 gallon minimum
  - 5,000 gallon maximum (single tank)
  - 10,000 gallon series maximum (interceptor system)
- Sizing factors include:
  - Peak meals (seating)
  - Hours of operation
  - Dishwashers
  - Garbage disposals
  - Washable serviceware



# Grease Interceptor Exceptions

- FSEs must install an exterior grease interceptor unless:
  - 1) Physical constraint
  - 2) Economic hardship
- Not a “free pass” – must install some form of grease removal device
- Dishwashers and/or garbage disposals are not approved for use with interior grease traps and must not discharge directly to POTW
  - OK to use with properly-sized exterior grease interceptor

# Exceptions to Date

- Physical constraint exceptions
  - 95% approval rate
  - 149 of 157 approved
- Economic hardship exceptions
  - 82% approval rate
  - 100 of 122 approved
  - 120 of 122 opened for business

# Grandfathered Status and Upgrade Triggers



Pre-2006 FSEs are grandfathered until an upgrade trigger occurs

- Has been closed for  $\geq 12$  months
- Is opening or expanding into a location where one did not previously exist
- Pulls building renovations/permits valued  $\geq \$50,000$
- Adds, alters, or removes FOG wastewater pipes
- Discharges FOG contributing to SSO
- Current interior grease trap needs replaced

# Who was included in the review?

- WRA Technical Committee
- WRA FOG Sub-committee (including WRA staff)
- Building officials of member communities
- Building officials Sub-committee
- WRA Stakeholders
  - Plumbing inspectors
  - FSE representatives / Restaurateurs
  - Certified grease haulers
  - Restaurant Association
  - Member community officials and consultants

# A series of meetings were held...

- January 2017 - WRA Technical Committee
- January 2017 - FOG Sub-committee
- March 2017- Building officials
- May 2017 – Building officials Sub-committee
- July 2017 – Stakeholders Workshop
- October 2017 – FOG Sub-committee
- December 2017 – WRA Technical Committee
- April, May, June 2018 – West Des Moines officials & consultants
- August 2018 – FOG Sub-committee
- August 2018 – WRA Technical Committee

# What was discovered during the review?

- The FOG Ordinance is working as intended to remove significant amounts of grease from the collection system
- As a Pretreatment program, the FOG Ordinance addresses quality of wastewater rather than quantity as with various plumbing codes
- A quality-based Pretreatment approach considers peak flows so discharge limits are met



# What was discovered during the review?

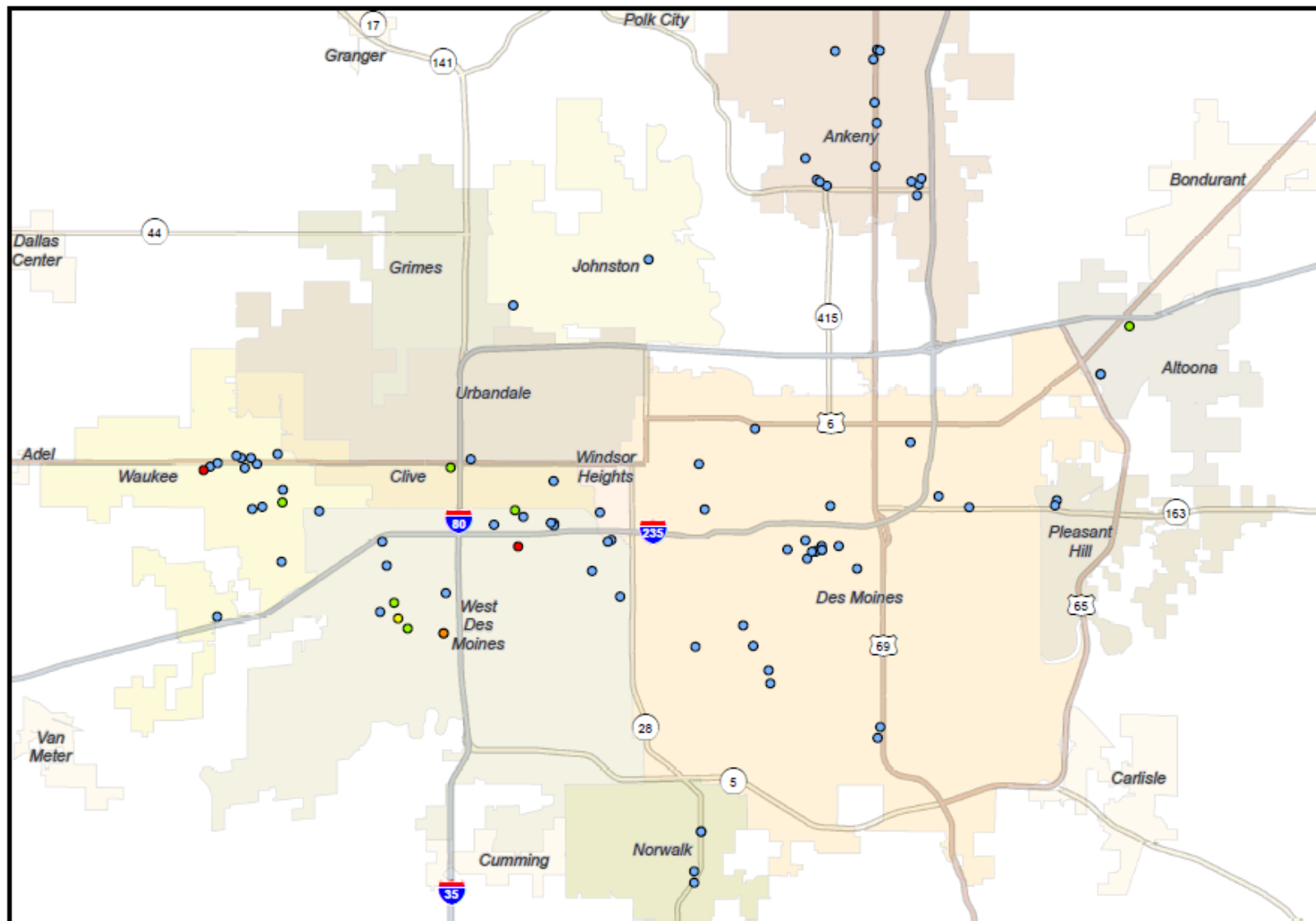
- There is some misunderstanding within member community building departments and new FSE entrepreneurs regarding the FOG program and associated exceptions
- There is a perception that there is only one way to size grease interceptors
- There is a perception that the Ordinance does not allow alternative devices or materials

# What was discovered during the review?

- The sizing criteria meal factor needs revised for intermittent use FSEs (school, daycare, church, etc.)
- The Storage Factor needs to be revised to accommodate 12 and 20 hour kitchens

# What was discovered during the review?

- Odor issues from FSEs are perceived to be from improperly sized grease interceptors
- WRA staff committed to taking H<sub>2</sub>S readings at various FSEs (see results). Odor issues were primarily associated with poor maintenance and improper venting



# WRA - Peak H2S Readings

Date: 7/30/2018

## Legend

Peak H2S(ppm)	Count
401 +	(2)
201 - 400	(1)
51 - 100	(7)
0 - 50	(80)

0 1.25 2.5 5 Miles



Document Path: S:\IT GIS\Projects\WRA\20180727 Peak H2S\Peak H2S1.mxd

# Conclusions

- The FOG Ordinance is working well but needs tweaking to better reflect the variety of FSEs in the WRA service area
- Improved communication with WRA Building officials will help spread accurate information of grease interceptor requirements and exceptions
- The Peak Design Flow method currently in Ordinance should be promoted for non-traditional FSEs (concession stands)
- Hydromechanical devices (i.e. interior grease traps) are permitted as an alternative technology under an approved exception. Other materials for exterior grease interceptors are permitted with the Director's approval
- Odor issues do exist with some grease interceptors, but are not a widespread problem. Most high readings were associated with poor maintenance and improperly installed venting

# Proposed Changes to FOG Ordinance

- Omit 1.3 meal factor for intermittent use FSEs (schools, daycares, churches, etc.)
- Adjust Ordinance to include 12-hour and 20-hour Storage Factors for use in Peak Meal calculations

**Grease Interceptor Sizing**

1. Peak meals per hour
  - a. Seating capacity of FSE \_\_\_\_\_
  - b. Occupancy of FSE \_\_\_\_\_
  - c. Seating or occupancy x meal factor of 1.3 (45 minute meal) = Peak meals per hour \_\_\_\_\_\*
- \* Church: include all area(s) used for meal service
- \* Assisted Living / nursing facility: equal to maximum number of residents (per State license)
2. Waste flow rate, gallons of flow
  - a. Commercial, equipped kitchen with dishwasher & one garbage disposal\* 7
  - b. Commercial, equipped kitchen with dishwasher, no garbage disposal 6
  - c. Commercial, equipped kitchen with no dishwasher, one garbage disposal\* 6
  - d. Commercial, equipped kitchen with no dishwasher, no garbage disposal 5
  - e. Single service kitchen\*\* 2
- \* Each additional garbage disposal, add one (1) gallon
- \*\* Single service kitchen = no garbage disposal, no dishwasher and all service is single use
3. Retention time, hours
  - a. Commercial kitchen 2.5
  - b. Single service kitchen 1.5
4. Storage factor
  - a. Commercial Kitchen up to 8 hours of operation 1
  - b. Commercial kitchen up to 16 hours of operation 2
  - c. Commercial kitchen up to 24 hours of operation 3
  - d. Single service kitchen 1.5

Add:  
 12 hour operation = 1.5  
 20 hour operation = 2.5

Peak Meals per Hour	X	Waste Flow Rate	X	Retention Time	X	Storage Factor	=	Calculated Interceptor Size
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Change to 1.0 for intermittent use FSEs, i.e., schools, daycares, churches, etc.

# Proposed Changes (continued)

- Encourage non-traditional FSEs to use the Peak Design Flow Rate method in Ordinance rather than Peak Meals method
- Adjust sizing to use extended hours of clean-up in Peak Meal sizing method for intermittent use facilities (school, daycare, church)
- Educate member community building departments on the process for complying with the FOG Ordinance including the use of a handout or flyer for new FSE applicants
- Provide handouts/checklists to building departments regarding exceptions
- Copy inspection reports to property managers and/or building owners emphasizing that poor interceptor maintenance may lead to odor issues

# Stakeholder Comments

- *Paul Rottenberg* – Orchestrate Hospitality (Zombie Burger, Centro)
  - Finds proposed changes acceptable
  - Thinks the pro-rated storage factor will have the biggest impact on traditional FSEs
- *Mike Holms* – Splash Seafood/Jethro's/Past Chair of IA Restaurant Association
  - On-board with changes
  - In favor of changes that lessen the initial startup costs particularly for small businesses
- *Jamie Wilkerson* – Des Moines Public Schools
  - Is glad the WRA is entertaining changes to the current sizing method
  - Is pleased with the reduction in school interceptor sizes



# Next Steps

- The FOG Sub-committee recommended the proposed changes to the WRA Technical Committee
- The WRA Technical Committee unanimously approved these proposed changes during the August 14, 2018 meeting
- Bring these changes to October WRA Board meeting for formal consideration
- After adoption by the Board, local limits and FOG changes will be forwarded to all 17 member communities for approval