

# **MOUNT PLEASANT WATERWORKS**



## **GUIDELINES FOR THE OIL, GREASE AND SOLIDS REMOVAL STANDARD PROGRAM**

*Adopted January 2000*

## **PREFACE**

It is the intent of this Standard to provide specific design, installation, construction, location, and maintenance standards for grease traps, oil\water separator and sand interceptors to comply with the Town of Mount Pleasant Code of Ordinances.

## CHAPTER 1 -DEFINITIONS

### SECTION 1.1 – DEFINITIONS:

All definitions shall be as provided for in the current Sewer Use Ordinance (Appendix 1) with the following additions:

- 1.1.1 **Food Service Establishment:** Shall mean any commercial facility discharging kitchen or food preparation wastewater including restaurants, motels, hotels, cafeterias, hospitals, schools, bars, etc. and any other facility which, in MPW's opinion, would require a grease trap installation by virtue of its operation.
- 1.1.2 **Grease Interceptor/Grease Trap:** Shall mean the device that is utilized to separate grease and oils from wastewater. Such traps or interceptors may be the underground type (normally referred to as exterior grease interceptors) or the under the counter package units (normally referred to as the internal grease traps). However, for the purposes of this standard, the words "trap" and "interceptor" are used interchangeably.
- 1.1.3 **Oil/Water Separator:** Shall mean a device used to separate oil from wastewater before being discharged to MPW's collection system. This type of device shall be utilized at, but not limited to, mechanical maintenance repair shops, car washes and businesses where floor drains collect motor oil, transmission fluid, lubricating oil, grease, hydraulic oil, etc.
- 1.1.4 **Sand Interceptor:** Shall mean a device used to separate sand and other solids from wastewater before discharging to MPW's collection system.

## CHAPTER 2 - ADMINISTRATION

### SECTION 2.1 - AUTHORITY TO IMPLEMENT OIL, GREASE AND SOLIDS REMOVAL STANDARD:

- 2.1.1 Section 51.0.35 of the Town of Mount Pleasant Code of Ordinances; Paragraph A, (Item 3, 6 and 7)** states: "No person shall discharge or cause to be discharged to the wastewater system any substances, materials, waters, or wastes in quantities or concentrations that will: Cause obstruction to the flow in sewers, or other interference with operation of the wastewater system due to any accumulation of solid or viscous material. Contain more than 100 milligrams per liter of oils or grease of petroleum, mineral, animal or vegetable origin whether emulsified or not; Contain floatable oils, fat, grease, etc."
- 2.1.2 MPW Resolution No. 01-2000:** This standard will be updated periodically. Contact Mount Pleasant Waterworks (MPW) to ensure that the most current standards are being utilized prior to planning and designing a project (Appendix No. 2).

### SECTION 2.2 - NOTIFICATION PROCEDURE FOR NEW INSTALLATIONS:

- 2.2.1 Proposed Businesses:** All proposed businesses will be notified following the plan review if a grease trap, oil/water separator, or sand interceptor will be required. In order for site and plumbing plans to be approved by MPW Engineering Department, plans must show the location and size of the proposed unit, as well as routing of influent and effluent piping. The installation must be inspected and approved for operation by a MPW inspector before service is provided to the business.
- 2.2.2 Existing Businesses:** MPW's inspector will routinely survey all existing businesses to determine if a change in operation has resulted in a discharge of non-domestic waste such as oils, grease, wax, fats, sludge, solids, sand, stone etc. If MPW determines that a grease trap, oil/water separator, or sand interceptor is required to be installed, the procedure below will be followed:
1. MPW will send a written notice to the customer, advising the customer to install a grease trap, oil/water separator, or sand interceptor (Appendix No. 3). A time frame for compliance will be given and MPW will make follow up inspections to ensure proper action is taken.
  2. If grease trap, oil/water separator, or sand interceptor is not installed within time frame given, a second notice will be sent (Appendix No. 4).
  3. Customers who fail to comply with MPW's installation request will receive a Notice of Violation (Appendix No. 5).
  4. Once the grease trap, oil/water separator, or sand interceptor is installed it must be inspected and approved for operation by a MPW inspector.

### SECTION 2.3 - NOTIFICATION PROCEDURE FOR INSPECTION AND ENFORCEMENT:

MPW's inspector will periodically inspect all existing businesses that have a grease trap, oil/water separator, or sand interceptor. If MPW determines that the existing unit is in need of cleaning and / or repair, the procedure below will be followed:

1. MPW will send a written notice with the inspection form to the customer, advising the customer to clean and/or repair their grease trap, oil/water separator, or sand interceptor (Appendix No. 6, 7 and 8). A time frame for compliance will be given, and MPW will make follow up inspections to ensure proper action is taken.
2. Customers who fail to comply with MPW requirements, will receive a Notice of Violation. (Appendix No. 9).
3. Once the grease trap, oil/water separator, or sand interceptor is cleaned and/or repaired it must be inspected and approved for operation by MPW inspector.

## CHAPTER 3 - INSTALLATION PROCEDURES

### SECTION 3.1 - PROCEDURE AND ACTIVITY SEQUENCE:

1. Customer submits a "Letter of Intent" and preliminary plans. Internal plumbing and floor plans must show type, size, and location of grease traps, oil/water separators, and sand interceptors.
2. MPW reviews plans and advises customer of any comments.
3. Customer installs Grease trap, oil/water separator, or sand interceptor, and has it inspected by MPW.
4. Once approved, the establishment will be authorized for operation.
5. Grease traps, oil/water separators, or sand interceptors must be cleaned periodically as outlined in Section 4.1.

### SECTION 3.2 - SELECTION REQUIREMENTS:

1. All grease trap, oil/water separator and sand interceptor plans and specifications must be reviewed and approved by MPW prior to installation.
2. Sizing of exterior type grease interceptors, shall be in accordance with the following formula with the minimum size being 1000 gallons:

**Restaurants:**

$$(D) \times (GS) \times (HR/2) \times (LF) = \text{Size of grease interceptor (Gallons)}$$

Where:

- D = Number of seats in dining room.
- GS = Gallons of wastewater per seat (5 gal).
- HR = Number of hours open.
- LF = Loading factor (0.5).

**Hospitals, Nursing Homes, Schools and other kitchens with varied seating capacity:**

$$(M) \times (GM) \times (LF) = \text{Size of grease interceptor(Gallons)}.$$

Where:

- M = Total number of meals served per day.
- GM = Gallons of wastewater per meal ( 2 ).
- LF = Loading factor (1.25 ).

3. Sizing of internal grease traps shall be in accordance with the following table. Grease trap sizing is based on wastewater flow and can be calculated from the number and type of sinks and fixtures discharging to the trap. In addition, a grease trap should be rated on its grease retention capacity, which is the amount of grease (in pounds) that the trap can hold before its average efficiency drops below 90%. The accepted standard is that grease retention capacity (in pounds) should equal at least twice the flow capacity (in gallons per minute). Most manufacturers rate their products with this procedure.

Type of Fixture	Flow Rate (GPM)	Grease Retention Capacity Rating (lbs)	Max. Capacity Per Fixture Connected to trap (gal)
Restaurant Kitchen Sink	15	30	50.0
Single-Compartment Scullery Sink	20	40	50.0
Double-Compartment Scullery Sink	30	60	90.0
Triple-Compartment Scullery Sink	40	80	100.0
Two Single-Compartment Sink	30	60	90.0
Two Double-Compartment Sink	40	80	100.0
Wok Ovens	30	60	90.0
Other fixtures	**	**	**

\*\*As determined by MPW.

*Note: For multiple fixtures served by one wastewater tap, the required grease trap capacity will be accumulative.*

### **SECTION 3.3 - INSTALLATION REQUIREMENTS:**

The following requirements are applicable to all businesses, new or existing, that discharge waste such as oils, grease, wax, fats, sludge, solids, sand, stone etc.

#### **3.3.1 General Requirements**

1. All grease traps, oil/water separators and sand interceptors shall be designed and installed in accordance with this standard.
2. All installations must be on private property and must be readily accessible for inspections and maintenance.
3. Only wastewater discharges from kitchen facilities (ie: sinks, dishwashers, floor drains, etc.) shall pass through the grease trap. Discharges from restrooms shall enter the wastewater service lateral downstream of the grease trap.

#### **3.3.2 Exterior Grease Interceptors**

1. All newly constructed food service establishments shall be required to install an exterior type grease interceptor, approved by MPW. New food service facilities will not be allowed to initiate operations until grease handling facilities are installed and approved by MPW.
2. All grease interceptors must be directly accessible from the surface and must be fitted with an extended sanitary tee outlet that terminates 6" to 12" above the tank floor. The minimum access opening dimensions shall be 18"x 18" (Detail No. 1).
3. All grease interceptors serving fixtures where the total wastewater flow exceeds 1500 GPD must either be two-chambered or individual tanks in series. If two-chambered, the dividing wall must be equipped with an extended elbow or sanitary tee terminating 6" to 12" above the tank floor. An extended outlet sanitary tee must also be provided at the outlet of the second chamber. Both chambers must be directly accessible from the surface (Detail No. 2).

#### **3.3.3 Internal Grease Traps**

1. Cases in which exterior type grease interceptors are not feasible to install, food service establishments will be required to install internal grease traps. These units shall be connected to individual fixtures, including dishwashers, sinks, and other drains with a potential for receiving grease. In such cases, units will be considered acceptable only if the approved flow control fittings are provided to prevent overloading of the grease trap and to allow for proper operation.

2. Location of under the counter units must be as close to the source of the wastewater as physically possible and accessible for maintenance and inspections.
3. Waste from garbage grinders should not be discharged to under the counter grease traps.

**3.3.4 Oil/Water Separators**

1. All facilities where floor drains are subject to collecting motor oil, transmission fluid, hydraulic oil, grease, etc., shall install an oil/water separator. The design and location shall be approved by MPW prior to installation. The facilities will not be allowed to initiate operations until the oil/water separators are inspected and approved by MPW.
2. Minimum size of the oil/water separators shall be one thousand (1000) gallons.

**3.3.5 Sand Interceptors:** All facilities where floor drains are subject to collecting sand, grit, and other solids shall install sand interceptors. The design and location shall be approved by MPW prior to installation. These facilities will not be allowed to initiate operations until sand interceptors are inspected and approved by MPW.

## **CHAPTER 4 - OPERATION AND MAINTENANCE**

### **SECTION 4.1 - CLEANING OF GREASE TRAPS, OIL/WATER SEPARATORS, SAND INTERCEPTORS**

1. Facilities with grease traps, oil/water separators, or sand interceptors may be asked to submit maintenance contracts and/or records of grease/oil removal to MPW. MPW may monitor grease and oil removal frequency to ensure adequate system maintenance.
2. Maintenance of interior grease traps require they be thoroughly cleaned and/or pumped out a minimum of one (1) time each week.
3. Maintenance of exterior in ground grease interceptors must include thorough pump-out and cleaning a minimum of four (4) times per year. Cleaning of exterior type grease interceptors shall be done before the grease accumulation inside the interceptor is within three (3) feet of the bottom (Detail No. 3). When cleaning double compartment grease traps, both compartments must be thoroughly pumped and cleaned.
4. Maintenance of oil/water separators must include thorough pump-out and cleaning a minimum of once a year. Cleaning of oil/water separators shall be done before the oil accumulation inside the separator is within three (3) feet from the bottom of the separator.
5. Facilities utilizing sand interceptors shall inspect the accumulation of solids a minimum of once a week. Cleaning shall be performed before the accumulation of solids are within six (6) inches from the bottom of the outlet pipe (Detail No. 4). More frequent cleaning of Sand Interceptors may be required if deemed necessary by MPW.
6. The use of emulsifiers or other solvents is not considered to be an acceptable grease trap maintenance practice.
7. In maintaining grease traps and oil/water separators, the owner(s) shall be responsible for the proper removal and disposal of the accumulated material and may be required to maintain on-site records of the dates and means of disposal which are subject to review by MPW. Any removal and hauling of the collected materials not performed by the owner's personnel must be performed by currently licensed waste disposal firms.
8. More frequent cleaning of grease traps, oil/water separators and sand interceptors may be required if deemed necessary by MPW.
9. The owner is ultimately responsible for the proper maintenance of their grease trap, oil/water separators, and sand interceptors.
10. Copies of maintenance contracts and/or a Maintenance Log (Appendix 10) may also be required for any facility receiving two (2) consecutive unsatisfactory evaluations.

### **4.2 - INSPECTION AND ENFORCEMENT:**

All establishments with grease traps, oil/water separators, and sand interceptors will be routinely inspected to ensure compliance:

1. Establishments with grease traps, oil/water separators, or sand interceptors may be subject to periodic review, evaluations, and inspection by MPW representatives at any time. Results of inspections will be made available to facility owners, with recommendations for correction and/or improvement (if necessary).
2. Any establishment whose effluent is suspected by MPW to contain a concentration of greater than 100 mg/l of oil and grease may be required to routinely sample their effluent and have it analyzed for oil and grease at the expense of the owner. A copy of the analysis shall be furnished to MPW.

3. In the event an existing establishment's grease trap, oil/water separator or sand interceptor are either under-designed, substandard, or poorly operated, the owner(s) will be notified in writing of the required improvements and given a compliance deadline to conform with the requirements of this standard.
4. Any facility receiving two (2) consecutive unsatisfactory evaluations shall be subject to penalties and restrictions as provided for in the Sewer Use Ordinance, Article 10 (Appendix No. 1) and Resolution No. 01-2000 (Appendix No. 2).
5. Establishments whose operations cause or allow excessive grease, oils or solids to discharge or accumulate in the wastewater collection system are liable to MPW for all costs associated with correcting related problems.
6. Existing food service establishments without any grease, oils or solids-handling facilities will be given a compliance deadline not to exceed sixty (60) days from date of notification to have approved grease, oils or solids-handling equipment installed in compliance with this standard.
7. Violations of this Standard may result in fines and penalties in accordance with the Sewer Use Ordinance, Section 51.999 and Resolution No. 1-2000.