Grease Production Sizing & Maintenance Best Practices (MBP)

CIPCA 2019 FALL CONFERENCE

Part 1 of 2: Grease Production Sizing

~~Why~~ Grease Production Sizing?

Prior to GPSM there were two basic sizing methods...

Why Grease Production Sizing?

Method 1

Sizing by flow rate, generally indoors, often leads to **undersized** grease interceptors.

Why Grease Production Sizing?

Why is an **undersized GI** a problem?

1. GI fills up too quickly and requires more frequent pump-outs
2. GI is often inefficient and passes grease to the sewer
3. GI can back up and cause health/sanitary issues and fines

~~Why~~ Grease Production Sizing?

Method 2

Sizing by gallons, generally outdoors, often leads to **oversized** grease interceptors.

Why Grease Production Sizing?

Why is an **oversized** GI a problem?

1. Project installation can range in the tens of thousands of dollars.
2. End users prolong pumpouts to delay expensive pump-out costs causing GI contents to become acidic, fast-tracking corrosion.
3. Concrete has an average lifespan of 8-10 years before tearout and replacement.

Why Grease Production Sizing?

Answer: right-sizing for grease production ensures for an appropriate pump-out cycle and minimizes grease pass-through.

~~How~~ How does Grease Production Sizing work?

Step 1: size by flow rate (by pipe size or fixture calculations)

hydromechanical grease interceptor sizing using gravity flow rates (per Ch. 10 of the Uniform Plumbing Code)

diameter of grease waste pipe	maximum full pipe flow*	size of grease interceptor	
		one-minute drainage period	two-minute drainage period
2"	20 GPM	20 GPM	10 GPM
3"	60 GPM	75 GPM	35 GPM
4"	125 GPM	150 GPM	75 GPM
6"	375 GPM	400 GPM	200 GPM

*¼ inch slope per foot based on Manning's formula with friction factor N = 0.012.

▲ **Recommended**

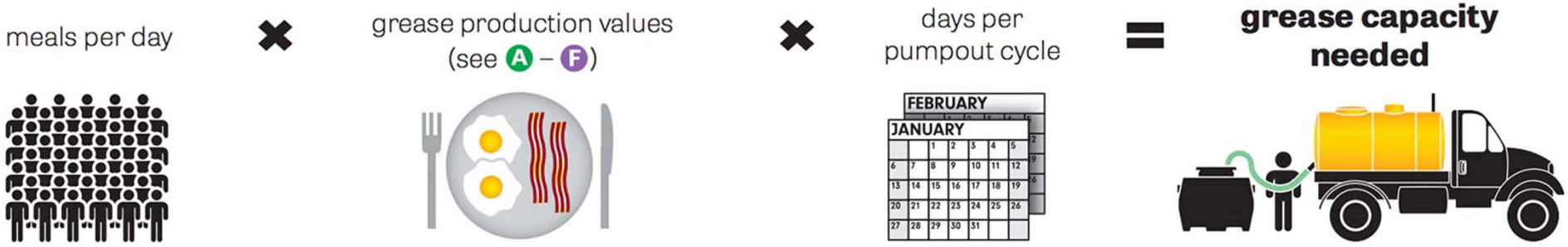
How does Grease Production Sizing work?

Step 2: then, size by meals per day (meal type or loading factor)

category	grease production values	description / examples
low	A 0.005 lbs / meal (no flatware)	serves food prepared offsite or food that requires minimal preparation and/or warming; bar (drinks only), coffee shop, continental breakfast, convenience store, deli, donut shop (w/o fryer), ice cream / yogurt / smoothies, pizza carryout, sandwich shop, sushi, snack bar
	B 0.0065 lbs / meal (with flatware)	
medium	C 0.025 lbs / meal (no flatware)	serves foods from a limited menu and/or with a limited amount of onsite preparation; cafeteria (heat and serve), caterer, fast food (pre-cook), pizza restaurant, salad/healthy bowls, low category restaurants w/ fryer
	D 0.0325 lbs / meal(with flatware)	
high	E 0.035 lbs / meal (no flatware)	serves a full menu of food prepared onsite; bakery, bar and grille, BBQ, buffet, cafeteria (full serve), Chinese, donut shop (w/fryer), family restaurant, fast food (full prep), fried chicken, Greek, grocery store, Indian, Italian, seafood, steak house, medium category restaurants w/ fryer
	F 0.0455 lbs / meal (with flatware)	

~~How~~ How does Grease Production Sizing work?

Step 3: then, size for pump out frequency



~~How~~ How does Grease Production Sizing work?

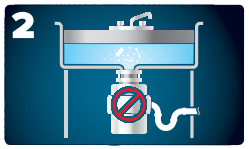
Let's go to greasemonkeysizing.com for a couple of examples.

Part 2 of 2: Maintenance Best Practices (MBP)

Kitchen Best Management Practices

The following kitchen best management practices (BMPs) will help reduce the cost to clean and maintain your greas interceptor and keep your facility in good standing with local pretreatment authorities.

Use debris screens in all floor and sink drains. Regularly empty screens into trash.



Minimize use of food waste disposals to improve interceptor storage and reduce maintenance costs.

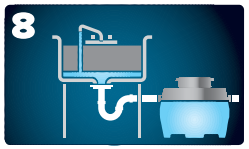
Dry-wipe food waste from dishes before washing and clean grease spills with disposable materials.

NEVER pour oil, fry oil, or melted lard or butter down drain line. Dispose these oils in appropriate container.

NEVER put chemicals for reducing grease into the drain system. The temporarily dissolved grease will bypass the interceptor and harden in downstream piping.

Implement BMP training program for kitchen staff.

Observe pumper contractor work to ensure interceptor is fully pumped out, properly cleaned and in good condition.



Make sure to run sinks to refill unit with cold water after pump-out.

Keep maintenance log detailing pump-outs, repairs and condition of interceptor.

MBP: pumpout solutions for indoor installs

Pro Tip: outdoor installations are always best but sometimes indoor installations are unavoidable. Here are some maintenance best practice (MBP) solutions to accommodate those installations...

MBP: pumpout solutions for indoor installs

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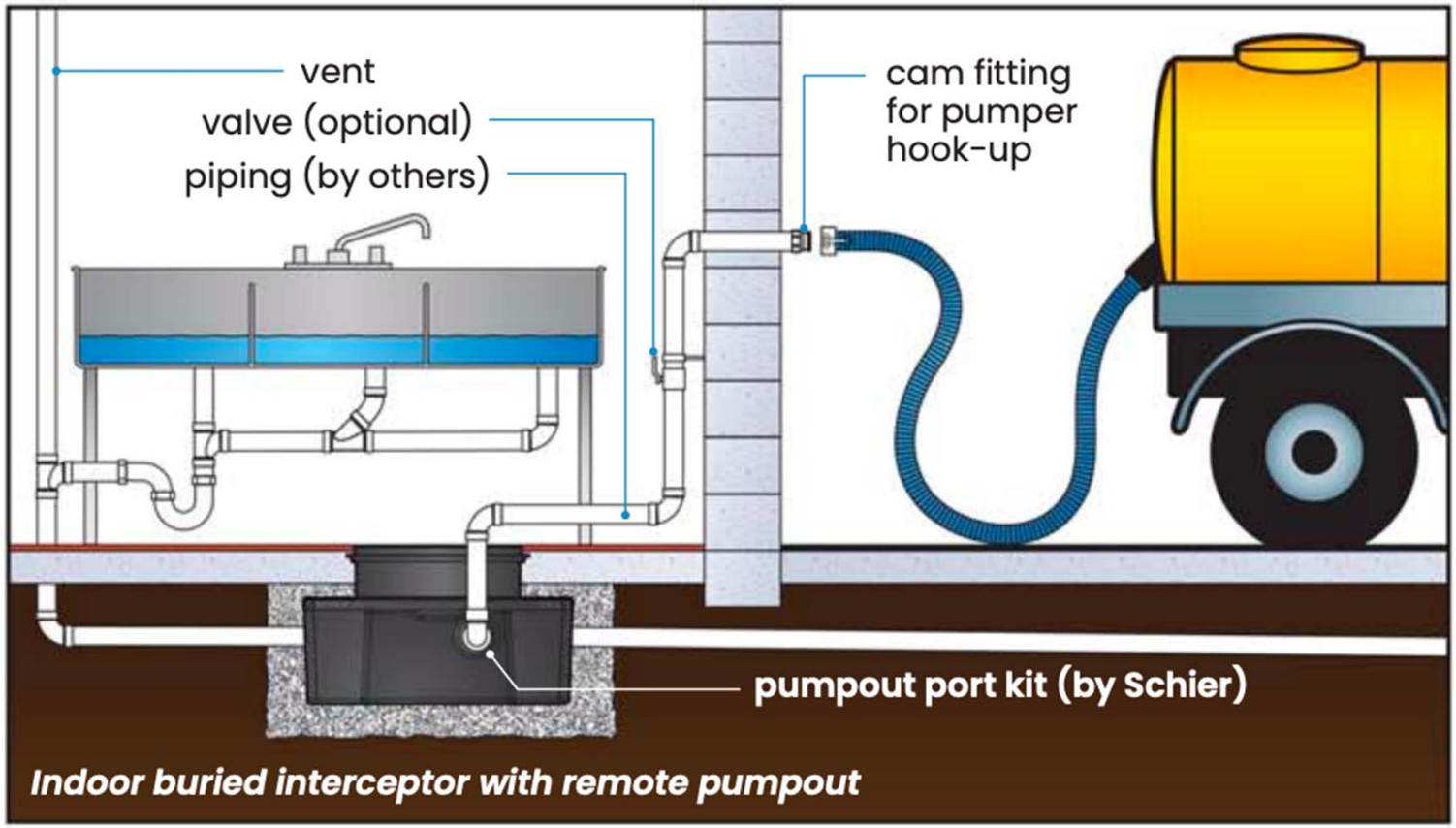
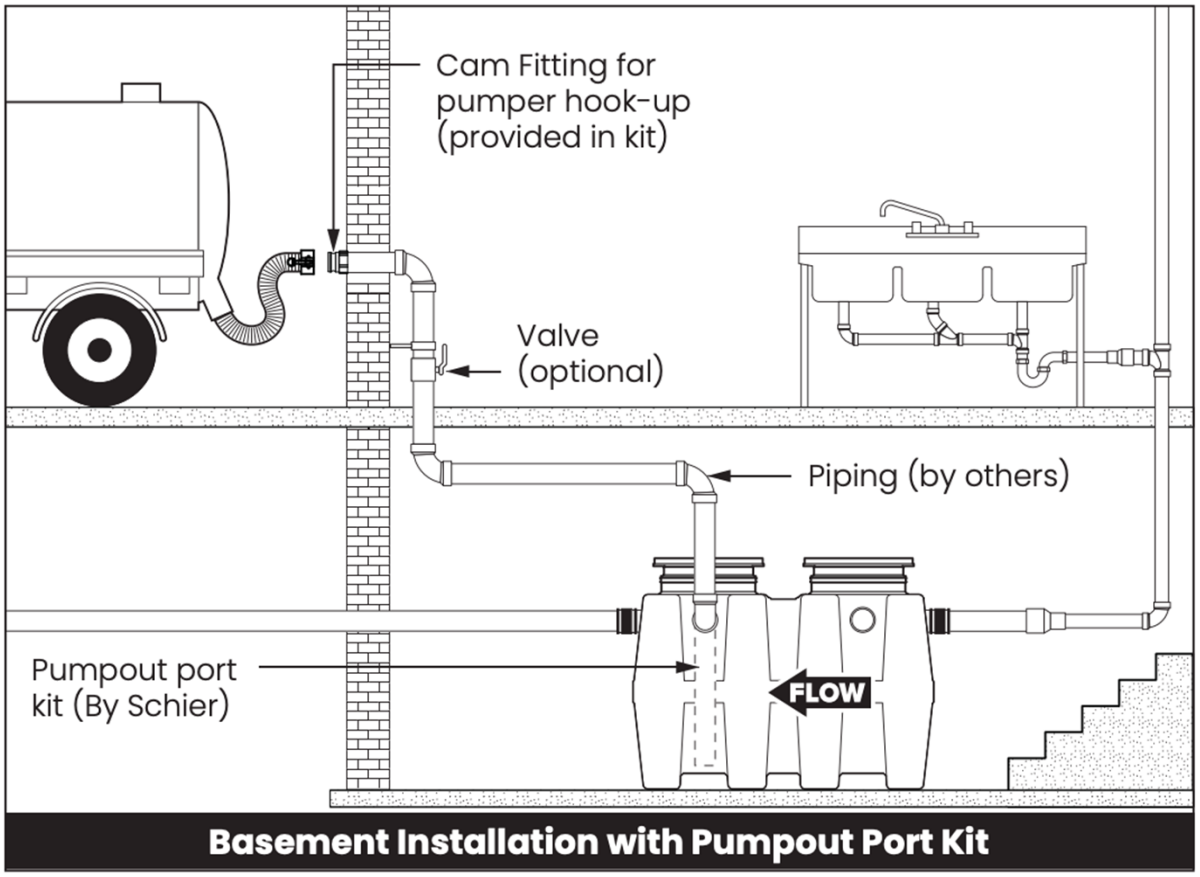


MBP: pumpout solutions for indoor installs



MBP: pumpout solutions for indoor installs

If a pump-out vacuum line isn't viable, consider a portable pumpout station.

~~One~~ last thing…

Engineers should consider public safety with product options like the Safety Star ™ manway restrictor by Schier or removable-from-grade flow control.

Whatever the case, we hope you specify products that are sized right, built to last and offer the safest and most sanitary install.

Thank You!

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