FOG DESIGN MANUAL FOR FOOD SERVICE ESTABLISHMENTS

BAXTER

"A Growing Community"

CITY OF BAXTER, MINNESOTA

Adopted by the City Council on April 15, 2008

FOG DESIGN AND SIZING MANUAL

All FOG Interceptors and Traps shall be constructed per Minnesota Plumbing Code 4715.1115

The sizing of an FOG Interceptor or Trap must be done using the Grease Interceptor Sizing Formula or, for, LFSE's only, the Grease Trap Sizing Formula set forth below. The formulas will determine the volume in gallons of the FOG Control Device.

FOG INTERCEPTOR AND TRAP SIZING CRITERIA[A,C]

Grease Recovery Unit (capacity of unit)	No Trap Required	Interceptor Required	Trap Required
New Construction, under 300 gal			X
New Construction, under 600 gal		X	X
New Construction, over 600 gal		X	
Redevelopment, under 300 gal			X
Redevelopment, under 600 gal		X	X
Redevelopment, over 600 gal[B]		X	

A.   Designation of an FOG Trap or Interceptor to be determined by GRU (Grease Recovery Unit).
B.   An FOG Trap may be used where an Interceptor may not be located due to site conditions only with prior approval of the City.
C.   FOG Interceptors and Traps shall be pre-manufactured units.

Grease Interceptor Sizing Formula

$GI = SC * FF * RT * SF$ (GI=gallons of recovery unit)

GI = FOG Interceptor volume, gallons
SC = seating capacity (# of seats)
RT = retention time, hours = 2.5
SF = storage factor, dimensionless = 1.5
FF = flow factor criteria in gallons/meal-hour determined using following criteria:

Deep frying and/or grill	FF = 3.0
No deep frying with grill	FF = 2.5
Deep frying, disposable servingware	FF = 2.5
No deep frying, reusable servingware	FF = 2.0
No deep frying, disposable servingware	FF = 1.5
No cooking of any type, disposable servingware	FF = 0.5

Grease Trap Sizing Formula-(Limited FSE only)

$GT = CS * 0.4$

GT = minimum FOG Trap rating in gallons per minute
CS = capacity in gallons of fixtures or sink to be discharged to the FOG Trap

Sinks:
The volume of a sink is calculated by multiplying the length, width and depth of the unit together and converting the calculated value into gallons. (1 gallon=231 in[3])

Example: **Three Bay Sink:**
The sink consists of 3 bays each 24" long by 24" wide by 12" deep, and therefore has a cubic content of 3 x (24 x 24 x 12) = 20,736 in³. The contents in gallons is 20,736 in³ x 231 in³/gallon = 90 gallons. As described above, the sinks will not be full of water as the dishes will displace a portion of the water. The volume of water displaced by dishes is not to be greater than 25% of the volume of the sink. Therefore, the displaced volume is 90 gallons x 0.25 = 22.5 gallons displaced, leaving, 90 - 22.5 = 68 gallons of water in the three bays of the sink. Discharge from sinks is calculated over a 2 minute period as, 68 gallon/ 2 minutes = 34 gpm.

FOG Traps require that the water temperature be maintained to be below 140 degrees F.