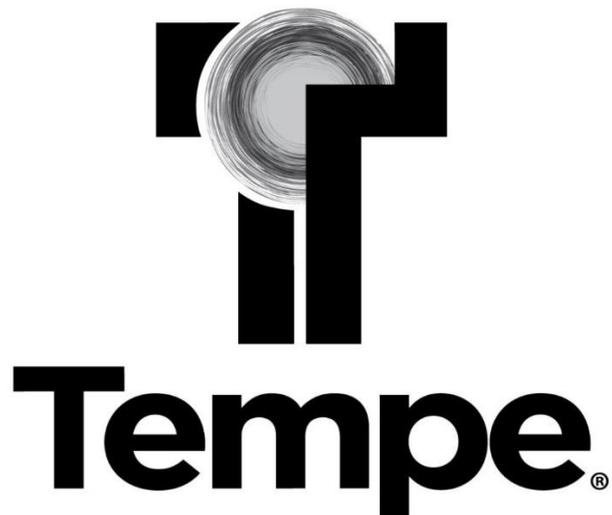


**Rules and Procedures for
Interceptors and Traps for Wastewater Pretreatment**

November 3, 2017



City of Tempe
Public Works Department
Water Utilities Division
Environmental Services Section
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I. Introduction

Legal Authority

Users of the City of Tempe's (City) Publicly Owned Treatment Works (POTW) are required by the Tempe City Code, Chapter 27, Article 1, to comply with pretreatment requirements which enable the City to comply with the Clean Water Act (33 United States Code §§ 1251 *et seq.*), the General Pretreatment Regulations (40 Code of Federal Regulations, Part 403), and all other applicable federal and state laws. Tempe City Code prohibits all users from discharging wastewater containing pollutants that will interfere with the operation and efficient functioning of the POTW. The City's Public Works Department administers the pretreatment program.

The City Community Development Department administers the permitting process by which any portion of a sanitary sewer is designed, installed, or modified. Pursuant to Tempe City Code, Chapter 8, Article VI, Section 1003, the Public Works Director must approve installation and sizing of pretreatment devices, including interceptors, separators, and traps.

Section 22 of Chapter 27 authorizes the Public Works Director¹ to develop these Rules and Procedures for the installation, cleaning, maintenance, repair, and inspection of interceptors, separators, and traps. These Rules and Procedures are effective upon approval by resolution of the City Council.²

Tempe Grease Cooperative

Additionally, Section 22 authorizes the City to offer City-procured cleaning and maintenance services for food service industry interceptors and traps to improve the sustainability of POTW infrastructure and to explore the development of waste fats, oils and grease as a renewable energy supply. The Tempe Grease Cooperative (TGC) is established to provide member food service establishments with cleaning and maintenance services under collective contracts that are established and administered by the City.

Membership in the TGC is voluntary, and food service establishments (FSEs) may enroll or opt-out at any time. For TGC members, the City will meet the ordinary maintenance and cleaning requirements established in these Rules and Procedures on behalf of the FSE. The enrollment terms for the TGC are attached as Attachment A to these Rules and Procedures. Enrollment can be requested by contacting the Environmental Services Section at 480-350-2678. Participants may also enroll through the program's website at www.tempe.gov/grease or email grease@tempe.gov for more information.

Enrollment is available to all FSEs within the City of Tempe. Additionally, TGC members in good standing that follow the Terms of Enrollment will be considered in full compliance

¹ Except as otherwise specified by the Tempe City Code, "Public Works Director" in these Rules and Procedures means the Director of the Public Works Department or other city personnel designated by the Public Works Director to act on the director's behalf.

² In event of a conflict between these Rules and Procedures and the Tempe City Code, Chapter 27, the terms of the Tempe City Code shall prevail.

with the cleaning and ordinary maintenance requirements established in the City's Rules and Procedures for Interceptors and Traps.

II. Installation of Pretreatment Devices

Pursuant to Tempe City Code, § 27-22(e), all non-domestic users of the POTW engaged in the preparation of any type of food or drink, maintenance or repair of motorized vehicles, or wet manufacturing process which generates settleable solids, etc., shall install and maintain, at their expense, pretreatment devices designed to reduce the settleable solids and prevent the pass through of pollutants, and/or the introduction of wastewater of a quality which may cause interference, and/or cause nuisances. Therefore, these Rules and Procedures apply to all non-domestic users of the POTW.

Garbage Grinder/Disposal

Commercial and industrial users shall not convert solid waste into liquefied waste and introduce such waste into the POTW by means of a garbage grinder/disposal.

Installation of Lint Interceptors or Traps

Commercial facilities which operate six or more washing machines shall install: (i) a lint interceptor to capture lint from all machines; or (ii) individual lint traps on each machine. Lint interceptors shall have a minimum capacity of 500 gallons.

Installation of Hair Traps

Commercial hair or grooming establishments shall install one hair trap per wash station. All traps shall be installed in compliance with the City of Tempe adopted plumbing code.

Installation of Sand/Oil Interceptors and Oil/Water Separators

If a parking structure or surface is designed to drain to the City's sanitary sewer system the user shall install an oil/water separator. If a structure or surface is designed to drain to the City's sanitary sewer system and has the potential to accumulate sand/debris, the user shall install a sand/oil interceptor. Separators and interceptors shall have three manways and a minimum capacity of 750 gallons.

Facilities where rinse or wash areas have the potential to accumulate oils, and which discharge to four or fewer fixtures, may install a 50/100 sand/oil trap subject to the review and approval by the Public Works Director. Facilities with more than four fixtures shall install a minimum 750 gallon sand/oil interceptor.

Installation of Grease Interceptors or Traps

Users shall install and use grease interceptors or traps for all food preparation/service establishments which may contribute, directly or indirectly, any wastewater to the POTW that contains fats, oils or grease, including but not limited to, restaurants, cafeterias, cafes, fast food outlets, schools, fraternal organizations, churches, hospitals, hotels, and daycare centers. Pursuant to Tempe City Code § 27-22(d)(4), any facility that installs an automatic dishwasher shall install a grease interceptor. Equipment installed only for sanitizing glassware shall not be connected to a trap or interceptor. Traps and interceptors shall not

be installed within a trash enclosure. Traps and interceptors shall be accessible for routine maintenance, cleaning, and inspection at all times.

Any FSE required to obtain a building permit for kitchen or plumbing modifications, or any new construction of an FSE, is subject to review and approval for compliance with all criteria, including sizing criteria, in Tempe City Code § 27-22 and in these Rules and Procedures regardless of whether the property has an existing device. No FSE is grandfathered for the device size or type of a prior occupant.

The Public Works Director may grant a variance to minimum sizing criteria for members of the Tempe Grease Cooperative, consistent with the Sizing Variance conditions established in section 4 of the Terms of Enrollment.

Installation of a grease interceptor and/or trap in anticipation of a future unknown occupant is only permitted upon written approval of the Public Works Director and upon written acknowledgement from the property owner that retrofits will be required if the installed device does not meet the City's requirements in Tempe City Code § 27-22 and in these Rules and Procedures for a subsequent occupant.

Sampling Manholes

Sampling manholes may only be installed upon written approval of the Public Works Director.

Multiple User Interceptors

Multiple user or "gang" interceptors shall be allowed only upon written approval of the Public Works Director and only where the property owner has agreed to comply with the following conditions:

1. Design each grease waste line with double sweep clean-outs at the outside wall of each commercial food source, within five feet of the upstream side of the interceptor and within five feet downstream of each interceptor regardless of the length of run. All other plumbing code requirements for changes in degrees, lengths of run and required clean-outs, shall also apply.
2. Enter into a written agreement for the cleaning of all interceptors located within the property with a nonhazardous liquid waste (NHLW) hauler permitted by Maricopa County or enroll in the Tempe Grease Cooperative. Agreements with NHLW haulers shall include the following requirements:
 - a. The minimum cleaning frequency shall be every 90 days. The Public Works Director may require more frequent cleaning if deemed necessary for effective operation or to reduce nuisance odors.
 - b. Full pump-outs of interceptors shall be conducted each time.
 - c. The NHLW hauler shall provide documentation (manifests) for disposal of all waste removed from the multiple user interceptor, which shall be provided to and maintained by the property owner.
3. Enter into a written agreement with a firm that is capable of hydro-jetting the grease waste lines from each source into each interceptor at a minimum of every 180

days, or enroll in the Tempe Grease Cooperative. A copy of the written agreement shall be filed with the Public Works Director.

4. Provide the Environmental Services Section with copies of the new agreement(s) within 10 business days of modification of any NHLW and/or hydro-jetting agreements.
5. Maintain copies of all cleaning receipts, records, and manifests on-site at the location of the interceptor, as required in § 27-22(c) of the Tempe City Code, unless enrolled in the Tempe Grease Cooperative.
6. Pursuant to Tempe City Code, § 27-22(e), ensure that garbage disposals/grinders are not used by any non-residential user.
7. Report any sanitary sewer overflow at (480) 350-2669 within 15 minutes of becoming aware of the overflow that occurs within the property.
8. Incur all cleanup costs associated with any sanitary sewer overflow within the property, unless enrolled in the Tempe Grease Cooperative and the City determines that the overflow resulted from improper maintenance performed through the Tempe Grease Cooperative.
9. Incur all reimbursement costs should any sanitary sewer overflow from the property enter into the City of Tempe stormwater system, except as provided in 8 above.
10. Agree to be fully responsible for all of the above conditions as well as for all other federal, state, and local requirements for pretreatment at the property.

III. Interceptor Sizing

The interceptor shall be sized in accordance with Section 27-22 of the Tempe City Code.

The following example illustrates the application of the required interceptor sizing calculation. In this example, the restaurant will have one 3-compartment sink discharging indirectly into a 2 ½-inch floor drain, one mop sink that has a 3-inch drain, two 2-inch floor sinks, and four floor drains.

Type of Fixture	Fixture Count	Size	Fixture-Unit Value	Total
3-comp. sink	1	2 ½"	4	4
Mop sink	1	3"	5	5
Floor sink	2	2"	3	6
Floor drain	4	N/A	2	8
Total Fixture-Units				23
Multiply by 3 GPM Flow Rate				X 3
Total GPM Flow Rate				69
Multiply by 12				X 12
Size of interceptor calculated				828

Round up to next available size	1050
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Additional Requirements

Sizing and other requirements for interceptors and grease traps are set forth in § 27-22.

The following are examples of those facilities that may qualify to install a 50 gpm, 100 pound (50/100) grease trap in lieu of a grease interceptor:

Delicatessens, sandwich shops, coffee shops, and pizza take-out facilities (only pizza being served), and ice cream parlors. These facilities must have minimal cooking and food preparation, and limited cleanup from food service. No more than four fixtures may be connected to the trap. A fixture is defined as a connection point to the sewer such as a floor sink, floor drain, mop sink, and/or a prep-sink.

No facility may connect an automatic dishwasher to a grease trap.

Each user shall obtain written approval from the Public Works Director for the installation of any type of pretreatment device, including all interceptors and traps. In order to obtain approval, the user shall obtain a plumbing permit. Contact the Community Development Department at (480) 350-8341 for further information on obtaining plumbing/building permits.

IV. Maintenance

Maintenance of grease interceptors, grease traps, and grease receptacles as set forth in these Rules and Procedures shall be the sole responsibility of the user, or in the case of multiple user interceptors, the property owner. All records documenting maintenance activities, including invoices provided by third-party service contractors, shall be maintained onsite. Upon request, the user or owner shall provide the City with any documentation necessary to demonstrate that the maintenance requirements and frequencies are being met. Maintenance is necessary to ensure proper operation by preventing any obstruction, interference, or damage to the collection system. Proper operation of the POTW is also necessary to avoid the creation of a stormwater discharge violation that would result from runoff of water not comprised entirely of stormwater into the City of Tempe’s public storm drain system.

FSEs may choose to enroll in the Tempe Grease Cooperative. The City will meet the ordinary maintenance and cleaning requirements established in this policy on behalf of TGC members. The Terms of Enrollment for the TGC are attached as Attachment A to these Rules and Procedures.

Cleaning Methods

Traps and interceptors shall be cleaned using mechanical cleaning methods. At no time shall any user add or cause any additive to be introduced that causes emulsification and/or saponification to occur. Contents removed from the interceptor shall be hauled and disposed of off-site in accordance with all applicable City, County, State, and Federal regulations. The user may be asked to contact the Environmental Services Section at (480)

350-2678 prior to the scheduled cleaning and provide the date, time, contact information, and name of contractor. The user shall provide property access to a City inspector for an inspection prior to, during and/or after the cleaning if requested.

Cleaning Requirements

A. Grease Traps

A user shall cause to be pumped the contents of a trap at least every 30 business days. The user shall only hire a non-hazardous liquid waste hauler (NHLWH) that has been approved by Maricopa County Public Works Department, Solid Waste Section and permitted by ADEQ and assigned an ADEQ ID number. Users shall not self-clean without the prior written approval of the Environmental Services Section.

If a user elects to enroll in the Tempe Grease Cooperative, the user may request that the Public Works Director approve a reduction in the frequency of cleaning, consistent with the Terms of Enrollment of the TGC, and in accordance with the criteria set forth in the Terms of Enrollment.

The following procedures shall be used consistently when servicing a trap:

- 1) The NHLWH shall utilize precautions as necessary to prevent spillage at the site.
- 2) The NHLWH shall scrape the sidewalls, bottom, and permanently installed baffles to remove all fats, oils, grease, and solids.
- 3) For traps with removable baffles, the baffles shall be removed, cleaned, inspected, and then re-installed. The cover gasket shall be inspected.
- 4) The Contractor shall remove all liquid and solids from the trap and pump into the permitted vehicle.
- 5) If repairs are necessary to ensure the proper functioning of the trap, they shall be made prior to placing the trap back into service.
- 6) The contents of the trap and any wash water shall not be pumped back into any private sanitary sewer, pretreatment device, or any other connection leading to the POTW.

B. Grease Interceptors

The contents of the interceptor shall be pumped at a minimum of at least every 90 business days or more frequently if grease or solids in the device exceed the maximum capacity as defined in manufacturer's specifications, or solids content reaches 25% of the interceptor volume where capacity specifications are not established. If a user elects to enroll in the Tempe Grease Cooperative, the user may request that the Public Works Director approve a reduction in the frequency of cleaning consistent with the Terms of Enrollment of the TGC and in accordance with the criteria set forth in the Terms of Enrollment.

The following procedures shall be used consistently when servicing an exterior interceptor. The Public Works Director may modify these procedures based on observations, feedback from FSEs, or to increase the solids content of waste material to make it more useable as renewable energy feedstock:

- 1) The NHLWH shall utilize spill protection as necessary to prevent leakage from under the exhaust hose of the pump.

- 2) The grease interceptor(s) shall be thoroughly inspected. Inspections shall note and photo-document missing or damaged down spouts (T-pipes), baffles and interceptor manways (covers). The inspection shall also note any corrosion, holes or collapses, and those deficiencies shall be communicated to the City.
- 3) Only one manhole cover shall be opened at a time.
- 4) The interceptor's influent chamber shall be tested using a "sludge judge" apparatus. The corresponding levels of total liquid height, top oil thickness, and sludge depths shall be recorded and included in the report prepared by the NHLWH. Additionally, any trash/objects not pertaining to grease waste shall be removed and documented.
- 5) The upstream compartment (generator) side shall be pumped first.
- 6) As the water level in the interceptor goes down, the NHLWH shall begin scraping or jetting the walls and baffles to remove the accumulated debris.
- 7) The NHLWH shall finish vacuuming the interceptor out, making sure to remove all sludge and debris from the bottom.
- 8) The walls of the interceptor shall be washed down with a water hose and a zero-point nozzle. The area around the top of the interceptor may be washed down if needed.
- 9) The NHLWH shall make sure the interceptor is completely evacuated of all solids, water, oil and grease.
- 10) Steps 4 through 9 shall be completed for each compartment of the interceptor.
- 11) After all compartments are complete, the generator side shall be re-opened to make sure it is clean and no additional cleaning or pumping is needed.
- 12) Interceptors shall be filled through normal use from permanent fixtures. Water hoses shall not be used to recharge interceptors.
- 13) Prior to leaving the location, the NHLWH shall ensure that all work areas are clean and free of grease.
- 14) At no time shall the NHLWH return any liquid from the pumping truck back into the interceptor.
- 15) At no time shall the NHLWH allow the discharge of water to flow from the grease interceptor maintenance process to a storm water drain or catch basin, street, roadway, sidewalk, gutter, landscape area or any type of storm water structure.
- 16) The NHLWH shall ensure that manhole covers are properly installed for safety. They shall ask the customer to inspect the work performed.

C. Chemical and Bacteriological Additives

Chemical and bacteriological additives may only be used upon written approval by the Public Works Director. At no time shall any additive be used that causes emulsification and/or saponification to occur. The use of any approved additive shall not alter the required cleaning frequencies prescribed in these Rules and Procedures.

D. Sand/Oil Interceptors and Oil/Water Separators

A user shall pump the contents of a sand/oil interceptor or oil/water separator at a minimum of at least every 180 days or more frequently if any coating of oil and or sheen is visible in the final compartment and/or when the solids content reaches 25% of the interceptor/separator volume.

E. Lint Interceptors/Traps and Hair Traps

If necessary to safeguard the operation and efficient functioning of the POTW, the Public Works Director shall require facilities with lint interceptors and/or hair traps to maintain the

lint interceptor or hair trap as recommended by the manufacturer or at least once every twelve (12) months, whichever results in more frequent maintenance.

F. Best Management Practices

If necessary to safeguard the operation and efficient functioning of the POTW, the Public Works Director shall require any user to implement Best Management Practices deemed necessary to reduce pollutants entering the POTW.

G. Public K-12 Schools – Cleaning Frequencies

Public K-12 schools shall comply with the device installation and sizing requirements as specified in these Rules & Procedures. Public K-12 schools shall ensure that grease traps are pumped at a minimum of every 90 days while school is in session, with one of the pumping's occurring at the end of each school year.

Grease interceptors shall be pumped once at the beginning of every winter holiday break and once at the beginning of every summer break. Each district will be responsible to ensure that their traps or interceptors are properly functioning and maintained.

Schools that enroll in the Tempe Grease Cooperative are eligible for frequency reductions as specified in, and in accordance with the criteria set forth in, the TGC Terms of Enrollment. The Public Works Director may increase the frequency requirements on a device-by-device basis if deemed necessary. Examples of situations that could result in an increased pumping frequency include, but are not limited to, excessive odor, sewer backups within the building, grease accumulation in the POTW that is attributable to a specific school or building, solids content $\geq 25\%$ of the interceptor volume, or when the final compartment contains more than three inches of grease, or the user is otherwise out of compliance with the required procedures.

H. Commissaries

FSEs in compliance with § 27-22 and these Rules and Procedures may discharge washwater from mobile food service units upstream of the existing grease protection device only upon prior written authorization from the the Public Works Director.

The City will provide written authorization for a Commissary Agreement between an FSE and a mobile food service unit, as required by Maricopa County's Mobile Food/Special Events Program, only if the Public Works Director determines that the existing device has the capacity to handle the additional volume and continue to operate as designed and in accordance with these Rules and Procedures.