

TO: HONORABLE CITY COUNCIL

FROM: CITY MANAGER DEPARTMENT: PUBLIC WORKS

DATE: JUNE 7, 2010 CMR:252:10

REPORT TYPE: CONSENT

SUBJECT: Adoption of an Ordinance Repealing Chapter 16.09 of the Palo Alto Municipal Code and Amending Title 16 to Adopt a New Chapter 16.09 (Sewer Use Ordinance) Establishing Regulations to Reduce Discharges of Pollutants to the Sanitary Sewer and Storm Drainage Systems

RECOMMENDATIONS

Staff recommends that Council adopt the attached Ordinance (Attachment A) repealing Chapter 16.09 of the Palo Alto Municipal Code and adopting a new Chapter 16.09 (Sewer Use Ordinance).

BACKGROUND

The City of Palo Alto operates the Regional Water Quality Control Plant, a wastewater treatment plant, for the East Palo Alto Sanitary District, Los Altos, Los Altos Hills, Mountain View, Palo Alto, and Stanford University. Wastewater from these jurisdictions is treated by the Regional Water Quality Control Plant prior to discharge to the Bay. Storm water runoff in Palo Alto flows directly to the Bay without treatment. Wastewater and storm water discharges are both regulated by the United States Environmental Protection Agency via National Pollutant Discharge Elimination System permits issued by the San Francisco Bay Regional Water Quality Control Board. Given the strict permit requirements, Palo Alto is continually exploring methods for reducing pollutant discharges to San Francisco Bay, including new storm water and industrial pretreatment and pollution prevention requirements.

The attached Ordinance contains a number of amendments and additions to the current Sewer

Use Ordinance. The changes fall into the following categories:

1. Clarification and reorganization of existing language;
2. Incorporation of standard language from the United States Environmental Protection Agency model Ordinance;
3. Incorporation of new language from the United States Environmental Protection Agency Pretreatment Streamlining Rule;
4. Incorporation of changes required to correct deficiencies identified during Regional Water Quality Board audits;
5. New or expanded requirements.

The majority of the changes fall into the first four categories. They are administrative in nature and do not significantly change the policies or implementation of the program. The following table lists some of the key proposed changes.

Key Changes	Proposed Ordinance Change
Cyanide	Lower discharge limit for cyanide changed from 1.0 to 0.5 mg/L
Zinc, Molybdenum	Prohibits cooling tower chemicals containing zinc or molybdenum
Non-Compliance and Spill Reporting and Actions	Expand this section to include storm drain violations in addition to sanitary sewer violations.
Facility Closure	Requirements for cleaning, inspection and testing of sewer system upon closure of industrial facilities are expanded to include commercial facilities.
Certain carwash facilities prohibited.	Carwash facilities to storm drain prohibited for multi family residential units and residential developments expanded to include existing facilities as well as new ones.
Food Service Establishments	Create the requirement to use grease control device maintenance services provided by City permitted vendors. Expands and codifies Best Management Practices.
General	Modified language to group related topics, use consistent language in all sections and delete past implementation dates.

Staff have conducted outreach and solicited comments regarding the proposed Ordinance changes from permitted commercial and industrial facilities in the service area, City of Palo Alto departments, the Palo Alto Chamber of Commerce, and other interest groups. Copies of the proposed Ordinance were provided to each Food Service Establishment and each permitted facility. A public meeting was held to review the proposed changes with the Regional Water Quality Control Plant's permitted facilities and the Food Service Establishments in 2009. In addition, staff attended a meeting of the Environmental Health and Safety Forum Group, and held a meeting with Stanford University representatives. Comments were received from several permitted facilities and from the Environmental Health and Safety Forum group. A small number of changes have been incorporated into the proposed Ordinance language as a result of public involvement in the Ordinance adoption process.

DISCUSSION

A summary of the key proposed Ordinance provisions is provided below. The key provisions are those that are expected to have the most significant impact on the regulated community, and which have been reviewed and discussed most extensively in our public outreach process. The majority of the additional modifications are not substantive in nature. Due to the large scale of the amendment to the existing Ordinance a redline version is not practical and thus not provided. However, the attached Ordinance Change List (Attachment B) lists the key provisions as well as all other changes that have warranted less attention and those that are mainly administrative in nature. Finally, the attached Ordinance contains all of the provisions.

Cyanide Discharge Limit (16.09.040(q))

The proposed Ordinance section would lower the cyanide concentration limit for industrial waste discharges from 1.0 milligrams per liter (mg/L) to 0.5 mg/L. The Regional Water Quality Control Plant conducted a local limits evaluation in 2006. The change in the cyanide limit is

based upon the attached memorandum (Attachment C), which describes the process utilized to derive the new limit. The new limit would apply to all industrial waste discharges to the sanitary sewer. The Sunnyvale and San Jose treatment plants, which together with Palo Alto comprise the three lower South San Francisco Bay dischargers, already have cyanide limits of 0.5 mg/L.

Zinc or Molybdenum Containing Cooling Tower Chemicals (16.09.205)

The proposed Ordinance provision addressing zinc and molybdenum containing cooling tower chemicals would reduce zinc and molybdenum loading to the sanitary sewer system from cooling tower activities. The majority of cooling towers are located in industrial and commercial facilities that are regulated by the Public Works Department's Environmental Compliance Division. Zinc is a pollutant of concern, due to its identification as a source of toxicity in the Regional Water Quality Control Plant's treated effluent to the Bay. Molybdenum is a pollutant of concern due to its presence in the Plant's incinerator ash which restricts its use for application as a fertilizer to pasture land and ruminant feed crops. Molybdenum and zinc-free cooling tower treatment chemicals are available.

Spill Reporting (16.06.140)

The proposed Ordinance modification would expand existing spill reporting and corrective measures for sanitary sewer discharges to include spills that threaten the storm drain system. The section includes requirements for notification as well as taking immediate steps to stop, contain, and clean spills.

Closure Requirements (16.09.110)

The proposed Ordinance provision is intended to address contaminated treatment equipment, broken sewer lines and contaminated sediments in sewer lines at industrial and commercial facilities during the facility closure process. The provision would allow the Regional Water Quality Control Plant to require testing of sewer lines to ensure their integrity in cases where the facility had a history of pH violations or other discharges that could affect sewer lines. Testing to determine the quantity and pollutant content of sediments could be required based upon the type of operation at a facility and the historical pollutant discharges from the facility. Where broken sewer lines are identified, facilities would be required to repair or replace them. Where contaminated equipment or sediments are identified, facilities would be required to remove them in an approved manner.

Covered Vehicle Washpad Areas (16.09.106(f))

Starting in 2003 all new residential buildings with 25 or more units were required to provide a vehicle wash pad to reduce discharges of pollutants from vehicle washing to the storm drain system. Each new building subject to the provision is required to provide a covered vehicle wash pad area for use by residents. The areas are designed to prevent water runoff and runoff. The drains for the areas are connected to an oil/water separator with a minimum 100 gallon capacity, and to the sanitary sewer. This section of the Ordinance has been modified to clarify that the requirement applies to residential development projects as well as to residential buildings with 25 or more units. This section has been modified to prohibit existing buildings or developments from providing a vehicle wash pad that discharges to the storm drain system.

Food Service Establishment Requirements (16.09.075)

The new requirements for Food Service Establishments expand and clarify existing Food Service Establishment regulations and codify best management practices and other measures that have

been established to protect storm water and to reduce the amount of Fats, Oils and Grease (Grease) discharged to the collection system. Grease in the collection system can lead to blockages and discharges of untreated wastewater. The section also requires Food Service Establishments to use a City permitted grease hauler, if available, for cleaning and grease removal from grease control devices. Staff is considering development of a program that would permit one or more grease haulers. This program may be presented to Council for consideration in the near future. The hauler program would reduce green house gasses by minimizing truck trips, would help ensure compliance by providing standardized service, and will allow for better tracking of the collection and ultimate disposal of grease waste.

RESOURCE IMPACT

There are no anticipated incremental resource impacts.

POLICY IMPLICATIONS

The recommended Ordinance adoption is consistent with the goals and policies stated in the Palo Alto Comprehensive Plan. The applicable policies are as follows:

Natural Environment Policy N-21:

Reduce non-point source pollution in urban runoff from residential, commercial, industrial, municipal, and transportation land uses and activities.

Natural Environment Policy N-25:

Reduce pollutant levels in City wastewater discharges.

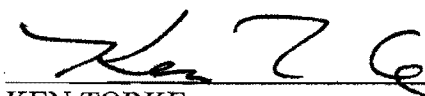
ENVIRONMENTAL ASSESSMENT

The adoption and implementation of this Ordinance is exempt from the California Environmental Quality Act under Guideline 15308 (actions by regulatory agencies for the protection of the environment).


ATTACHMENTS

- Attachment A: Ordinance
- Attachment B: Ordinance Change Summary
- Attachment C: Limit Development Memorandum

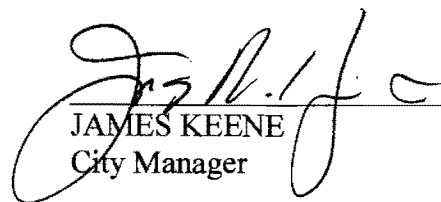
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Ordinance No. _____

Ordinance of the Council of the City of Palo Alto Repealing Chapter 16.09 of the Palo Alto Municipal Code and Amending Title 16 to Adopt a New Chapter 16.09 (Sewer Use Ordinance) Establishing Regulations to Reduce Discharges of Pollutants to the Sanitary Sewer and Storm Drainage Systems

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings and Declarations. The City Council finds and declares as follows:

(A) In order to protect the public health and environment, including the City's sanitary sewer collection system, the Palo Alto Regional Water Quality Control Plant, and San Francisco Bay, the City has developed and implemented a water quality control program;

(B) Protection of the sanitary sewer collection system, the treatment plant, and San Francisco Bay also requires strict control of industrial wastewater discharges and all types of contaminated water which would otherwise flow to the storm drain system, creeks, and San Francisco Bay;

(B) The adoption of this Sewer Use Ordinance is a component of the City's water quality control program and supports the City's authority to implement state and federally mandated storm water, pollution prevention, and industrial waste pretreatment programs;

(C) The City desires to maintain and enhance its leadership position in reducing pollutant loadings to natural water bodies to the maximum extent practical, while still maintaining a healthy and vibrant business community; and

(D) In order to continue to address new pollutants of concern and pollutant sources, City staff shall inform the Council of the need for further controls on industrial, commercial and residential wastewater and storm water discharges.

SECTION 2. Chapter 16.09 (Sewer Use Ordinance) of Title 16 (Building) of the Palo Alto Municipal Code is hereby repealed in its entirety and restated as follows:

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Chapter 16.09

SEWER USE ORDINANCE

Sections:

16.09.005	Purpose and Applicability
16.09.010	Definitions
16.09.015	Responsibility of the Superintendent
16.09.020	Confidentiality
16.09.025	Alternative Materials and Methods
16.09.030	Limitations on Point of Discharge
16.09.035	Prohibitions
16.09.040	Standards
16.09.045	Additional Copper Limitations for Industrial Waste
16.09.050	Grease disposal Prohibited
16.09.055	Unpolluted Water
16.09.060	Standards for Other Industrial Wastes
16.09.065	Best Management Practices (BMPs)
16.09.070	Trucker's Discharge Permit
16.09.075	Food Service Establishments
16.09.080	Industrial Waste Discharge Permit
16.09.085	Industrial Wastes Discharge Permit Procedures
16.09.090	Requirements for Facilities Affected by National Pretreatment Standards
16.09.095	Modification, Suspension or Revocation of Industrial Wastes Discharge
16.09.100	Permit Issuance, Denial, Modification, Revocation, or Suspension Hearing
16.09.105	Waste Sampling Locations
16.09.110	Discharger Monitoring
16.09.115	Prohibition against Dilution
16.09.120	Discharger Self-Monitoring
16.09.125	Maintenance and Operation of Pollution Control and Monitoring Equipment
16.09.130	Compliance with the Pretreatment Requirements
16.09.135	Reporting Requirements for all Permitted Dischargers
16.09.140	Requirements for Reporting Noncompliance, Increased Loading, Slug Discharges, Accidental Discharges
16.09.145	Certification of Reports
16.09.150	Falsification of Information
16.09.155	Date of Receipt of Reports
16.09.160	Retention of Records
16.09.165	Storm Drain System: Prohibited Discharges
16.09.170	Requirements for Construction Operations
16.09.175	General Prohibitions and Practices

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- 16.09.180 Requirements for Newly Constructed, Remodeled or Converted Multi-Residential, Commercial and Industrial Facilities
- 16.09.185 Personnel Orientation
- 16.09.190 Accidental Discharges Prevention
- 16.09.195 Storage of Hazardous Materials Above Sinks
- 16.09.200 Zinc-Containing Floor Finishes
- 16.09.205 Requirements for Cooling Systems, Pools, Spas, Fountains, Boilers and Heat Exchangers
- 16.09.210 Root and Pest Control Chemicals
- 16.09.215 Requirements for Photographic Materials Processing
- 16.09.220 Requirements for Dental Facilities that Remove or Place Amalgam Fillings
- 16.09.225 Requirements for Vehicle Service Facilities
- 16.09.230 Requirements for Machine Shops
- 16.09.235 Annual Publication of Significant Noncompliant Dischargers
- 16.09.240 Enforcement: Warning
- 16.09.245 Enforcement: Notice of Noncompliance
- 16.09.250 Enforcement: Administrative Compliance Order
- 16.09.255 Enforcement: Criminal Penalties
- 16.09.260 Enforcement: Administrative Citation
- 16.09.265 Enforcement: Administrative Civil Penalties
- 16.09.270 Enforcement: Judicial Civil Penalties
- 16.09.275 Damage to Facilities
- 16.09.280 City Right to Terminate Discharge
- 16.09.285 Enforcement: Remedies Nonexclusive

16.09.005 Purpose.

The overall goal of this Chapter and the City's water quality control program is to prevent and control pollution and protect and foster human health and the environment. The specific purpose of this Chapter is to prevent the discharge of any pollutant into the sanitary sewer system, the storm drain system, or surface waters, which would: 1) obstruct or damage the sanitary sewer or storm drain system; 2) interfere with, inhibit or disrupt the Palo Alto Regional Water Quality Control Plant (the "plant"), or its treatment processes, or operations, or its sludge processes, use or disposal; 3) pass through the treatment system and contribute to violations of the regulatory requirements placed upon the plant; or 4) result in or threaten harm to or deterioration of human health or the environment. It is the intent of the City to update and modify this Chapter as needed to continue to provide a program for protection of the storm drain system and pretreatment of industrial wastes which is approved by federal and state regulatory agencies. Therefore this Chapter is designed to be no less stringent than the U.S. Environmental Protection Agency "General Pretreatment Requirements for Existing and New Sources of Pollution" published at Title 40 of the Code of Federal Regulations (CFR), Part 403 and The Federal Water Pollution Control Act, 33 U.S.C. section 1251, as applicable, and as such

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requirements may be amended from time to time (hereinafter the "Pretreatment Requirements" and "Clean Water Act").

16.09.010 Definitions.

The following words and phrases, whenever used in this Chapter, shall be as defined herein. Words, terms and phrases used in this Chapter not otherwise defined shall be as defined or interpreted or used in the Pretreatment Requirements. Terminology for analytical testing shall be that contained in "Guidelines Establishing Test Procedures for the Analysis of Pollutants," published at Title 40 CFR, Part 136.

"Annual average concentration" means the average concentration of a substance measured over any twelve-month period of time.

"Authorized Representative" means an authorized or duly authorized representative as defined below:

(a) If the discharger is a corporation:

(1) The president, secretary, treasurer, or a vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(b) If the discharger is a partnership or sole proprietorship: a general partner or proprietor, respectively.

(c) If the discharger is a federal, state, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or their designee.

(d) The individuals described in paragraphs (a) through (c), above, may designate a Duly Authorized Representative if the authorization is in writing, the authorization specifies the individual or position responsible for the overall operation of the facility from

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which the discharge originates, or with overall responsibility for environmental matters for the organization, and the written authorization is submitted to the Superintendent.

"Average concentration" of a substance means the total daily discharge weight of the substance divided by the total daily wastewater volume at the point of discharge.

"Berm" means a ridge, lip or other raised barrier to the flow of liquid which is not rendered ineffective by the liquid and is sufficiently high to contain anticipated fluid amounts, or which causes sufficient grade to prevent migration of anticipated fluid amounts.

"Best Management Practices" or "BMPs" means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to implement the prohibitions in this Chapter. BMPs include treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal or drainage from materials storage.

"Biochemical Oxygen Demand" or "BOD" means the quantity of oxygen utilized in the biochemical oxidation of organic matter under standard laboratory procedures.

"Categorical Pretreatment Standard" means any regulation containing pollutant discharge limits promulgated by EPA that apply to a specific category of dischargers and that appear in 40 CFR Chapter I, Subchapter N, Parts 405 - 471.

"Categorical Discharger" shall mean any discharger subject to categorical Pretreatment Standards.

"Cesspool" means a lined or partially lined underground pit into which raw sanitary sewage is discharged.

"City" means City of Palo Alto

"Collection system" means the pipes, junction boxes, channels and other conveyance apparatus used to move storm water or sewage.

"Cooling system blowdown" means water routinely discharged from a cooling water system to maintain efficient operation of the system.

"Cooling water" means water which is used to cool fluids or equipment in commercial or industrial processes or air conditioning systems.

"Cooling water system" means the pipes, heat exchangers and other appurtenances used to convey cooling water in cooling towers, direct contact cooling systems and similar fixed cooling systems. Multiple units of a cooling water system serving a building or piece of

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equipment are considered as one system if the cooling water distribution system units are physically connected.

"Contaminated groundwater" means water found beneath the earth's surface which does not meet State or Federal standards for drinking water supplies or other specified beneficial uses.

"Contaminated water" means water that does not meet State or Federal standards for discharge to navigable waters.

"County" shall mean the County of Santa Clara.

"Cycles of concentration" means the flow rate of water added to a cooling tower water system divided by the flow rate of water discharged from the cooling tower.

"Discharge" means the introduction of any pollutant or of any industrial, commercial or domestic waste into the sanitary sewer system or storm drain system.

"Discharger" means any person or entity who has the potential to or who discharges, causes, or permits the discharge of any pollutant or of any industrial, commercial or domestic waste into the sanitary sewer system or storm drain system.

"Domestic waste" means the liquid and waterborne wastes derived from the ordinary living processes, free from industrial wastes and of such character as to permit satisfactory disposal, without special treatment, into the sewer system.

"Enforcement Response Plan" or "ERP" means the document describing the guidelines for identifying violations of and enforcing specific local limits; Pretreatment Standards and requirements; and the requirements of this Chapter.

"EPA" means the United States Environmental Protection Agency.

"Exceptional waste" means that subset of industrial waste specified in Section 16.09.080(c)(2) of this Chapter.

"Fail-safe valve" means a gravity, spring loaded or electrically driven valve that is normally closed. The valve can be opened by continuously applying pressure or depressing a switch mechanism that automatically closes the valve when not in use or depressed.

"Grease" means, and includes, fats, oils, waxes or other related constituents. Grease may be of vegetable or animal origin, including butter, lard, margarine, vegetable fats and oils, and fats in meats, cereals, seeds, nuts and certain fruits. Grease may also be of mineral origin, including kerosene, lubricating oil, and road oil. Grease in the sanitary sewer system is generally present as, but need not be, a floatable solid, a liquid, a colloid, an emulsion, or in a solution.

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"Hazardous material" means any material so designated by Title 17 of this code.

"Hazardous waste" means a material designated as a hazardous waste by either State or Federal regulations.

"Industrial waste" means the waste or wastewater from any production, manufacturing or processing operation of whatever nature including institutional and commercial. "Industrial waste" shall not include domestic waste. "Industrial waste" shall include contaminated water from construction operations, contaminated water from erosion of disturbed land, and contaminated water from irrigation runoff.

"Interference" means a discharge that, alone or in conjunction with a discharge or discharges from other sources, inhibits or disrupts the Plant, its treatment processes or operations, or its sludge processes, use or disposal, or exceeds the design capacity of the sanitary sewer system.

"Loading dock" means that area of a facility intended for the loading and unloading of trucks, plus an additional radius of ten feet.

"Machine shop" means a fixed facility which cuts, grinds, polishes, deburrs, or machines metal parts but does not conduct metal finishing as that term is defined by the EPA in 40 CFR part 433.

"Metal fabrication facility" means a fixed facility that forms, welds and assembles metal pieces, but does not conduct metal finishing as that term is defined by the EPA in 40 CFR part 433.

"New source" means a new or modified building, structure, facility or installation as defined in EPA 40 CFR part 403.3(m) from which there is or may be a discharge subject to proposed or existing Pretreatment Standards.

"Oil-water separator" means a receptacle designed and constructed to intercept, separate, and prevent the passage of oils and sediments into the sanitary sewer system.

"Once-through cooling system" means a cooling system through which water passes through only once before discharge to a drain, including laboratory bench top cooling systems.

"Organic solvent" means any solvent which contains carbon in its molecular structure.

"Pass-through" means a discharge that exits the Plant into a water of the United States in quantities or concentrations that, alone or in conjunction with a discharge or discharges from

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other sources, is a cause of a violation of any requirement of the Plant's NPDES permit (including an increase in the magnitude or duration of a violation).

"Person" means any individual, partnership, firm, association, corporation, or public agency.

"Plant" means the Palo Alto Regional Water Quality Control Plant.

"Point of discharge" means the point or points designated as such in the permit. Where no designation is made it shall mean the point where the private sewer joins a public sewer.

"Pretreatment Standards" means prohibited discharge standards, categorical Pretreatment Standards and local limits.

"Pretreatment requirement" means any substantive or procedural requirement related to pretreatment imposed on a discharger, other than a Pretreatment Standard.

"Pretreatment system" means a treatment system at an industrial or commercial facility that is designed to reduce the amount of pollutants, eliminate pollutants, or alter the nature of the pollutant properties in the waste water prior to discharge to the sanitary sewer system.

"Root control chemicals" means any chemical introduced into pipes in order to inhibit or kill roots in the pipe.

"Sampling location" means an access box, valve, spigot or similar structure from which samples representative of an industrial wastewater discharge from a particular process or processes, piece of equipment, activity, building, or facility are collected.

"Sanitary sewage" or "sewage" means water-carried wastes from residences, business buildings, institutions, and industrial establishments, excluding ground, surface and storm waters, subsurface drainage and also excluding industrial waste.

"Sanitary Sewer Overflow" or "SSO" means any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from the sanitary sewer system. SSOs include:

(a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

(b) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

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(c) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the sanitary sewer system.

"Secondary containment" means and shall have the meaning specified by the Hazardous Materials Storage ordinance (Title 17, Palo Alto Municipal Code).

"Seepage pit" means a device comprised of one or more pits extending into porous strata, lined with open-jointed masonry or similar walls, capped and provided with a means of access such as a manhole cover and into which wastewater disposal system effluent is discharged.

"Sewage treatment plant" means any arrangement of devices and structures used for treating sanitary sewage.

"Sewer" means a pipe or conduit for carrying sewage.

"Sewer system" or "sanitary sewer system" means the collection system, all sewers, treatment plants and other facilities owned or operated by the City of Palo Alto for carrying, collecting, storing, treating, reclaiming and disposing of sanitary sewage and industrial wastes.

"Significant Industrial User" (SIU) means, except as provided in (c) and (d):

- (a) A discharger subject to categorical Pretreatment Standards; or
- (b) A discharger that:

- (1) Discharges an average of twenty-five thousand (25,000) gpd or more of process wastewater to the sanitary sewer system (excluding sanitary, noncontact cooling and boiler blowdown wastewater);

- (2) Contributes a process waste stream which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the sanitary sewer system; or

- (3) Is designated as such by the Superintendent on the basis that it has a reasonable potential for adversely affecting the sanitary sewer system's operation or for violating any Pretreatment Standard or Requirement.

(c) The Superintendent may determine that a discharger subject to categorical Pretreatment Standards is a Non-Significant Categorical Industrial User (Non-SCIU) rather than a Significant Industrial User on a finding that the discharger never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:

- (1) The discharger, prior to Superintendent's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;

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(2) The discharger annually submits the certification statement required in 16.09.135(a)(3), together with any additional information necessary to support the certification statement; and

(3) The discharger never discharges any untreated concentrated wastewater.

(d) Upon a finding that a discharger meeting the criteria in Subsection (b) of this part has no reasonable potential for adversely affecting the sanitary sewer system's operation or for violating any Pretreatment Standard or Requirement, the Superintendent may at any time, on its own initiative or in response to a petition received from a discharger, determine that such discharger should not be considered a Significant Industrial User.

"Significant noncompliance" means a violation or series of violations by a discharger of one or more criteria set forth in 40 CFR 403.8(f)(2)(viii).

"Simple payback period" means the number of years required to allow the dollar value of an investment in water pollution control to be exceeded by cost savings resulting from the investment.

"Single Toxic Organic" or "STO" shall mean the highest quantifiable value for any individual toxic organic compound.

"Slug discharge" means any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge of wastewater, material or waste of high volume or pollutant concentration which violates any of the specific prohibitions listed in 40 CFR 403.5(b) or Sections 16.09.045 or 16.09.050 of this code or that has a reasonable potential to cause Interference or Pass-Through or in any other way violate the Plant's regulations, Local Limits, or Sanitary Sewer System requirements or NPDES Permit conditions. .

"Storm drains" or "storm drain system" means the system of pipes, gutters, surface conveyance and channels used to collect and convey storm water.

"Superintendent" means the manager of the Palo Alto Regional Water Quality Control Plant, his or her designee or such other person as may be designated by the city manager.

"Total Toxic Organics" or "TTO" shall mean the sum of all quantifiable toxic organic compound concentrations greater than 0.010 mg/liter.

"Toxic organic compound" shall mean any organic pollutant contained in 40 CFR Part 433.11(e).

"Unpolluted water" means water to which no constituent has been added, either intentionally or accidentally, that would render such water unacceptable for disposal to the storm drain system or natural drainage or directly to surface waters.

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"Wastewater" the liquid and water-carried wastes generated by a domestic, commercial and or industrial facility, whether treated or untreated, discharged into or permitted to enter the sewer system.

"Wet sanding" means the use of water and sandpaper for the removal of paint.

16.09.015 Responsibility of the superintendent.

The Superintendent shall be responsible for the administration and enforcement of the provisions of this Chapter, for conducting an industrial waste source control program, and for promulgating such orders, rules and requirements as are necessary to accomplish the purpose of this article in accordance with the requirements that are or may be promulgated by the Environmental Protection Agency, the state of California Water Resources Control Board, the State Department of Health Services, the California Regional Water Quality Control Board for the San Francisco Bay Region or other duly authorized boards or agencies.

16.09.020 Confidentiality.

(a) Any information submitted to the Superintendent pursuant to this Chapter may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. Information submitted prior to the inclusion of this section in the Chapter may be withdrawn and replaced by submittals stamped "confidential business information." If no such claim is made at the time of submission the information may be made available to the public without further notice.

Upon receipt of a request for the release of information to the public which includes information which the discharger has notified the Superintendent is claimed to be a trade secret or sensitive as provided herein, the Superintendent shall notify the discharger in writing of the request by certified mail, return receipt requested. The Superintendent shall release the information to the public, but not earlier than thirty days after the date of mailing the notice of the request for information, unless, prior to the expiration of the thirty-day period, the discharger files an action in an appropriate court for a declaratory judgment that the information is subject to protection under the laws of the state of California or for an injunction prohibiting disclosure of the information to the public and promptly notifies the Superintendent of that action. This section does not permit a discharger to refuse to disclose the information required pursuant to this Chapter to the Superintendent.

(b) Information and data provided to the Superintendent pursuant to this section which constitutes effluent or flow data, as defined at 40 CFR 2.302, shall be available to the public without restriction.

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(c) A discharger may be prohibited from discharging a substance unless its composition is made known to the Superintendent.

16.09.025 Alternate materials and methods.

(a) Practical Difficulties. The Superintendent is authorized to modify any of the provisions of this Chapter upon application in writing by the owner, a lessee or an authorized representative where there are practical difficulties in the way of carrying out the provisions of this Chapter, provided that the purpose of this Chapter, as set forth in Section 16.09.005, shall be complied with, and substantial justice done. The particulars of such modification and the decision of the Superintendent shall be entered upon the records of the plant and a signed copy shall be furnished to the applicant.

(b) Alternate Materials. The Superintendent, upon application in writing by the owner, a lessee or an authorized representative, and on notice to the chief building official, is authorized to approve alternate materials or methods, provided that the Superintendent finds that the proposed design, use or operation satisfactorily complies with the intent of this Chapter and that the material, method of work performed or operation is, for the purpose intended, at least equivalent to that prescribed in this Chapter in quality and effectiveness in meeting the purposes of this Chapter. Approvals under the authority herein contained shall be subject to the approval of the chief building official whenever the alternate material or method involves matters regulated by any code administered by the chief building official. The particulars of any approval made by the Superintendent under this subsection shall be entered upon the records of the plant and a signed copy shall be furnished to the applicant.

16.09.030 Limitations on point of discharge.

No person shall discharge any substances directly into a manhole or other opening in a city sewer or storm drain system, other than through an approved building sewer, or other location approved by the Superintendent.

16.09.035 Prohibitions.

Wastes discharged into the sewer system shall not have characteristics which by themselves or by interaction with other wastes may:

- (a) Endanger the health and safety of the public or city personnel;
- (b) Cause corrosion or other damage to the sewer system;
- (c) Create nuisance such as odors or coloration;

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- (d) Result in extra cost of collection, treatment, or disposal;
- (e) Interfere with, inhibit or disrupt any wastewater treatment process of the plant, its treatment processes, sludge processes, or operations in such manner to cause violations of the plant's NPDES permit, or any regulatory requirement, or result in the use of sludge in noncompliance with any applicable requirements. This shall include instances due to flow rate and/or pollutant concentration, including oxygen-demanding pollutants (BOD, etc.) and applies to increases in magnitude or duration of violation by the plant;
- (f) Pass through or exit the plant into waters of the United States in quantities or concentrations which contribute to a violation of any regulatory requirement applicable to the plant. This shall include increases in magnitude or duration of any violation or period of noncompliance;
- (g) Cause the temperature of the influent flow to the plant to exceed 40°C (104°F);
- (h) Prevent, hinder, delay, or impede compliance with effluent quality requirements established by regulatory agencies, or exceed the same;
- (i) Cause wastewater quality to fall outside reclamation feasibility limits.
- (j) Obstruct flows within the sewer system or otherwise cause or contribute to sanitary sewer overflows.

16.09.040 Standards.

- (a) The following standards shall apply to all discharges to the sewer at a designated sampling location determined by the Superintendent to be consistent with the dilution prohibition contained in Section 16.09.115.
- (b) Maximum allowable limitations at the point of sampling shall be specified in each discharge permit, based on flow and waste stream information supplied in the discharger's permit application, applicable National Pretreatment Standards for process wastewaters, and other pertinent information. Maximum allowable limitations may be expressed both in terms of total mass discharged and maximum allowable limits.
- (c) The National Pretreatment Standards set forth in 40 CFR Chapter I, Subchapter N, Parts 405-471 shall apply to all applicable sources. The definitions and procedures for establishing individual effluent limitations shall be as specified therein. Nothing in this Chapter shall be construed as allowing less stringent limitations.
- (d) Local limitations, in addition to those specified in this section, shall be developed by the Superintendent based upon the prohibitions contained in Section 16.09.035. These

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limitations will be imposed on appropriate dischargers via industrial waste discharge permits or modifications to existing permits.

(e) In addition to the requirements of (c) and (d) above, the following requirements shall apply where they are more stringent:

Parameter	Maximum Limits* mg/liter
Dissolved sulfides	0.10
Fluoride	65
Mercaptans	0.10
Oil & grease**	20
Oil & grease (total)	200

* Apply to both instantaneous and composite samples

** Gravity separation at a temperature of 20°C. and a pH of 4.5.

Parameter	Minimum limit	Maximum Limit
pH*	5.0	11.0

*no units

Parameter	Maximum Limits* mg/liter	Maximum Limits** mg/liter
Suspended solids	3000	6000
Total dissolved solids	5000	10000

* Apply to instantaneous samples only

** Apply to composite samples only

(f) Dyes. Wastes showing excessive coloration shall not be discharged into the sewer system. Excessive coloration shall be defined as any coloration in a waste which, for any wave length, displays less than sixty percent of the light transmissibility of distilled water under the following conditions:

- (1) After filtration through a 0.45 micron membrane filter;
- (2) In the pH range of 5.5 to 11.0;
- (3) Through a one centimeter light path;
- (4) A maximum spectrum band width of 10 nanometers;
- (5) Through the wave length range from 400 to 800 nanometers.

(g) Oil and/or grease shall not be discharged into the sewer system if the average concentration of floatable oil and/or grease (defined as that which is subject to gravity separation at a temperature of 20° C. and at a pH of 4.5) exceeds twenty mg/liter; nor shall the total oil and/or grease concentration exceed two hundred mg/liter. In addition, the discharge of petroleum oil, non-biodegradable cutting oil, or products of mineral origin in amounts that cause interference or pass-through shall be prohibited.

(h) Hazardous, Noxious or Malodorous Substances. No industrial waste shall be discharged which alone or in combination with other wastes may create a public nuisance or

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hazard, make human entry into the sewers unsafe, or which constitutes a discharge of hazardous waste.

(i) Permitted dischargers shall be required to certify at least every six months in their Periodic Report of Continued Compliance (PRCC) that their discharged waste does not constitute a hazardous waste and that during the previous six months no discharge of hazardous waste has occurred. Dischargers shall be required (as a condition to permission to discharge) to file with the Palo Alto fire department a current hazardous materials business plan (HMBP) pursuant to Title 17 of this code and to have on site copies of material safety data sheets for all hazardous materials stored, generated, or used at the discharger's site. Should any discharge of a hazardous waste occur, the discharger shall immediately verbally notify the Superintendent and shall also verbally notify the EPA and the Regional Water Quality Control Board as soon as possible, but in no event later than twenty-four hours after such discharge. The discharger shall also notify the Superintendent, EPA and the Regional Water Quality Control Board in writing no longer than 21 days after such discharge.

(j) Records of hazardous waste disposal manifests, inventories of stored virgin and used hazardous materials, and other documentation required by the HMBP shall be maintained and made available for inspection as described in 16.09.160.

(k) Explosives. No solids, liquids, or gases which by themselves or by interaction with other substances may create fire or explosion hazards, including waste streams with a closed cup flashpoint of less than 140°F. (60°C) shall be discharged to the sewer system. Flammable substances including, but not limited to, acetone, alcohols, benzene, gasoline, xylene, hexane and naphtha, shall not be discharged into the sanitary sewer system except where present in contaminated groundwater discharges being discharged under an exceptional waste permit issued by the Superintendent. Where groundwater discharges contain such contaminants, the discharger shall monitor the sewer atmosphere for explosivity and flammability using a properly calibrated meter designed for this purpose. The frequency of such monitoring shall be defined in the permit. Whenever ten percent of the lower explosive level is exceeded, the discharger shall immediately notify the Superintendent of the potential hazard in the sewer once the determination of threatened explosivity has been made. The discharger shall follow verbal notification within five days with a written explanation of the cause of the explosive hazard, corrective actions taken to alleviate the situation, and measures taken to prevent reoccurrence. The discharger shall not recommence discharge without prior written approval of the Superintendent. Where flammable substances are used in processes, separate collection and disposal outside the sanitary sewer system shall be provided.

(l) Organic Solvents. Except as permitted by other sections of this Chapter, the sewer shall not be used as a means of disposal for organic solvents. Wastewater discharged to the sanitary sewer system shall not contain a sum total greater than 1000 mg/liter of acetone, ethanol, methanol, or isopropyl alcohol, in any combination. Dischargers having organic solvents on site or using same shall provide and use a separate collection and disposal system outside the sewer system and shall provide safeguards against their accidental discharge to the sewer. An

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approved toxic organic management plan (TOMP) that includes control measures to prevent entry of toxic organics and other solvents into the sanitary sewer system shall be filed by the discharger as a condition of permission to discharge to the sanitary sewer. The TOMP shall be updated whenever any significant change in the inventory, usage, or management of toxic organic compounds occurs. The updated TOMP shall be submitted to the City for approval within (30) days. Records documenting appropriate disposal and handling of organic solvents shall be maintained and made available for inspection as described in 16.09.160.

Organic solvents shall include, but shall not be limited to those used in dry cleaning establishments, and shall also include separator water generated by dry cleaning equipment. Neither the organic solvent nor the separator water may lawfully be discharged to the sewer or storm drain system.

(m) Toxic Organics. The prohibition against disposal of organic solvents contained in 16.09.040(l) may be replaced by a specific limitation on Single Toxic Organics (STO) and Total Toxic Organics (TTO). Any such limitation must be contained in an industrial waste permit.

The maximum allowable limit for TTO shall be 1.0 mg/liter. The maximum allowable limit for STO shall be 0.75 mg/liter.

Additionally, dischargers subject to a National Pretreatment Standard shall comply with any toxic organics standard defined by the applicable National Pretreatment Standards.

The maximum allowable limit for phenols shall be 1.0 mg/liter.

(n) Radioactivity. The discharge of radioactive wastes or isotopes into the sewer system is prohibited except when in conformance with all applicable state and federal regulations.

(o) Solids or Viscous Substances. No material shall be discharged to the sanitary sewer system that will obstruct or damage the sanitary sewer system. Specific prohibitions are as follows:

(1) Inert Solids. The discharge of inert solids including, but not limited to sand, glass, metal chips, bone, plastics, etc., into the sanitary sewer system is prohibited. Settling chambers or treatment works shall be installed where necessary to prevent the entry of inert solids into the sanitary sewer system.

(2) Solid Particles. Industrial wastes shall not contain particulate matter that will not pass through a one-half-inch screen; this subsection shall not apply to domestic sewage from industrial establishments.

(p) Stored Liquid Wastes. Liquid aqueous-based wastes that have been collected and held in tanks or containers shall not be discharged into the sanitary sewer system except at

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locations authorized by the Superintendent to collect such wastes. Wastes of this category include but are not limited to:

- (1) Chemical toilet wastes;
- (2) Pleasure boat wastes;
- (3) Septic tank pumping;
- (4) Trailer, camper, house car, or other recreational vehicle wastes;
- (5) Industrial wastes collected in containers or tanks.

(q) Toxicity. The following is a nonexclusive list of toxic substances and the maximum allowable limit for each discharge:

Maximum Allowable Limits	
Toxicant	mg/liter
Arsenic	0.10
Barium	5.0
Beryllium	0.75
Boron	1.0
Cadmium	0.10
Chromium, Hexavalent	1.0
Chromium total	2.0
Cobalt	1.0
Copper	0.25
Cyanide	0.50
Formaldehyde	5.0
Lead	0.50
Manganese	1.0
Mercury	0.010
Methyl Tertiary Butyl Ether (MTBE)	0.75
Nickel	0.50
Phenols	1.0
Selenium	1.0
Silver	0.25
Zinc	2.0

All limits for metallic substances are for total metal unless indicated otherwise.

For discharges with annual average flows greater than fifty thousand gallons per day through any single sampling location, the maximum allowable limits shall be one-half the values listed in the table, with the exception of copper, mercury, MTBE, nickel, and silver, for which the limits shall remain 0.25 mg/liter, 0.010 mg/liter, 0.75 mg/liter, 0.50 mg/liter, and 0.25 mg/liter, respectively, regardless of flow.

The maximum allowable limit for mercury set forth in this section shall not be applicable to dental facilities using mercury-containing amalgam. Dental facility requirements are set forth in Section 16.09.220.

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The maximum allowable limit for silver set forth in this section shall not be applicable to photographic materials processing. Silver limitations for photoprocessors are set forth in Section 16.09.215.

The maximum allowable limit for zinc set forth in this section shall not be applicable to vehicle service facilities. Zinc limitations for vehicle service facilities are set forth in Section 16.09.225.

The maximum allowable limit for copper set forth in this section shall apply to all discharges except where maximum allowable limitations are specified in Section 16.09.045.

16.09.045 Additional copper limitations for industrial waste.

(a) Industrial waste discharges to the sanitary sewer system are subject to the copper limitations contained in Section 16.09.040(q) except for industrial waste from the following facilities, including facilities that are components of larger facilities, which are subject to specific limitations set forth in other provisions of this Chapter.

- (1) Cooling systems, pools, spas, fountains, boilers and heat exchangers as specified in Section 16.09.205;
- (2) Photo processing facilities as specified in Section 16.09.215;
- (3) Dental facilities as specified in Section 16.09.220 and;
- (4) Vehicle service facilities as specified in Section 16.09.225;
- (5) Machine shops as specified in Section 16.09.230 and;
- (5) Non-process, non-domestic waste as specified in Section 16.09.045(c).

(b) Industrial waste discharges to the sewer from metal finishing facilities, as defined by the EPA in 40 CFR part 413 and part 433, shall meet either subdivision (1) or (2) of this subsection. These requirements shall apply to process wastes containing copper or nickel prior to dilution by non-metal finishing process wastes, domestic waste, and cooling water.

(1) The annual average copper limit for any twelve month period shall not exceed 0.40 mg/liter. In addition, all reasonable control measures specified in accordance with standards published by the Superintendent shall be installed and implemented; or

(2) The annual average mass of copper shall not exceed an amount specified by the Superintendent in the industrial waste discharge permit, which is based upon a pollution prevention review conducted or approved by the Superintendent. The limitation shall be based upon those control measures having a simple payback period of five years or less. The annual average mass per day shall be a "rolling" measurement, calculated by multiplying the flow-weighted average copper concentration for all samples taken during any twelve month period by the total flow for that twelve month period. The annual average mass per day limit may be increased by the Superintendent in proportion to increases in production at the discharger's facility to the extent that such production increases are within the growth allocation specified in

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the document prepared by Montgomery Watson, and published by the City of Palo Alto, entitled "City of Palo Alto-Local Limits Development - Proposed Local Limits - April, 1994."

(c) The maximum allowable limit for discharge of copper from non-process, non-domestic waste discharges to the sanitary sewer other than those covered by subsections (a) or (b) shall be 2.0 mg/liter. These waste discharge sources shall be designated by the Superintendent upon request and typically consist of infrequent, low volume, or exceptional wastes that are generated during maintenance, repair and cleaning activities.

16.09.050 Grease disposal prohibited.

No person shall dispose of any grease, or cause any grease to be disposed, by discharge into any drainage piping, by discharge into any public or private sanitary sewer, by discharge into any storm drainage system, or by discharge to any land, street, public way, river, stream or other waterway

16.09.055 Unpolluted water.

(a) Unpolluted water shall not be discharged through direct or indirect connection to the sanitary sewer system unless a permit is issued by the City. As used in this section, unpolluted water shall include storm water from roofs, yards, foundation or under-drainage, which meets all state and federal requirements for discharge to surface waters of the United States. The Superintendent may approve the discharge of such water to the sewer system only when no reasonable alternative method of disposal is available. If a permit is granted for the discharge of such water into the sewer system, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the Superintendent.

(b) Non-emergency once-through cooling water from systems using potable water as a coolant shall not be discharged to the sanitary sewer system; provided that the Superintendent may approve an exception in the following instances:

(1) For once-through cooling water used for bench top reflux or distillation or other similarly sized activity; or

(2) For short term use only, upon the determination that the use is for a research activity for which another source of cooling is not easily available.

16.09.060 Standards for other industrial wastes.

The Superintendent may establish standards for any industrial wastes not specifically referred to in this Chapter. These standards shall be published and shall be made available to any person requesting a copy of the standards.

16.09.065 Best Management Practices (BMPs).

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The Superintendent may require the implementation of BMPs. The Superintendent may require submission of information to evaluate the implementation and effectiveness of BMPs.

16.09.070 Trucker's discharge permit.

(a) All persons operating vacuum or pump trucks or other liquid waste transport trucks desiring to collect or discharge septic tank, seepage pit, chemical toilet, cesspool contents, or other similar liquid wastes shall be permitted by the County and meet the requirements in Santa Clara County Code, Title B Regulations, Chapter X. All such trucks discharging to the City sanitary sewer system shall first acquire a trucker's discharge permit from the City. Discharges in the City sanitary sewer system shall be only at the locations specified by the Superintendent.

(c) Truck transported industrial wastes discharged to the City sanitary sewer system shall be only at the locations specified by the Superintendent for the specific waste. The City shall require payment for treatment and disposal costs or may refuse permission to discharge certain prohibited wastes in accordance with City of Palo Alto's utilities rules and requirements. Denial, suspension, or revocation of such permit shall be in accordance with Sections 16.09.095 and 16.09.100 of this Chapter.

(d) Trucks transporting waste shall not combine loads from the different waste types described in (a), (b) or (c).

(e) Records of all wastes collected or disposed pursuant to this section shall be maintained and made available for inspection as described in Section 16.09.160.

16.09.075 Food service establishments.

(a) Definitions

"Black Grease" means any contents within or removed from a grease control device, generally consisting of brown grease combined with wastewater from toilet plumbing associated with the sanitary sewer.

"Brown Grease" means any contents within or removed from a grease control device, generally FOG combined with non-restroom FSE wastewater.

"Fats, Oils and Grease (FOG)" means any substance such as a vegetable or animal product that is used in, or is a by product of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.

"Food Service Establishment (FSE)" means a facility defined in California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785, and any commercial entity within the boundaries of the City, operating in a permanently constructed structure such as a

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room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in CURFFL Section 113785.

"Grease Control Device (GCD)" means a grease interceptor, grease trap or other grease removal device designed, constructed and intended to remove, hold or otherwise prevent the passage of FOG to the sanitary sewer.

"Grease Waste Hauler Service Contract" means a contractual agreement between the City and a City selected and managed GCD service provider to be used by FSEs.

"Lateral" means the drainage piping and appurtenances that constitute the building's connection to the City's sanitary sewer system.

"Tallow Receptacle" means a tallow bin or equivalent waste oil/grease receptacle.

"Twenty-five Percent (25%) Rule" means the requirement for grease control devices to be maintained such that the combined FOG and solids accumulation does not exceed 25% of the design hydraulic depth in any location of the grease control device. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG.

"Waste Hauler" means any person permitted with the County of Santa Clara and meeting County of Santa Clara Code, Title B Regulations and carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.

"Yellow Grease or Tallow" means any waste FOG material generally generated as a byproduct from cooking.

(b) Prohibitions. The following prohibitions shall apply to all FSEs:

(1) No person shall dispose of any FOG, or cause any FOG to be disposed, by discharge into any drainage piping, public or private sanitary sewer, storm drain system, or onto any land, street, public way, river, stream or other waterway.

(A) Discharge of any GCD contents or materials released during sewer pipe or lateral cleaning is prohibited.

(B) Disposal of waste cooking oil into drainage pipes is prohibited.

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- (c) FSE staff shall not remove the contents of GCDs. The contents of GCDs shall only be removed by permitted waste haulers.
- (d) No FSE shall install, have installed, or use a food waste disposer (grinder).
- (e) No FSE shall connect any high temperature discharge lines or drainage fixtures that are not a source of FOG to a GCD. Such shall include, but not be limited to, the following:
 - (1) Dishwashers;
 - (2) Steamers;
 - (3) Pasta cookers;
 - (4) Hot discharge lines from buffet counters and kitchens;
 - (5) Hand washing sinks;
 - (6) Ice machine drip lines;
 - (7) Soda machine drip lines;
 - (8) Discharge lines in bar areas.
- (f) No FSE shall operate a GCD where FOG and solids accumulation exceed 25% of the design hydraulic depth of the GCD (25% rule).
- (g) No FSE shall introduce any additives into GCDs and/or FSE wastewater systems to biologically/chemically treat FOG, for FOG remediation, to emulsify FOG, or as a supplement to GCD maintenance, unless the Superintendent grants prior written consent. Biological or chemical treatment of FOG includes, but is not limited to, systems or additives, such as solvents or enzymes that dissolve or mobilize FOG.
- (h) No FSE shall discharge wastes from toilets, urinals, ash basins, and other fixtures containing sanitary sewage materials to sewer lines draining to a GCD.
- (i) No FSE shall allow soap or soapy water to flow to the storm drain system.
- (j) No FSE shall allow wastewater generated from cleaning of equipment or outside surfaces containing FOG or food residue to flow to the storm drain system.
- (k) Best Management Practices (BMPs). FSEs shall implement BMPs to prevent

FOG discharge to the sanitary sewer and to prevent non-storm water discharges to the storm drain system. All FSEs shall implement and incorporate BMPs into their operations in accordance with the Superintendent's guidelines, requirements and directives. The Superintendent may require submission of information to evaluate the implementation of BMPs. At a minimum the following BMPs shall be implemented by FSE's:

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(1) Dishwashing. FSE's shall remove food from preparation and service items prior to washing. Food waste shall not be disposed in sinks or drains. The FSE shall dispose of all food waste directly into the trash or food scrap container by physically removing the food waste with scrapers, towels, paper towels, rubber spatulas, or other effective methods prior to using water to rinse off plates, dishes, pots, pans, containers, utensils, etc.

(2) Equipment Cleaning.

(A) Drain Screens. Screens shall be installed in all sinks, drains, floor drains, floor sinks, dishwashers, etc. The screens shall be frequently inspected and cleaned by disposing waste into the trash or food scrap container to prevent FOG and food buildup.

(B) Cleaning Wastewater. Wastewater generated from cleaning FOG contaminated items such as large kitchen equipment, floor mats, floors, exhaust hoods and filters, grills, trash, recycling, and food scrap containers, and tallow receptacles; or from any washing of items such as plates, dishes, pots, pans, containers or utensils that occurs other than in an automatic dishwasher shall not be discharged to the sanitary sewer unless it flows through a GCD.

(C) Exhaust hood and vent grease collection devices. All such collection devices, including but not limited to grease cups on roofs, in hoods and removable filters, shall be properly maintained at a frequency sufficient to prevent spills and overflows. Collected waste oil/grease shall be disposed of in a tallow receptacle.

(3) Storm water pollution prevention.

(A) Routinely inspect and dry sweep as necessary outside areas such as walkways, dining areas and waste storage areas to prevent storm water pollution.

(B) Routinely inspect waste collection containers to verify that covers are in place and that container and surrounding areas are clean and free of FOG and food residue, debris and leaks. Such containers include, but are not limited to, trash, recycle, food scrap and tallow receptacles. If FOG or food residue, debris, or leaks are found the FSE shall immediately take action to correct the noncompliance. This may include, placing cover(s) on containers and receptacles, cleaning up FOG or food residues or spills in the surrounding areas or contacting the appropriate vendor for container or receptacle repair/replacement.

(C) If any outdoor surfaces with FOG or food residue require cleaning, first sweep or physically remove excess residue, next use a mop and bucket, then discharge waste mop water through a GCD.

(D) Any wastewater generated from outdoor cleaning of equipment and outdoor surfaces with FOG or food residue shall be captured and disposed of into the sanitary sewer. If the wastewater contains FOG, it shall be disposed through a GCD prior to release to the sanitary sewer system.

(4) FOG Transporting. FSEs shall properly dispose of waste oil and grease into a tallow receptacle. Waste FOG shall be transported in a covered container. Appropriate

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measures shall be taken to prevent spills. Any spills shall be immediately cleaned using methods described in this Section.

(5) **Cleaning with Dry Methods.** Dry cleaning methods shall be used inside and outside to clean up FOG spills. Pick up liquids or FOG with rags or absorbent material. Sweep up absorbent material and dispose of it in the trash. Regularly use dry methods to clean near fryers and other locations where FOG may spill or drip. Clean up all FOG spills prior to mopping.

(6) **Drain Fixture Identification.** All non-restroom drainage fixtures shall be labeled with their discharge location. Fixtures draining to GCDs shall be clearly labeled "drains to grease control device" or equivalent. Fixtures draining to the sanitary sewer that do not drain through a GCD shall be labeled "drains to sanitary sewer" or equivalent. A list of all non-restroom drainage fixtures and their discharge locations shall be maintained onsite.

(l) **Training.**

(1) All FSEs shall take necessary steps to inform appropriate personnel employed by such FSEs of the provisions of this Section.

(2) Such personnel shall include workers and supervisors whose duties pertain in any manner to the production, treatment or disposal of waste discharges regulated by this Section.

(3) Steps to inform such personnel shall include but not be limited to:

(A) Orientation of newly employed or assigned personnel;

(B) Quarterly training of all appropriate personnel;

(C) Posting of signs or posters in work areas indicating BMPs.

(4) All training/orientation shall be documented and employee signatures retained indicating each employee's attendance and understanding of the regulations reviewed. These records shall be maintained and made available for inspection as described in Section 16.09.160.

(m) **FOG Pretreatment Required.** FSEs shall install, operate and maintain an approved type and adequately sized GCD sufficient to maintain compliance with the objectives of this Section. The GCD shall be adequate to separate and remove FOG contained in wastewater from the FSE prior to discharge into the sanitary sewer system. Fixtures, equipment, and drain lines located in food preparation and cleanup areas of FSEs that are sources of FOG shall be connected to GCDs. Compliance shall be established as follows:

(1) **GCD Requirements.**

(A) GCD shall be sized equal to or greater than the minimum size set forth in the following table based on the number of Drain Fixture Units (DFU) draining to the GCD.

Sizing Criteria:

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Grease Control Device (GCD) Sizing

<u>DFUs</u>	<u>GCD Volume (gallons)</u>
8	500
21	750
35	1,000
90	1,250
172	1,500
216	2,000

Drain Fixture DFU Number

Pre-Rinse Sink	4
3 Compartment Sink	3
2 Compartment Sink	3
Mop Basin	3
Prep Sink	3
Floor Drain	2
Floor Sink	2

(B) GCDs smaller than 500 gallons may be allowed with written approval by the Superintendent, provided that the proposed design satisfactorily complies with the intent of this Chapter.

(C) All in-ground GCDs greater than 750 gallons shall have a minimum of three manholes to allow visibility over inlet piping, baffle (divider) piping and outlet piping, and to ensure accessibility for inspection, cleaning and removal of all contents. The Superintendent may permit deviance from this requirement in writing prior to GCD installation, provided that the proposed design satisfactorily complies with the intent of this Chapter.

(D) FSEs shall install GCDs in a suitable location to allow easy access for inspection, cleaning and maintenance.

(E) Sample boxes shall be installed downstream of all gravity grease interceptors as defined in the 2007 California Plumbing Code.

(F) Laterals installed between a FSE and GCD, and GCD and the sanitary sewer system sewer main shall include installation of two way (double) clean outs to allow access points for sewer line maintenance and inspection.

(2) GCD Connections

(A) All drainage fixtures where FOG may be discharged shall drain to a GCD. Such fixtures include, but are not limited to:

- (i) Pre-rinse (scullery) sinks;
- (ii) Three compartment sinks (pot sinks);
- (iii) Drainage fixtures in dishwashing room except for dishwashers;

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- (iv) Trough drains (small drains prior to entering a dishwasher), small drains on busing counters adjacent to pre-rinse sinks or silverware soaking sinks;
- (v) Floor drains in dishwashing area and kitchens;
- (vi) Prep sinks;
- (vii) Mop (janitor) sinks;
- (viii) Drains in outside areas designated for equipment washing. These drains must be covered;
- (ix) Drains in trash/recycling enclosures;
- (x) Wok stoves, rotisserie ovens/broilers or other FOG generating cooking equipment with drip lines;
- (xi) Kettles and tilt/braising pans and associated floor drains/sinks;

(B) FSEs shall have a sink or other area connected to a GCD for cleaning floor mats, containers, exhaust hood filters and equipment. The sink or cleaning area shall be large enough to clean the largest mat or piece of equipment.

(n) Grease control device maintenance requirements.

(1) GCD and sewer line maintenance requirements.

(A) GCDs shall be maintained in efficient operating condition by periodic removal of the full contents of the GCD which includes wastewater, accumulated FOG, floating materials, sludge and solids.

(B) All GCDs shall be kept in good repair, functioning properly and maintained in continuous operation according to manufacturer's guidelines and the Superintendent's requirements and directives.

(C) If a FSE utilizes automatic or mechanically cleaned GCDs its staff shall perform daily cleaning and maintenance.

(D) All existing and newly installed GCDs shall be maintained in a manner consistent with a maintenance frequency approved by the Superintendent pursuant to this Section.

(E) Sewer lines to and from GCDs shall be kept in good repair and clear of any FOG accumulation.

(F) No FOG that has accumulated in a GCD shall be allowed to pass into any sewer lateral, the sanitary sewer system, storm drain system, or public right of way during maintenance activities.

(G) All FOG discharged during GCD or FSE sewer line cleaning and maintenance shall be captured. Any FSE that has their kitchen grease waste lines, GCD exit lines and or laterals cleaned by jetting or hydro-flushing shall capture the contents prior to discharge. Such contents shall be contained, removed and disposed of by a waste hauler.

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(H) All GCDs shall be completely cleaned out and left empty by a City permitted waste hauler prior to the closure of a FSE, the associated building or a change in ownership. In the event the tenant cannot be located the building owner shall assume responsibility for cleaning the GCDs.

(I) Logs shall be kept for all GCD cleaning and maintenance activities. The required records shall be maintained and made available for inspection as described in 16.09.160.

(2) GCD Maintenance Frequency.

(A) The GCD maintenance frequency shall be set so as to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG and minimize the passage of FOG to the sanitary sewer system. All GCDs shall be maintained to achieve compliance with this Section. When the cleaning frequency to comply with the 25% rule has not yet been established, unless otherwise directed by the Superintendent, the following minimum cleaning frequencies shall be implemented:

(i) Grease interceptors (gravity grease interceptors) greater than 100 gallons shall have all their contents removed at a minimum once every three months;

(ii) Grease traps (hydro-mechanical grease interceptors) shall have their contents removed at a minimum once every month;

(iii) Automatic or mechanical self cleaning GCDs shall have their contents completely removed at a minimum once every six months.

(B) The Superintendent may modify GCD maintenance frequencies at any time to reflect changes in operating conditions.

(i) The owner/operator of a FSE may at any time submit a request to the Superintendent requesting a change in the maintenance frequency. The FSE has the burden of demonstrating that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements of this Section. Upon determination by the Superintendent that the requested revision is justified, the FSE shall adjust its GCD maintenance frequency accordingly.

(C) If the GCD, at any time, contains FOG and solids accumulation that does not meet the requirements described in this Section, the FSE shall have the GCD serviced immediately such that all wastewater, FOG, solids, and other materials are completely removed from the GCD.

(3) Grease waste hauler.

(A) All grease waste haulers servicing GCDs in the City shall comply with the requirements set forth in the Palo Alto Municipal Code Section 16.09.070, Trucker's discharge permit.

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(B) If the Grease Waste Hauler Service Contract program has been implemented, FSEs shall use the Grease Waste Hauler Service Contract service provider for routine cleaning and maintenance of their onsite GCDs. Grease waste haulers not selected as service providers for the contract may not provide routine cleaning and maintenance of GCDs.

(C) If the Grease Waste Hauler Service Contract program has not been implemented, the FSE shall retain the services of a permitted grease waste hauler.

(D) Waste haulers disposing at the RWQCP shall not mix brown grease loads with different types of wastes such as septic, yellow grease, black grease, or any other waste. Each waste hauler vehicle shall be dedicated to each type of liquid waste. If a GCD is found to contain black grease, the waste hauler shall immediately notify the Superintendent. Its entire contents shall be collected and disposed of at the RWQCP, exact disposal location shall be determined by the Superintendent.

(E) Waste haulers servicing GCDs shall remove the entire contents of the GCD including all FOG, water, and solids. The sides and structures shall be scrapped or otherwise cleaned sufficiently to restore capacity and allow inspection of the device.

(F) Waste haulers servicing GCDs within the RWQCP service area shall not reinsert or discharge into a GCD, manhole, cleanout, or other sanitary sewer appurtenance any materials that the waste hauler has removed from a GCD or cause those materials to be so handled. The waste hauler shall obtain prior written approval from the Superintendent to decant when using appropriate equipment for the separation of water from the FOG waste.

(G) Waste hauler manifest shall contain at a minimum the following:

- (i) Name and address of site serviced;
- (ii) Service date and time;
- (ii) Hauler name and truck ID;
- (iv) Volume collected;
- (v) GCD observations and comments;
- (vi) Disposal site and date;
- (vii) Driver signature.

(o) Tallow Receptacles.

(1) Collection of waste cooking oil and grease.

(A) Tallow receptacles shall be in place at the location of any FSE that generates waste oil or grease. Waste oil or grease generation includes, but is not limited to, the following equipment or activities:

- (i) Fryers
- (ii) Rotisserie ovens not connected or draining to a GCD;
- (iii) Any other type of oil and grease waste created by cooking;
- (iv) Cleaning of FOG contaminated equipment;
- (v) Waste FOG from automatically or mechanically cleaned

GCDs which require FSE staff maintenance.

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(B) At the Superintendents request, the FSE shall relocate tallow receptacles to an indoor or covered location to mitigate storm water pollution.

(2) Tallow hauler.

(A) Tallow haulers servicing FSEs shall immediately clean up any spills occurring during service.

(B) Tallow receptacles delivered for service shall be free of exterior FOG.

(p) Requirements for Recordkeeping.

Records shall be maintained and made available for inspection as described in Section 16.09.160. Such records shall include, but not be limited to, the following:

(1) GCDs:

(A) Waste hauler manifests

(B) Logbook documenting all GCD maintenance and monitoring activities including FOG and solids accumulation measurements.

(2) Tallow Receptacles:

(A) Maintenance records indicating service, cleaning, repair, and/or replacement.

(B) Spill log indicating date and time of any spills and cleanups.

(3) Plumbing:

(A) Any sewer line maintenance and monitoring records including cleaning and videos of facility sewer pipes or laterals.

(B) Records of any sanitary sewer overflows, backups or spills.

(4) All training/orientation records.

(5) Any other information deemed appropriate by the Superintendent to ensure and document compliance with this Section

(q) Requirements for remodeled and newly constructed FSEs.

(1) Dischargers of FSE wastewater from newly constructed or converted commercial and industrial facilities shall be in full compliance with the provisions of this Section at the time of commencement of discharge.

(2) Buildings that house FSEs shall include a covered area for all receptacles, dumpsters, bins, barrels, carts or containers used for the collection of trash, recycling, food scraps and waste cooking FOG or tallow. The areas shall be designed to prevent water run-on to the area and runoff from the area. Drains that are installed within waste storage areas are

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optional. Any drain installed shall be connected to a GCD. If tallow receptacle(s) are to be stored outside then an adequately sized, segregated space for tallow receptacle(s) shall be included in the covered waste storage area. These requirements shall apply to remodeled or converted facilities to the extent that the portion of the facility being remodeled or converted is related to the subject of the requirement.

(r) Accidental or threatened storm drain system discharges. For all unauthorized or prohibited releases to the storm drain systems including sanitary sewer overflows and threatened discharges to the storm drain system, the responsible party shall comply with Section 16.09.165.

(s) FSE Inspection and Monitoring. All FSEs shall be subject to the regulations contained in Palo Alto Municipal Code Section 16.09.110.

16.09.080 Industrial waste discharge permit.

(a) It is unlawful for any person or organization to discharge or cause to be discharged any industrial waste whatsoever directly or indirectly into the sanitary sewer system without first obtaining a permit for industrial waste discharge pursuant to this Section. Appropriate fees for such permits are specified in a utility rate schedule of the Palo Alto utilities rates and regulations. Furthermore, it shall be unlawful for any person or organization to discharge any industrial waste in excess of the quantity or quality limitations or to violate any other requirement set forth in this Chapter or in a permit for industrial waste discharge.

(b) A discharger may submit an advance written request to discharge prohibited wastes not in conformance with this Chapter or wastes containing concentrations of substances or characteristics in excess of those permitted by this Chapter. Discharge of such wastes shall not be allowed without an exceptional waste permit duly issued.

(c) The Superintendent may authorize a discharger by permit to discharge "exceptional wastes" when the permit will neither result in a violation of any of the provisions of this Chapter nor cause any of the effects described in Section 16.09.035 of this code nor any violation of the Pretreatment Requirements. The City shall be compensated for any costs it incurs in authorizing such discharge including any expense in determining whether such discharge is compatible with the sanitary sewer system and is in compliance with the Pretreatment Requirements.

(1) Permission to discharge exceptional waste may either be given as an addendum to a current permit or by a separate permit. In the case of third parties requesting permission to discharge waste generated by another party, or the products of treating waste generated by another party, the waste generator or responsible party must submit a "designation of authorized representative" (DOAR) form to the Superintendent to authorize the third party to conduct business and sign reports on their behalf. However, certification that the waste as

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discharged does not constitute a hazardous waste and the permit and permit application must be signed by such waste generator or responsible party.

(2) Exceptional wastes are aqueous wastes that may include but are not limited to:

(A) Construction site dewatering where soil or groundwater contamination is present;

(B) Groundwater contaminated with organic solvents generated as a result of pump tests in preparation for a groundwater cleanup or water generated during sampling events;

(C) Aqueous wastes generated by either permanent or mobile hazardous waste treatment units used to treat hazardous waste at the generator's site;

(D) Or aqueous wastes generated as a result of site cleanup activities.

(3) A permit must be obtained prior to commencement of discharge, and requests for such permits shall be submitted no later than twenty working days prior to intended discharge. The letter of application shall include the name, address, phone number and title of the responsible party, on-site contact person's name, address, and twenty-four-hour contact phone number, analytical data on the contaminants and characteristics of the intended discharge, the intended point of discharge, the duration and volume, dates of intended discharge, and a site plan.

(4) A separate charge for processing such requests shall be established by the Superintendent to recover the City's costs in processing and administering such permits.

(d) The permit for any industrial waste discharge may include, but is not limited to:

(1) A specific date upon which it will expire, not to exceed five years from the effective date of the permit;

(2) Requiring installation and maintenance of pretreatment technology, pollution control, or construction of appropriate containment devices, designed to reduce, eliminate, or prevent the introduction of pollutants into the sanitary sewer system or storm drain system and compliance schedules for meeting these requirements;

(3) Effluent limitations;

(4) Self monitoring, sampling, reporting, notification and record keeping requirements;

(5) Prohibition of discharge of certain wastewater components;

(6) Installation and maintenance of inspection, sampling and flow measurement equipment and facilities;

(7) Limits on average or maximum rate of discharges;

(8) Restriction of discharge to certain hours of the day;

(9) Requiring payment of additional charges to defray increased costs to the City created by the wastewater discharge;

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(10) Implementation of BMPs or specific investigations or studies to determine methods of reducing toxic constituents in the discharge;

(11) Other conditions as may be required to meet the purpose of this Chapter.

(e) No permit for industrial waste discharge is transferable without the prior written consent of the Superintendent. A change of ownership (including a transfer of the majority of shares in a corporate discharger) of the waste generating facility requires a new permit application.

(f) Any person or organization desiring to change the quantity or quality of waste discharged to the sanitary sewer system or to discharge wastes or use facilities which are not in conformance with their industrial waste permit shall apply for and obtain an amended permit prior to any such discharge or use. An application for an amended permit must be filed sixty days in advance of the proposed commencement of such discharge or use of such facilities.

(g) Compliance with the discharger's permit does not relieve the discharger of responsibility for compliance with all applicable Federal and State Pretreatment Standards, including those which become effective during the term of the discharge permit.

16.09.085 Industrial wastes discharge permit procedure.

(a) An applicant for a permit for any industrial waste discharge shall complete and submit an application form established by the Superintendent. The Superintendent may require information in addition to that required on the application form as deemed reasonable or necessary to evaluate the application. Interested parties shall be notified of the filing of the application via posting at city hall or on the city web page.

(b) All wastewater discharge permit applications, user reports and certification statements must be signed by an authorized representative.

(c) Completed application forms shall be filed by the discharger not less than sixty days in advance of commencing discharge. The discharger shall not commence discharge prior to permit approval without specific, interim approval from the Superintendent to discharge during the permitting process.

(d) Determination of National Pretreatment Category according to the Pretreatment Requirements. Prior to approval of a discharge permit, the Superintendent shall determine whether the discharge is subject to the National Pretreatment Standards provided in the Pretreatment requirements. The determination will be made by the Superintendent following the guidelines and procedures of that subpart.

(e) The Superintendent may impose terms and conditions on the permit which the Superintendent deems reasonable or necessary to carry out the purposes of this Chapter.

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(f) The application shall be approved if:

- (1) The applicant has complied with all requirements of this Chapter and all applicable city ordinances, state and federal requirements;
- (2) The applicant has furnished all requested information;
- (3) The Superintendent determines that there are adequate devices, equipment, chemicals, and other facilities to sample, meter where desirable, convey, treat, and dispose of the industrial wastes; and
- (4) The person(s) to be responsible for treatment and control are adequately trained and capable of consistently meeting permit requirements.

(g) Interested parties shall be notified of the issuance of permits via posting at city hall or on a city web page. Interested parties and other members of the public may appeal the issuance of a permit within forty-five days of issuance and request a hearing on the matter. The hearing procedures contained in Section 16.09.100 shall be followed. The permit effective date shall not be postponed solely because of the filing of an appeal.

16.09.090 Requirements for facilities affected by National Pretreatment Standards.

In the event that an industrial waste discharge permit holder or applicant is determined to be affected by a newly promulgated National Pretreatment Standard or an existing discharge permit holder is reclassified as being subject to the National Pretreatment Standards provided in the Pretreatment Requirements due to process changes, or an inspection reveals the presence of regulated processes, or new information becomes available that justifies or requires a reclassification, the discharger shall:

(a) File a Baseline Monitoring Report (BMR) per the requirements specified in 40 CFR 403.12(b) within ninety days of the effective date of a National Pretreatment Standard or reclassification.

(b) If additional pretreatment, operational, or maintenance procedures, or installation of facilities, equipment or improvements will be required to comply with the National Pretreatment Standard, the discharger shall include a compliance time schedule per the requirements specified in 40 CFR 403.12(c) which specifies the shortest feasible schedule by which the discharger shall provide such additional pretreatment procedures or facilities, equipment or improvements to attain compliance. For purposes of Pretreatment requirements, the completion date in this schedule shall not be later than the established compliance date provided by the applicable Pretreatment Requirements.

(c) File a Compliance Report per the requirements specified in 40 CFR 403.12(d) within ninety days of the date for final compliance with applicable National Pretreatment Standards or in the case of a New Source within ninety days following the date commencement

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of the introduction of wastewater into the sanitary sewer system. The Compliance Report shall state the average and maximum daily flow in gallons per day to the sanitary sewer system and shall contain sampling results from National Pretreatment waste streams and shall contain a certification statement prepared according to the requirements specified in 40 CFR 403.12(b)(6).

16.09.095 Modification, suspension or revocation of industrial wastes discharge permit.

(a) Any permit for industrial wastes discharge may be revoked, made subject to additional terms or conditions, modified or suspended by the Superintendent in addition to other remedies provided by law, for good cause, including, but not limited to, the following:

(1) To incorporate any new or revised federal, state, or local Pretreatment Standards or requirements;

(2) To address significant alterations or additions to the discharger's operation, processes, or wastewater volume or character since the time of the individual wastewater discharge permit issuance;

(3) To address a change in the plant that requires either a temporary or permanent reduction or elimination of the authorized discharge;

(4) To stop a discharge or a threatened discharge which presents a hazard or a threat of hazard to the sanitary sewer system, plant, personnel, public health, safety, welfare, natural environment, the receiving waters or which violates this Chapter;

(5) For violation of any terms or conditions of the discharge permit;

(6) For misrepresentations or failure to fully disclose all relevant facts in the discharge permit application or in any required reporting;

(7) For revision of or a grant of variance from categorical Pretreatment Standards;

(8) To correct typographical or other errors in the individual wastewater discharge permit;

(9) To reflect a transfer of the facility ownership or operation to a new owner or operator where requested in accordance with Section 16.09.080(e); or

(10) To implement programs or policies required or requested of the City by appropriate state or federal regulatory agencies.

(b) Any discharger notified of the Superintendent's intent to revoke, make subject to additional terms or conditions, modify, or suspend the discharger's permit shall immediately comply with directives of the Superintendent or cease and desist the discharge of all industrial wastes or such portion of said wastes as will eliminate the wrongful discharge to the sanitary sewer system pending any hearing that the discharger may request as set forth in Section 16.09.100 of this Chapter.

(c) The Superintendent shall reissue or reinstate any industrial wastes permit or modified permit upon proof of satisfactory ability to comply and/or compliance with all discharge requirements, and the payment of any costs, fines, or penalties which may be assessed.

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The Superintendent may require any permit holder to develop and implement a compliance schedule for any proposed modification to permit terms and conditions.

16.09.100 Permit issuance, denial, modification, revocation, or suspension hearing.

(a) The discharger shall have at its request, a hearing before the city manager, or their designee, before the industrial wastes permit application is issued, denied, or the permit is revoked, made subject to additional terms or conditions, modified or suspended.

(b) The Superintendent shall give the industrial waste discharger applicant or permit holder ten calendar days' written notice of intent to issue or deny the application or to revoke, make subject to additional terms or conditions, modify or suspend the discharger's permit. The Superintendent shall post a copy of such notice at city hall or on the city web site for interested persons. The notice shall set forth specifically the grounds for the Superintendent's intention to deny, revoke, or suspend and shall inform the applicant or permit holder or members of the public that they have ten days from the date of receipt of the notice to file a written request for a hearing. The application shall be issued or denied or the permit shall be revoked, modified or suspended if a hearing request is not received within the ten day period.

(c) If the applicant or permit holder or interested party or parties file(s) a timely hearing request, the city manager, or their designee, shall within ten calendar days from the receipt of the request, set a time and place for the hearing. All parties involved shall have the right to offer testimonial, documentary, and tangible evidence bearing on the issues and to be represented by counsel. The decision of the city manager, or their designee, whether to issue or deny the application or revoke, make subject to additional terms and conditions, modify or suspend the permit shall be final.

16.09.105 Waste sampling locations.

When directed by the Superintendent, establishments from which industrial wastes are discharged to the sanitary sewer system shall provide and maintain one or more sampling locations or metering devices or volume and flow measuring methodologies or other sampling and measuring points approved by the Superintendent which will allow the separate measuring and sampling of industrial and domestic wastes. Unless otherwise approved by the Superintendent, domestic and industrial waste shall be kept completely separated upstream of such sampling locations and/or measuring points. Establishments that are billed for sewer service on the basis of sewage effluent constituents shall provide a suitable means for sampling and/or measurement of flow to determine billing constituents in accordance with the utilities rules and requirements. Sampling locations shall be so located that they are safe and accessible to the Superintendent at any reasonable time during which discharge is occurring.

16.09.110 Discharger monitoring.

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(a) The Superintendent may conduct all inspection, surveillance, and monitoring procedures necessary to assure compliance with applicable sections of this Chapter or with federal or state requirements.

(b) The Superintendent shall be authorized to enter, without unreasonable delay, any premises of any discharger to carry out inspections, surveillance and monitoring to assure compliance with this Chapter and applicable federal, state and local requirements. Records shall be maintained and made available for inspection as described in Section 16.09.160.

(c) In addition to any other remedy available to the City, the Superintendent may issue a Notice of Non-Compliance at the time of the inspection to require the discharger to implement actions that will correct violations of this Chapter or the permit. Such directive shall be considered as an additional condition on the dischargers' permit and may be reviewed as provided in Section 16.09.100.

(d) Prior to final closure of any industrial or commercial facility, the Superintendent may require cleaning, inspection and/or testing of the facility's sanitary sewer lines, appurtenances and/or devices to ensure that the integrity of the sewer lines has not been compromised and to determine the quantity and pollutant content of sediments. Inspection and/or testing to ensure the integrity of sewer lines may be required when the facility's discharge history includes pH fluctuations, or when past discharges may have compromised or call into question the integrity of the sewer lines. Inspection and/or testing to determine the quantity and pollutant content of sediments may be required when the facility's type of operations and pollutant content of discharges make the presence of contaminated sediments likely. Inspection and testing may include, but not be limited to, pressurized testing, smoke testing, video camera inspection, and/or analytical testing of sediments for pollutants regulated by the facility's discharge permit. Where contaminated sediments or compromised sewer lines are identified, responses may include, but not be limited to, requiring replacement of compromised sewer lines and requiring removal of contaminated sediments from sewer lines. In lieu of analytical testing, facilities may elect to remove sediments from sewer lines in a manner approved by the Superintendent. For the purposes of this section, "final closure" means closure of an industrial or commercial facility when an entire building is being vacated by the current operator, or when the uses of an entire building will no longer include use of hazardous materials.

16.09.115 Prohibition against dilution.

Except where expressly authorized to do so by the Superintendent or an applicable National Pretreatment Standard provided in the Pretreatment requirements, no discharger shall increase the use of process water, combine waste streams or in any other way, dilute a discharge. In addition, no discharger shall dilute process waste streams as a partial or complete substitute for adequate treatment to achieve compliance with such National Pretreatment Standard or any other requirement of this Chapter.

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16.09.120 Discharger self-monitoring.

(a) The Superintendent may require the discharger to conduct a wastewater sampling and analysis program of a frequency and type sufficient to demonstrate compliance with the requirements of this Chapter. The discharge permit shall specify the minimum frequency and type of samples, flow monitoring, measuring, and analyses to be conducted by the discharger. Additional monitoring may be required by the Superintendent for violation follow-up or as part of a notice of noncompliance or other enforcement response. If a discharger subject to reporting requirements monitors any regulated pollutant at a designated sampling location more frequently than required, the results of this monitoring shall be reported.

(b) The Superintendent may specify the type of sampling equipment and flow monitoring equipment that must be installed and used. Flow monitoring equipment installed at a permitted discharger's sampling locations shall be calibrated at a frequency of at least once per year or at the frequency recommended by the manufacturer. pH monitoring equipment installed at a permitted discharger's sampling locations shall be calibrated at a frequency of at least once every six months or more frequently if recommended by the manufacturer.

(c) Information submitted to satisfy reporting requirements shall be based on data obtained through appropriate sampling and analysis performed during the period covered by the report, based on data that is representative of conditions occurring during the reporting period.

(d) All pollutant sampling techniques, analyses, and information to be included in self-monitoring reporting, submitted as part of a BMR, wastewater discharge permit application, or report, shall be performed in accordance with 40 CFR Part 136, 40 CFR 403.12(g) and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 CFR Part 136 does not contain sampling or analytical techniques for the pollutant in question, or where the EPA determines that the Part 136 sampling and analytical techniques are inappropriate for the pollutant in question, sampling and analyses shall be performed using validated analytical methods or any other applicable sampling and analytical procedures suggested by the Superintendent or other parties approved by the EPA. Samples shall be analyzed at the discharger's expense, by a laboratory accredited by the State of California Department of Public Health for such analysis.

(e) The detection limit used by the discharger for those substances reported as non-detectable shall be no greater than one-tenth the lowest applicable effluent limit.

(f) The discharger shall monitor for the toxic organic compounds specified in the National Pretreatment requirements applicable to the discharger.

(g) The Superintendent may determine which additional toxic organic compounds shall be monitored based on those toxic organics that are representative and expected to be present. Permitted dischargers who file a toxic organic management plan, per the guidelines

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established by the Superintendent, may analyze a subset of the additional toxic organic compounds to demonstrate compliance with the local limits for Single Toxic Organic (STO) and Total Toxic Organics (TTO) when specified in a discharge permit issued by the Superintendent.

(h) The Superintendent may require self-monitoring for facilities for which a permit has not been issued.

(i) All records generated pursuant to this section shall be maintained and made available for inspection as described in Section 16.09.160.

16.09.125 Maintenance and operation of pollution control and monitoring equipment.

(a) The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment, disposal, monitoring and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with this Chapter and/or its wastewater discharge permit. All required procedures shall be described in an Operations and Maintenance Manual. The discharger shall keep in a state of readiness all systems necessary to achieve compliance with the conditions of this Chapter and/or its wastewater discharge permit. All systems, both those in service and reserve, shall be inspected and maintained on a regular basis.

(b) Inspection and maintenance records for process and pollution control and monitoring systems shall be maintained and made available for inspection as described in Section 16.09.160.

(c) It shall be unlawful to tamper with or render inaccurate or divert flow from any monitoring device or equipment installed or operated to comply with the Pretreatment requirements, this Chapter or a discharge permit. Doing so constitutes falsification of information as described in Section 16.09.150.

16.09.130 Compliance with the Pretreatment requirements.

All industrial dischargers subject to the Pretreatment requirements shall be in conformance with such, including but not limited to, effluent standards, monitoring requirements, and reporting requirements. In the event of any apparent conflicts between the requirements established in this Chapter and federal EPA requirements, the most restrictive limitation shall apply.

16.09.135 Reporting requirements for all permitted dischargers.

(a) All permit holders shall be required to submit periodic reports to the Superintendent. Specific reporting requirements shall be specified in the permit, in notices of noncompliance or other directives. All industrial discharge permit holders are required to submit at a minimum periodic reports of continued compliance (PRCC) every six months. The due dates

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for the PRCC submittals are July 15th and January 15th for the first and second half of the calendar year respectively. Specific requirements for periodic reports of continued compliance are listed below:

(1) Certification Statement. Periodic reports of continued compliance for zero discharge permit holders shall require the permit holder to certify that no process wastewater was discharged to the sanitary sewer system during the reporting period;

(2) Certification Statement. Periodic reports of continued compliance for BMP regulated dischargers shall require the discharger to certify that the BMPs have been implemented during the reporting period;

(3) Certification Statement. Periodic reports of continued compliance for Non-Significant Categorical Industrial Users shall require the permit holder to certify that the discharger has met the criteria for a Non-SCIU;

(4) Periodic reports of continued compliance for all permit holders not covered in (1), (2) or (3) above shall include documentation indicating if applicable federal, state, or local Pretreatment Standards, including those specified in the permit holder's discharge permit, have been exceeded during the reporting period.

(b) If a discharger subject to reporting requirements monitors any regulated pollutant at a designated sampling location more frequently than required the results of this monitoring shall be included in the report.

(c) Failure to submit required reports by the specified due date shall be considered a violation of the provisions of this Chapter.

16.09.140 Requirements for reporting noncompliance, increased loading, slug discharges, accidental discharges.

(a) Reporting Noncompliance. Noncompliance with the provisions of this Chapter that is known to the discharger shall be reported verbally as soon as possible but no later than twenty-four hours of the discharger's knowledge of the noncompliance. A written report to the Superintendent shall be submitted within five days of knowledge of the noncompliance explaining the nature, volume and duration of the noncompliance, and the mitigation measures taken to correct the noncompliance and to prevent reoccurrence.

Such notifications will not relieve any discharger of liability for any expense, including but not limited to, costs for countermeasures; loss or damage to the storm drain system, sanitary sewer system and/or treatment plant or treatment process; or liability to reimburse any fines imposed on the City on account thereof; or for damages incurred by any third party.

If the noncompliance is related to any violation of the discharge standards specified in the Pretreatment requirements, this Chapter, or in a discharge permit the discharger shall repeat the sampling and analysis of the violated pollutant(s) and shall submit the results to

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the Superintendent no later than thirty (30) days from the discharger's knowledge of the noncompliance.

(b) Reporting Increased Loading. The reporting requirements of subsection (a) above shall also apply to any short term, large or unusual increase in flow or concentration of waste constituents regardless of whether noncompliance has resulted. Notices shall be posted in process areas (or other equally effective notification procedures used) giving instruction on reporting such increases.

(c) Reporting accidental or slug discharges and treatment system upsets, failures, or bypasses or discharge of hazardous wastes.

The following requirements apply to all releases to the sanitary sewer system caused by spills; slug discharges; pretreatment system upsets, failures, or bypasses; or any other accidental discharges:

(1) The discharger shall immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance, and correct the problem.

(2) The discharger shall immediately verbally notify the Superintendent upon becoming aware of such incidents.

(3) As soon as practicable and throughout the incident the discharger shall collect representative samples at the point of release and at any impacted sampling location(s).

(4) The discharger shall submit a written report to the Superintendent within five days of the discharger's knowledge of the incident explaining: the nature, volume, and duration of the discharge; and mitigation measures taken to correct the noncompliance and prevent recurrence.

(d) The discharger shall notify the Superintendent in advance of any significant change in the volume or characteristics of discharge from the facility or any significant operational, process, or pretreatment system changes.

(e) The discharger shall immediately notify the Superintendent of changes that occur at the facility affecting the potential for a spill or slug discharge.

16.09.145 Certification of reports.

Permit applications, periodic reports of continued compliance, baseline monitoring reports, and user reports submitted shall be certified and signed by an authorized representative with the following statement:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the

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person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

16.09.150 Falsification of information.

It shall be unlawful for a discharger, person or their agents to knowingly make any false statements, representations, or certifications in any application, record, report, plan, or other documentation filed, or required to be maintained, pursuant to this Chapter, a wastewater discharge permit, or an order issued by the Superintendent, or to falsify, tamper with, or knowingly render inaccurate any monitoring device or method required under this Chapter or in a wastewater discharge permit.

16.09.155 Date of receipt of reports.

Written reports will be deemed to have been submitted on the date postmarked. For reports which are not mailed, postage prepaid, into a mail facility serviced by the United States Postal Service, the date of receipt of the report by the Superintendent shall govern.

16.09.160 Retention of records.

Dischargers or persons subject to the reporting requirements of this Chapter shall retain, and make immediately available for inspection and copying upon request, all records of information obtained pursuant to this Chapter, including but not limited to any monitoring activities required by this Chapter, any additional records of information obtained pursuant to monitoring activities undertaken by the discharger independent of such requirements, and documentation associated with Best Management Practices. These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the discharger or the City, or where the discharger has been specifically notified of a longer retention period by the Superintendent.

16.09.165 Storm drain system: prohibited discharges.

(a) It shall be unlawful to discharge any domestic waste or industrial waste into the storm drain system, creeks, surface waters or San Francisco Bay. Unlawful discharges shall include, but not be limited to, discharges from toilets; sinks; industrial processes; cooling systems; boilers; fabric cleaning; equipment cleaning; vehicle cleaning; construction activities, including, but not limited to, painting, paving, concrete placement, saw cutting and grading; swimming pools; spas; and fountains, or substances added to the storm drain to control root growth, unless specifically permitted by a discharge permit or unless exempted pursuant to guidelines published by the Superintendent.

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(b) It shall be unlawful to cause hazardous materials, domestic waste or industrial waste to be deposited in such a manner or location as to constitute a threatened discharge into the storm drain system, creeks, surface waters or San Francisco Bay. Domestic or industrial wastes that are not contained in a pipe, tank or other container are considered to be threatened discharges unless the discharge has been controlled, the flow has been blocked and the material is actively being cleaned up.

(c) For all unauthorized or prohibited releases to the storm drain system including sanitary sewer overflows and threatened discharges to the storm drain system, the responsible person shall:

- (1) Immediately take action to stop, contain, and cleanup unauthorized or threatened discharges or otherwise stop the noncompliance, and correct the problem;
- (2) Immediately notify the Superintendent upon becoming aware of releases that result in discharge into the storm drain system, creeks, surface waters or San Francisco Bay.

(d) Interior floor drains shall not be connected to the storm drain system.

(e) Exterior drains located in the following areas shall not be connected to the storm drain system:

- (1) Equipment or vehicle washing areas;
- (2) Areas where equipment fluids are routinely changed;
- (3) Areas where hazardous materials, chemicals or other uncontained materials that are easily transported by wind or water are stored and are not secondarily contained;
- (4) Loading docks: See 16.09.175(k)

(f) Multi-family residential units and residential developments shall be prohibited from providing a designated vehicle washing area that would cause wash water to be deposited in such a manner or location as to constitute a threatened discharge into the storm drain system.

(g) Secondary containment shall be provided for any rooftop equipment, tanks or pipes containing other than potable water, cooling water, heating system hot water, steam, water condensate or equivalent substances, which the Superintendent determines will otherwise cause a probable discharge to the storm drain system.

(h) Storm drain inlets shall be clearly marked with the words "No dumping - Flows to Bay," or equivalent.

16.09.170 Requirements for construction operations.

(a) A spill response plan for hazardous waste, hazardous materials and uncontained construction materials shall be prepared and available at the construction sites for all projects where the proposed construction site is equal to or greater than one acre of disturbed soil and for

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any other projects for which the city engineer determines that a plan is necessary to protect surface waters. Preparation of the plan shall be in accordance with guidelines published by the city engineer.

(b) A storm water pollution prevention plan shall be prepared and available at the construction sites for all projects equal to or greater than one acre of disturbed soil and for any other projects for which the city engineer determines that a storm water management plan is necessary to protect surface waters. Preparation of the plan shall be in accordance with Chapters 16.28 and 16.11 of this code and with guidelines published by the City engineer.

(c) Prior approval shall be obtained from the city engineer or designee to discharge water pumped from construction sites to the storm drain system. The city engineer or designee may require gravity settling and filtration upon a determination that either or both would improve the water quality of the discharge. Contaminated groundwater or water that exceeds State or Federal requirements for discharge to navigable waters may not be discharged to the storm drain system. Such water may be discharged to the sanitary sewer system, provided that the requirements of Section 16.09.040 are met and the approval of the Superintendent is obtained prior to discharge. The City shall be compensated for any costs it incurs in authorizing such discharge, at the rate set forth in the Municipal Fee Schedule.

(d) No cleanup of construction debris from the streets shall result in the discharge of water to the storm drain system; nor shall any construction debris be deposited or allowed to be deposited in the storm drain system.

16.09.175 General prohibitions and practices.

(a) Interior (indoor) floor drains to the sanitary sewer system may not be placed in areas where hazardous materials, hazardous wastes, industrial wastes, industrial process water, lubricating fluids, vehicle fluids or vehicle equipment cleaning wastewater are used or stored, unless secondary containment is provided for all such materials and equipment. The Superintendent may allow an exception to this requirement under the following circumstances:

(1) When the drain is connected to a wastewater treatment unit approved by the Superintendent;

(2) When the drain is protected from spills by a berm system;

(3) For safety showers: When the drain is installed with a temporary plug which remains closed except when the shower is in use, or when the drain is protected from spills by either a covered sump or berm system. If a sump is used, the capacity shall be at least as large as the largest chemical container in the laboratory;

(4) For industrial process equipment: If the equipment does not contain hazardous materials or hazardous waste and if all floor drains are equipped with fail-safe valves which shall be kept closed during periods of operation.

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(b) Exterior (outdoor) drains may be connected to the sanitary sewer system only if the area in which the drain is located is covered or protected from rainwater run-on by berms and/or grading, and appropriate wastewater treatment approved by the Superintendent is provided. For additional information regarding loading docks, see section 16.09.175(k)

(c) Interior floor drains shall not be connected to the storm drain system.

(d) Exterior drains shall be connected to the storm drain system. Such connections shall not be permitted within the following areas:

- (1) Equipment or vehicle washing areas;
- (2) Areas where chemicals, hazardous materials, or other uncontained materials are stored unless secondary containment is provided;
- (3) Equipment or vehicle fluid changing areas;
- (4) Loading docks: See 16.09.175(k)

(e) Roof drains may discharge to the storm drain system, provided that all roof equipment, tanks, and pipes containing other than potable water, cooling system water, or heating system hot water have secondary containment.

(f) Boiler drain lines shall be connected to the sanitary sewer system and may not be connected or allowed to drain to the storm drain system.

(g) Secondary containment shall be provided for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas. The Superintendent may allow a drain for work areas (but not for hazardous storage areas) if the secondary containment area is covered and if the drain is connected to a wastewater treatment facility approved by the Superintendent.

(h) Aspirators connected to laboratory sink faucets are prohibited. Aspirators designed and used for transferring acids and bases from stationary, permanent laboratory sinks to treatment facilities shall be allowed.

(i) Laboratory countertops and laboratory sinks shall be separated by a berm which prevents hazardous materials spilled on the countertop from draining to the sink.

(j) Sewer traps below laboratory sinks shall be made of glass or other approved transparent materials to allow inspection and to determine frequency of cleaning. Alternatively, a removable plug for cleaning the trap may be provided, in which case a cleaning frequency shall be established by the Superintendent. In establishing the cleaning frequency, the Superintendent shall consider the recommendations of the facility. The Superintendent will grant an exception to this requirement for areas where mercury will not be used; provided, that in the event such an

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exception is granted and mercury is subsequently used in the area, the sink trap shall be retrofitted to meet this requirement prior to use of the mercury.

(k) Loading docks.

(1) This paragraph covers loading docks constructed prior to August 8, 1994. In cases where chemicals, hazardous materials, grease, oil, or waste products are handled or used within the loading dock area, a drain to the sanitary sewer system or storm drain system may be allowed only if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation. For drains connected to the sanitary sewer system the area in which the drain is located shall be covered or protected from rainwater run-on by berms and/or grading. Appropriate wastewater treatment approved by the Superintendent shall be provided for all rainwater contacting the loading dock site.

(2) For loading docks constructed after August 8, 1994:

(i) Loading dock drains to the storm drain system may be allowed if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation.

(ii) Where chemicals, hazardous materials, grease, oil, or waste products are handled or used within the loading dock area, a drain to the storm drain system shall not be allowed. A drain to the sanitary sewer system may be allowed if equipped with a fail-safe valve or equivalent device that is kept closed during the non-rainy season and during periods of loading dock operation. The area in which the drain is located shall be covered or protected from rainwater run-on by berms and/or grading. Appropriate wastewater treatment approved by the Superintendent shall be provided for all rainwater contacting the loading dock site.

16.09.180 Requirements for newly constructed, remodeled or converted multi-residential, commercial and industrial facilities.

(a) Dischargers of industrial waste from newly constructed, remodeled or converted commercial and industrial facilities shall be in full compliance with the provisions of this Chapter at the time of commencement of discharge. Dischargers from newly constructed, remodeled, or converted commercial and industrial facilities, upon request of the Superintendent, shall complete a waste minimization study in accordance with guidelines published by the Superintendent, and shall certify that measures have been taken to minimize toxic constituents in the discharge.

(b) The owner of every newly constructed, remodeled, or converted commercial or industrial facility shall comply with the following requirements. These requirements shall apply to remodeled or converted facilities to the extent that the portion of the facility being remodeled or converted is related to the subject of the requirement:

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(1) Segregated Industrial Waste Plumbing. The owner of every new commercial and industrial building or portion thereof shall cause the building to be constructed so that industrial waste is segregated, by means of separate plumbing, from domestic waste prior to converging with other waste streams in the sanitary sewer system. For the purposes of this section only, the term "new" shall also include change to a use that requires plumbing for industrial waste;

(2) Exterior drains shall be connected to the storm drain system;

(3) Loading docks: See 16.09.175(k).

(4) Fueling areas shall have impermeable floors and rain covers that extend a minimum of ten feet in each direction from each pump. Fueling areas shall be designed to prevent water run-on to the covered area;

(5) Condensate lines shall not be connected or allowed to drain to the storm drain system;

(6) Copper, copper alloys, lead and lead alloys, including brass, shall not be used in sewer lines, connectors, or seals coming in contact with sewage except for domestic waste sink traps and short lengths of associated connecting pipes where alternate materials are not practical;

(7) Sacrificial zinc anodes are not permitted to be in contact with the water supply in a water distribution system;

(8) Discharge drains for swimming pools, spas and fountains shall not be connected directly to the storm drain system or to the sanitary sewer system. When draining is necessary the discharge will be allowed by way of either:

(A) A hose or other temporary system shall be directed into a sanitary sewer (not storm drain system) clean out. A sewer clean out shall be installed in a readily accessible area;

(B) A fixed pipe with an air gap and receiving sink directed to the sanitary sewer.

(9) If installed, parking garage floor drains on interior levels shall be connected to an oil/water separator prior to discharging to the sanitary sewer system. The oil/water separator shall be cleaned at a frequency of at least once every twelve months or more frequently if recommended by the manufacturer or the Superintendent. Oil/water separators shall have a minimum capacity of 100 gallons;

(10) New buildings and residential developments providing centralized solid waste collection, except for single-family and duplex residences, shall provide a covered area for a dumpster. The area shall be adequately sized for all waste streams and designed with grading or a berm system to prevent water run-on and runoff from the area;

(11) New Multi-family residential units and residential development projects with 25 or more units shall provide a covered area for occupants to wash their vehicles. A drain shall be installed to capture all vehicle wash waters and shall be connected to an oil/water separator prior to discharge to the sanitary sewer system. The oil/water separator shall be cleaned at a frequency of at least once every six months or more frequently if recommended by the manufacturer or the Superintendent. Oil/water separators shall have a minimum capacity of 100

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gallons. The area shall be graded or bermed in such a manner as to prevent the discharge of storm water to the sanitary sewer system;

(12) Mercury switches shall not be installed in sewer or storm drain sumps;

(13) Fire sprinkler system flush, test or drain water shall not be discharged to the storm drain system. Discharges to the sanitary sewer system shall not exceed 30 gallons per minute (GPM). Higher discharge rates shall be diverted to a detention tank to achieve the 30 GPM flow;

(14) Copper Roofing Materials. On and after January 1, 2003, copper metal roofing, copper metal gutters, copper metal down spouts, and copper granule containing asphalt shingles shall not be permitted for use on any residential, commercial or industrial building for which a building permit is required. Copper flashing for use under tiles or slates and small copper ornaments are exempt from this prohibition. Replacement roofing, gutters and downspouts on historic structures are exempt, provided that the roofing material used shall be prepatinated at the factory. For the purposes of this exemption, the definition of "historic" shall be limited to structures designated as Category 1 or Category 2 buildings in the current edition of the Palo Alto Historical and Architectural Resources Report and Inventory.

16.09.185 Personnel orientation.

(a) Holders of industrial waste discharge permits shall take necessary steps to inform appropriate personnel employed by such permit holders of the provisions of this Chapter.

(b) Such personnel shall include workers, contractors, and supervisors whose duties pertain in any manner to the production, treatment or disposal of waste discharges regulated by this Chapter.

(c) Steps to inform such personnel shall include but not be limited to:

(1) Orientation of newly employed or assigned personnel prior to commencement of work and at least annually thereafter;

(2) Posting of signs at work areas indicating approved methods for disposition of wastes and reporting requirements and instructions for accidental spills and increased loadings; and

(3) Posting of signs visible from each drainage area (sink, cup sink, floor drain) not connected to appropriate treatment indicating "NOTICE do not dispose of chemicals in this drain" or equivalent.

(d) All signs shall be translated into the appropriate language unless the primary language of all personnel is English.

16.09.190 Accidental discharge prevention.

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(a) Each discharger shall provide adequate protection to prevent accidental discharge of hazardous or prohibited materials, slugs, or other wastes regulated by this Chapter. Where directed by the Superintendent the discharger shall install retention basins, dikes, storage tanks, or other facilities in conformance with Chapter 17.12 designed to eliminate, neutralize, offset or otherwise negate the effects of prohibited materials or wastes which may be accidentally discharged in violation of this Chapter.

(b) When directed by the Superintendent, the discharger shall complete and implement a slug control plan per the guidelines issued by the Superintendent in accordance with the requirements contained in 40 CFR. 403.8(f)(2)(vi). The discharger shall notify the City of any changes to facilities, plans or operations that would necessitate a change in the slug control plan.

16.09.195 Storage of hazardous materials above sinks.

No person shall store hazardous materials above a sink that is connected to the sanitary sewer system in a commercial or industrial facility.

16.09.200 Zinc-containing floor finishes.

No person shall discharge or dispose to the sanitary sewer system any zinc-containing floor finish or a stripper solution that has been used for the stripping of a zinc-containing floor finish, except when the solutions have been treated in a wastewater treatment unit approved by the Superintendent for removal of zinc. For the purposes of this section, zinc-containing floor finishes shall be defined as floor finish solutions containing greater than 0.01% zinc by weight.

16.09.205 Requirements for cooling systems, pools, spas, fountains, boilers and heat exchangers.

(a) It shall be unlawful to discharge water from cooling systems, pools, spas, fountains boilers and heat exchangers to the storm drain system.

(b) No person shall discharge or add to the sanitary sewer system or storm drain system, or add to a cooling system, pool, spa, fountain, boiler or heat exchanger, any substance that contains any of the following:

- (1) Copper in excess of 2.0 mg/liter;
- (2) Any tri-butyl tin compound in excess of 0.10 mg/liter; or
- (3) Chromium in excess of 2.0 mg/liter.
- (4) Zinc in excess of 2.0 mg/liter.
- (5) Molybdenum in excess of 2.0 mg/liter

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The above limits shall apply to any of the above-listed substances prior to dilution with the cooling system, pool, spa or fountain water.

(c) Cooling System Discharges.

(1) For the purposes of this section the average daily flow shall be determined by dividing the total cooling system blowdown volume from April through October by the number of days of operation for the same period.

(2) The maximum allowable limit for discharge of copper for cooling systems discharging an average daily flow of less than 2000 gallons per day shall be 2.0 mg/liter.

(3) The maximum allowable limit for discharge of copper for cooling systems discharging an average daily flow of greater than 2000 gallons per day shall be 0.25 mg/liter. The Superintendent may impose a higher alternative maximum allowable copper limit when the cycles of concentrations routinely exceed ten. The alternative requirement may consist of an alternative limit, a mass limit or a specified maintenance program, or a combination of these.

(4) New cooling systems commencing discharge with an estimated average daily flow greater than 2000 gallons per day shall comply with the maximum allowable copper limit of 2.0 mg/liter and shall not be required to comply with the 0.25 mg/liter maximum allowable copper discharge limit specified in subsection (c)(3), until one year after the date of such commencement.

(d) Cooling System Cleaning. Wastewater from cleaning of cooling systems, boilers, heat exchangers and associated piping where a chemical cleaner or physical scouring is used in the cleaning process shall be sampled prior to discharge to the sewer. The maximum allowable limits for discharge of copper shall be 2.0 mg/liter. For purposes of this section, "physical scouring" does not include the use of water at typical water supply pressure; and "associated piping" shall mean piping associated with a heating or cooling system through which water or another heat transfer fluid passes during operation of the system. The wastewater shall be analyzed for copper and any other constituents specified by the Superintendent. The results of such analysis shall be reviewed by the cooling system operator prior to discharge.

(e) Devices using electricity to dissolve copper or silver into water distribution systems, cooling systems, pools, spas or fountains are prohibited.

16.09.210 Root and pest control chemicals.

(a) No person shall discharge, dispose of or add to the sanitary sewer system any substance intended to control roots, pests, or for any other purpose without first acquiring a root control application permit.

(1) Applicants for a permit shall complete and submit an application form. The Superintendent shall establish the contents of said form and may require additional information on the characteristics of the root control chemical and application methods beyond

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that required on the application form. Completed application forms shall be filed by the root or pest control applicator not less than sixty days in advance of commencing discharge. The discharger shall not commence discharge prior to permit approval.

(2) The Superintendent may impose terms and conditions on the permit which the Superintendent deems reasonable or necessary to carry out the purposes of this Chapter.

(b) No person shall discharge, dispose of or add to the sanitary sewer system any substance containing greater than five percent copper by weight, to control roots or for any other purpose.

(c) No person shall discharge, dispose or add to the storm drain system any substance to control roots or pests.

16.09.215 Requirements for photographic materials processing.

(a) All photoprocessors shall comply with either subdivision (2) or subdivision (3) of this subsection (a). Persons who fully comply with subdivision (3) shall not be required to obtain an industrial waste discharge permit pursuant to Section 16.09.080, unless required to do so pursuant to other sections of this Chapter, but shall be required to meet applicable maximum allowable limits for wastewater discharge and other requirements.

(1) Definitions. For the purposes of this section the following words and phrases shall be as defined herein.

(A) "Photographic materials processing" means developing silver-bearing film, including x-ray film, or photographic paper.

(B) "Photoprocessor" means any person who owns a photographic materials processing system including a business that does photographic materials processing or any person who engages in photographic materials processing.

(C) "Spent solutions" means spent fixer, bleach fix, stabilizer from washless systems, silver-bearing cleaning solutions and functionally similar solutions other than washwater.

(D) "Regeneration" means the treatment of washwater, fix, or bleach fix for re-use.

(E) "Washwater" means water that has been used to rinse fix or bleach fix from photographic film or paper.

(2) Silver Removal System. Persons who comply with this subdivision (2) shall install and operate in their facilities a silver removal system, in a manner which shall insure consistent compliance with the following effluent standards:

(A) The maximum allowable limit for silver shall be 1.0 mg/liter. The maximum allowable limit for copper shall be 2.0 mg/liter.

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(B) All spent solutions and wash water that are not sent off site shall be treated to insure consistent compliance with the effluent standards set forth in this subsection (a)(2). Silver removal from wash water shall be conducted in a manner that does not reduce the effectiveness of the treatment of spent solutions.

(C) The photoprocessor shall sample the discharge at a frequency determined by the Superintendent based upon the flow rate from the facility. However, in no event shall sampling be done less frequently than once a month. A duplicate of each sample collected shall be kept until the next sampling event. The duplicate sample shall be immediately relinquished to the Superintendent upon request. A sampling port shall be installed in accordance with specifications set forth in the wastewater discharge permit.

(D) Every person owning or operating a silver removal system shall cause such system to be serviced at least once per year by the manufacturer, equipment distributor, or qualified consultant who shall certify that all equipment in the system is functioning in accordance with the manufacturer's standards for such equipment. Records of system service shall be maintained and made available for inspection as described in Section 16.09.160.

(E) Every person intending to comply with the provisions of this subsection (a)(2), shall submit a completed permit application to the Superintendent, per Section 16.09.085 of this Chapter, at least forty-five days prior to commencing operation of such system.

Every person intending to comply with the provisions of this subsection (a)(2) shall submit an annual report to the Superintendent on or before February 1 of each calendar year. The annual report shall contain the following information for the preceding calendar year:

- (i) Type and description of silver removal processes and any regeneration systems employed;
- (ii) Amount of spent solutions generated;
- (iii) Dates of equipment servicing;
- (iv) Description of any major changes in equipment or operation; and
- (v) All wastewater sampling data.

(3) Off-Site Disposal. Persons who comply with this subsection shall ship or cause to be shipped off site, for recovery or appropriate disposal, all spent solutions or shall regenerate all spent solutions on site.

Storage, shipment and disposal of spent solutions shall be in accordance with all state, federal and local requirements.

(A) Every person who complies with this subsection (a)(3) shall maintain, or cause to be maintained, records that detail the purchase date and quantity of all new fixer, bleach-fix, stabilizer and functionally similar solutions kept or used by such person. Such person shall also maintain, or cause to be maintained, detailed disposal records that include the

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date, type and amount of waste solution disposed of; the name, address and identification number of the shipper; and the ultimate destination of each batch of waste solution shipped off site. Such person shall also maintain, or cause to be maintained, a record of the amount of spent solutions regenerated on site.

(B) Every photoprocessor intending to comply with the provisions of this subsection (a)(2) shall submit an annual report to the Superintendent on or before February 1 of each calendar year. The annual report shall contain for the preceding calendar year a summary of the required records maintained by such person relating to purchase and disposition of photographic solutions. The summary shall be on a form provided by the Superintendent. Along with the summary, the photoprocessor shall submit a statement certifying that it is in compliance with this subsection and that the required records shall be maintained and made available for inspection as described in 16.09.160.

(C) Photoprocessors that comply with this subsection need not meet the silver discharge limitations set forth in subsection (a)(2)(A) of this section, nor the silver discharge limitations set forth in 16.09.040(q) with respect to the photographic materials processing portion of their operations; provided, however, that those photoprocessors generating a total of one hundred gallons or more per month of spent solutions shall be required to meet the silver limitations of subsection (a)(2) of this section with respect to washwater, even if all spent solutions are shipped off site.

(b) The maximum allowable limit for copper for photographic materials processing shall be 2.0 mg/liter.

16.09.220 Requirements for dental facilities that remove or place amalgam fillings.

(a) Definitions. For the purposes of this section the following words and phrases shall be as defined herein:

(1) "Amalgam separator" is a device that employs filtration, settlement, centrifugation, or ion exchange to remove amalgam and its metal constituents from a dental office vacuum system before it discharges to the sanitary sewer system.

(2) "Amalgam waste" means and includes non-contact amalgam (amalgam scrap that has not been in contact with the patient); contact amalgam (including, but not limited to, extracted teeth containing amalgam); amalgam sludge captured by chair-side traps, vacuum pump filters, screens, and other amalgam trapping devices; used amalgam capsules; and leaking or unusable amalgam capsules.

(3) "ISO 11143" is the International Organization for Standardization's standard for amalgam separators.

(b) All owners and operators of dental facilities that remove or place amalgam fillings shall comply with the following waste management practices:

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(1) No person shall rinse chair-side traps, vacuum screens, or amalgam separators equipment in a sink or other connection to the sanitary sewer system.

(2) Owners and operators of dental facilities shall ensure that all staff members who handle amalgam waste are trained in the proper handling, management and disposal of mercury-containing material and fixer-containing solutions. Training records shall be maintained and made available for inspection as described in Section 16.09.160.

(3) Amalgam waste shall be stored and managed in accordance with the instructions of the recycler or hauler of such materials.

(4) Bleach and other chlorine-containing disinfectants shall not be used to disinfect the vacuum line system.

(5) The use of bulk mercury is prohibited. Only pre-capsulated dental amalgam is permitted.

(c) All owners and operators of dental vacuum suction systems, except as set forth in subsection (d) of this section, shall comply with the following:

(1) An ISO 11143 certified amalgam separator device shall be installed for each dental vacuum suction system. The installed device must be ISO 11143 certified as capable of removing a minimum of 95 percent of amalgam. The amalgam separator system shall be certified at flow rates comparable to the flow rate of the actual vacuum suction system operation. Neither the separator device nor the related plumbing shall include an automatic flow bypass. For facilities that require an amalgam separator that exceeds the practical capacity of ISO 11143 test methodology, a non-certified separator will be accepted, provided that smaller units from the same manufacturer and of the same technology are ISO-certified.

(2) Amalgam separators shall be maintained in accordance with manufacturer recommendations. Installation, certification, and maintenance records shall be maintained and made available for inspection as described in Section 16.09.160.

(d) The following types of dental practice are exempt from Section 16.09.220, provided that removal or placement of amalgam fillings occurs at the facility no more than 3 days per year:

- (1) Orthodontics;
- (2) Periodontics;
- (3) Oral and maxillofacial surgery;
- (4) Radiology;
- (5) Oral pathology or oral medicine;
- (6) Endodontistry;
- (7) Prosthodontistry.

(e) All owners and operators of dental facilities shall submit an annual report for each facility to the Superintendent on or before February 1 of each calendar year. The annual report shall contain information on the dental facility's amalgam separator and its maintenance, and

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shall require the dental facility to certify that it is in full compliance with this section. The annual report shall be on a form provided by the Superintendent.

- (f) The maximum allowable limit for copper for dental facilities shall be 2.0 mg/liter.

16.09.225 Requirements for vehicle service facilities.

(a) Definitions. For the purposes of this section the following words and phrases shall be as defined herein:

(1) "Commercial vehicle washing facility" means a commercial facility where vehicle washing is a primary business activity. Commercial vehicle washing facilities include, but are not limited to, mobile washing rigs.

(2) "Fleet washing facility" means a facility for washing vehicles, at a location where a business maintains six or more vehicles.

(3) "Ground surfaces" means and includes dirt, gravel, or other unpaved surfaces.

(4) "Vehicle" means a mode of transporting people or things. Vehicles include, but are not limited to, automobiles, trucks, recreational vehicles, tractors, airplanes and boats.

(5) "Vehicle fluid" means a liquid used in or drained from a motor vehicle. Vehicle fluids include, but are not limited to, gasoline, diesel fuel, motor oil, brake fluid, radiator fluid, hydraulic fluid, transmission fluid, and coolant.

(6) "Vehicle service facility" means a commercial or industrial facility that conducts one or more of the following operations with respect to vehicles or components of vehicles: vehicle repair, fuel dispensing, vehicle fluid replacement, engine and parts cleaning, body repair, vehicle salvage and wrecking, or vehicle washing.

(b) All vehicle service facilities shall be operated in accordance with the following standards:

(1) No person shall dispose of, nor permit the disposal, directly or indirectly, of vehicle fluids, hazardous materials, or rinse water from parts cleaning operations into storm drains;

(2) All owners and operators of vehicle service facilities shall ensure that any vehicle fluid, hazardous material, or rinse water from parts cleaning operations that comes into contact with any floor, pavement or ground surface is cleaned up immediately from such surface;

(3) No person shall dispose of vehicle fluids or rinse water from parts cleaning operations into the sanitary sewer system except pursuant to an industrial waste discharge permit obtained in accordance with this Chapter;

(4) No vehicle service facilities shall contain floor drains, excepting only such floor drains as are connected to wastewater pretreatment systems for which an industrial waste discharge permit has been obtained in accordance with this Chapter;

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(5) No tanks, containers or sinks used for parts cleaning or rinsing shall be connected to the storm drain system, or to the sanitary sewer system except pursuant to an industrial waste discharge permit obtained in accordance with this Chapter;

(6) No person shall perform vehicle fluid removal outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment;

(7) Leaking vehicle fluids shall be contained or drained immediately;

(8) No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment;

(9) No person shall discharge wastewater from vehicle washing operations or wash racks to the storm drain system or onto the ground. Discharge to the sanitary sewer system may be allowed pursuant to an industrial waste discharge permit obtained in accordance with this Chapter. Nothing in this subsection shall be construed to prohibit the proper reuse of wastewater;

(10) No person shall discharge into the storm drains water from vehicle washing operations, except from rinsing of vehicle exterior surfaces, with water only, to remove atmospheric dust that deposited on a vehicle when not in use. This exception does not apply to commercial vehicle washing facilities or fleet washing;

(11) Vehicle service facilities shall be cleaned using only those methods of cleaning that ensure that no materials are discharged to the storm drain system or to the sanitary sewer system, except for wastewater which is discharged to the sanitary sewer system pursuant to an industrial waste discharge permit obtained in accordance with this Chapter; provided, however, that a permit shall not be required for facilities that use the following three-step sequence for cleaning floors:

(A) Clean up spills with rags or other absorbent materials;

(B) Sweep floor using dry absorbent material;

(C) Mop floor. Mop water must be discharged to the sanitary sewer via a toilet or sink.

(12) All owners and operators of vehicle service facilities shall ensure that spill prevention and clean-up equipment and absorbent materials are kept in stock at all times and are readily available for use;

(13) No acid-containing batteries shall be stored except within secondary containment;

(14) All owners and operators of vehicle service facilities shall ensure that all employees of such facilities are trained, upon hiring and annually thereafter, regarding best management practices in accordance with guidelines issued and published by the Superintendent.

(15) All owners and operators of vehicle service facilities shall post or cause to be posted signs on all storm drain inlets located on the property of the facility with the words "No dumping Flows to Bay" or equivalent;

(16) No person shall discharge to the sanitary sewer system solid materials from wet sanding. Vehicle service facilities using wet sanding processes shall have one or more containers to accumulate wet sanding wastewater and mop water from wet sanding areas. A

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minimum of 48 hours shall be provided for the settling of solid materials from the water prior to the water's discharge to the sanitary sewer system. An alternative solids removal method may be utilized provided that the method has been demonstrated to be equally effective, and approved by the Superintendent. Settled solid materials shall be managed in accordance with all state, federal and local requirements.

(c) The maximum allowable limit for zinc for vehicle service facility discharge shall be 4.0 mg/liter. The maximum allowable limit for copper for vehicle service facility discharge shall be 2.0 mg/liter

(d) All records required to be kept pursuant to this subsection shall be maintained and made available for inspection as described in Section 16.09.160.

16.09.230 Requirements for machine shops.

(a) All machine shops shall be operated in accordance with the following standards:

(1) No person shall dispose of, nor permit the disposal, directly or indirectly, of machine shop fluids, hazardous materials, mop water, or rinse water from parts cleaning or deburring/tumbling operations into storm drains;

(2) No person shall dispose of machine shop fluids or rinse water from parts cleaning or deburring/tumbling operations into the sanitary sewer system except pursuant to an industrial waste discharge permit obtained in accordance with this Chapter;

(3) No machine shop shall contain floor drains, excepting only such floor drains as are connected to wastewater pretreatment systems for which an industrial waste discharge permit has been obtained in accordance with this Chapter;

(4) Machine shops shall be cleaned using only those methods of cleaning which ensure that no materials are discharged to the storm drain system or to the sanitary sewer system, except for wastewater that is discharged to the sanitary sewer system pursuant to an industrial waste discharge permit obtained in accordance with this Chapter; provided, however, that a permit shall not be required for facilities that use the following three-step sequence for cleaning floors, or an approved equivalent:

(A) Clean up spills with rags or other absorbent materials;

(B) Sweep floor using dry absorbent material; and

(C) Mop floor. Mop water shall be discharged to the sanitary sewer via a toilet or sink.

(5) All owners and operators of machine shops shall ensure that spill prevention, clean-up equipment and absorbent materials are kept in stock at all times and are readily available for use.

(6) All owners and operators of machine shops shall post or cause to be posted signs on all storm drain inlets located on the property of the facility with the words "No Dumping - Flows to Bay" or equivalent.

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(7) All owners and operators of machine shops shall ensure that all employees who work directly on machine operations or clean up of such facilities are trained, upon hiring and annually thereafter, regarding best management practices for machine shops in accordance with guidelines issued and published by the Superintendent.

(b) The maximum allowable limit for copper for machine shop discharge shall be 2.0 mg/liter.

16.09.235 Annual publication of significant noncompliant dischargers.

At least annually, notice shall be provided in the largest local daily newspaper listing those dischargers that were found to have been in significant noncompliance, as defined in this Chapter, during the previous twelve months.

16.09.240 Enforcement: Warning.

The Superintendent may issue verbal or written warnings in response to minor violations or the potential for a discharger to cause violations of this Chapter. Compliance with warnings does not limit further enforcement action by the City.

16.09.245 Enforcement: Notice of non-compliance.

(a) Unless the Superintendent finds that the severity of the violation warrants immediate action under Sections 16.09.255, 16.09.265 or 16.09.270 or permit revocation or suspension, he or she shall issue a notice of noncompliance which:

- (1) Enumerates the violations found; and
- (2) Orders compliance by a certain date.

If the violations are not abated in the time period identified further action may be taken by the Superintendent, including, but not limited to, suspension, revocation or modification of the discharger's permit pursuant to Section 16.09.095.

(b) Subject to the following limitations, and in addition to the provisions of subsection (a), the Superintendent may require a discharger that has violated any discharge limits contained in this Chapter to install a temporary system for the capture, testing and release of wastewater:

(1) The requirement will apply to facilities that have produced multiple violations for the same parameter at the same sampling point, when the Superintendent determines that appropriate corrective measures have proved difficult to identify or implement.

(2) The requirement will apply only to those specific areas of a facility from which the Superintendent determines that the discharge may be originating, rather than to the

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entire flow from the facility, unless there is no reasonable way to determine where the discharge may be originating.

(3) The requirement will not be applied when the Superintendent determines that a capture system is impractical. If the Superintendent determines that a capture system is impractical, the Superintendent may require an alternative compliance measure of equivalent effectiveness.

(4) The requirement will be terminated following a demonstration of compliance as determined by the Superintendent. The sampling required to demonstrate compliance for violations of discharge limits shall be set by the Superintendent and may be up to twenty-one consecutive, violation-free calendar days of sampling by the discharger followed by up to four days of violation-free sampling by the Superintendent.

16.09.250 Enforcement: Administrative compliance order.

Any person who violates any provision of this Chapter or any provision of any permit issued pursuant to this Chapter shall be subject to the administrative compliance order provisions contained in Chapter 1.16 of this code.

16.09.255 Enforcement: Criminal penalties.

As provided in 1.08 of Title 1 of this code, violations of the provisions of this title shall be subject to criminal penalties. The following designated employee positions may enforce the provisions of this Chapter by the issuance of citations. Persons employed in such positions are authorized to exercise the authority provided in Penal Code Section 836.5 and are authorized to issue citations for violations of this Chapter. The designated employee positions are: industrial waste inspector; industrial waste investigator; associate engineer; manager, environmental control programs; supervisor, industrial waste; and manager, environmental compliance division.

16.09.260 Enforcement: Administrative citation.

Any person who violates any provision of this Chapter or any provision of any permit issued pursuant to this Chapter shall be subject to the administrative citation provisions contained in Chapter 1.12 of this code.

16.09.265 Enforcement: Administrative civil penalties.

(a) Complaint. The Superintendent may serve an administrative complaint on any person who has violated any provision of this Chapter. The complaint shall state:

- (1) The act or failure that constitutes the violation;
- (2) The provisions of law authorizing the civil liability to be imposed; and
- (3) The proposed civil penalty.

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The complaint shall be served by personal delivery or certified mail on the person subject to requirements that the Superintendent alleges were violated, and shall inform the person served that a hearing on the complaint shall be conducted within sixty days after service, unless the person charged with the violation waives his or her right to a hearing.

(b) Hearing. Unless the person charged with the violation(s) waives his or her right to a hearing, the city manager or designee of the city manager shall conduct a hearing within sixty days. If the hearing officer finds that the person has caused a violation, he or she may assess administrative penalties against the person. In determining the amount of the civil penalty, the hearing officer may take into consideration all relevant circumstances, including, but not limited to, the extent of harm caused by the violation, the economic benefit derived through any noncompliance, the nature and persistence of the violation, the length of time over which the violation occurs and corrective action, if any, attempted or taken by the discharger. Civil penalties that may be imposed are as follows:

(1) An amount not to exceed two thousand dollars per day for failing or refusing to furnish technical or monitoring reports;

(2) An amount not to exceed three thousand dollars per day for failing or refusing to comply in a timely fashion with any compliance schedule established by the City;

(3) An amount not to exceed five thousand dollars per day of violation for discharges in violation of any waste discharge limitation, permit condition or requirement issued by the City; and

(4) An amount not to exceed ten dollars per gallon for discharges in violation of any suspension, cease and desist order or other orders, or prohibition issued, reissued or adopted by the City.

(c) Appeal. Any person against whom penalties are assessed by the hearing officer may appeal the decision of the hearing officer within thirty days of notice of the decision. The city council may hear the appeal or deny review of the case. If the city council decides to hear the appeal, it shall conduct the appeal in accordance with procedures established by the council. The decision of the city council shall be in writing and shall be final. All civil penalties imposed in accordance with this section shall be payable within thirty days of the decision of the hearing officer; provided, that if the decision is appealed, all penalties shall be payable within thirty days after the city council decision on the appeal.

(d) Lien. The amount of any civil penalties imposed under this section which have remained delinquent for a period of sixty days shall constitute a lien against the real property of the discharger from which the violation occurred resulting in imposition of the penalty. The Superintendent shall cause the amount of uncollected penalty to be recorded with the county recorder, in accordance with Section 54740.5 of the California Government Code, as the same from time to time may be amended.

16.09.270 Enforcement: Judicial civil penalties.

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Any person who intentionally or negligently violates any provision of this Chapter or any provision of any permit issued pursuant to this Chapter shall be civilly liable to the City in a sum of not to exceed twenty-five thousand dollars per day for each day in which such violation occurs. The City may petition the Superior Court pursuant to Government Code Section 54740 to impose, assess, and recover such sums. The remedy provided in this section is cumulative and not exclusive, and shall be in addition to the penalty provisions of Chapter 1.08 of this code and all other remedies available to the City under state and federal law.

16.09.275 Damage to facilities.

When a discharge causes an obstruction, damage, or any other impairment to City facilities, the City may assess a charge against the discharger to reimburse the City for costs incurred to clean or repair said facility.

16.09.280 City right to terminate discharge.

The City reserves the right to terminate sewer service for noncompliance with the provisions of this Chapter which reasonably appear to present an imminent endangerment to the health, safety, and welfare of persons. The discharger shall immediately cease discharge of any waste presenting such a hazard, upon verbal and/or written notice of the Superintendent. Such termination shall be effective immediately, but shall be reviewable pursuant to the hearing process provided in Section 16.09.100.

16.09.285 Enforcement: Remedies Nonexclusive.

The remedies provided for in this ordinance are not exclusive. The Superintendent may take any, all, or any combination of these actions against a noncompliant discharger. Enforcement of Pretreatment violations will generally be in accordance with the City's enforcement response plan. However, the Superintendent may take other action against any discharger when the circumstances warrant. Further, the Superintendent is empowered to take more than one enforcement action against any noncompliant discharger.

SECTION 3. The adoption and implementation of this Ordinance is categorically exempt from the California Environmental Quality Act pursuant to CEQA Guideline Section 15308 (actions by regulatory agencies for the protection of the environment).

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SECTION 4. This ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED:

PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

City Clerk

APPROVED AS TO FORM:

Deputy City Attorney

Mayor

APPROVED:

City Manager

Director of Public Works

Director of Administrative
Services

Palo Alto list of 2010 Sewer Use Ordinance Changes

1. General changes

- a. Pretreatment Regulations are now called Pretreatment Requirements.
- b. Deleted passed implementation dates where unnecessary.
- c. Used Superintendent to mean superintendent or designee throughout.
- d. Used Discharger throughout for both wastewater and storm water.
- e. Used Storm Drain System throughout.
- f. Used Sanitary Sewer System throughout.
- g. Referred to retention and inspection of records section instead of repeating.
- h. Added "or city web site" for required postings where allowed.

2. Purpose 005 (005)

- a. Modified to include Clean Water Act.

3. Definitions 010 (010)

- a. Defined Authorized Representative .
- b. Defined Berm to include lips, ridges or other raised barriers.
- c. Defined Best Management Practices.
- d. Defined Biochemical Oxygen Demand (BOD).
- e. Defined Categorical .
- f. Defined City to mean City of Palo Alto.
- g. Defined Discharge.
- h. Defined Discharger to include industrial OR domestic waste into the sanitary sewer system or storm drain system. Added "potential" to include haulers and zero dischargers.
- i. Defined Enforcement Response Plan.
- j. Defined Fail Safe Valve to include gravity or spring loaded in addition to electrically operated valves.
- k. Definitions of Grease Control Device and Food Service Establishment moved to Fat, Oil, and Grease (FOG) Rules and Regulations.
- l. Defined Hazardous Waste to include both State and Federal requirements.
- m. Defined Interference to include exceedance of capacity of sanitary sewer system
- n. Deleted Industrial User, Instantaneous Maximum and Instantaneous Minimum. These terms are not used.
- o. Defined Pretreatment Standard.
- p. Defined Root Control Chemical.
- q. Defined Sanitary Sewer Overflows.
- r. Defined Significant Industrial User.
- s. Defined Single Toxic Organic (STO).
- t. Defined Storm Drain System to include gutter or surface conveyance.
- u. Defined Slug Discharge to clarify sources and circumstances.
- v. Defined Total Toxic Organics (TTO).
- w. Defined Toxic Organic.

4. Prohibitions 035 (100)

- a. Modified pollutant prohibition to specifically include Biological Oxygen Demand (BOD).

- b. Prohibited discharges that obstruct flows or contribute to a sanitary sewer overflows.
 - c. Removed prohibition against discharges greater than 120°F.
- 5. Standards 040 (110)**
- a. Removed time limits for pH excursions 16.09.110(c).
 - b. Removed limits on temperature. General prohibition against raising the temperature of the treatment plant influent remains.
 - c. Required verbal and written reporting for discharge of hazardous waste 16.09.110(g).
 - d. Must keep hazardous waste manifests available for inspection 16.09.110(g).
 - e. Must notify and update Toxic Organic Management Plan (TOMP) when changes occur 16.09.110(h).
 - f. May allow a subset of toxic organics to be analyzed based on Toxic Organic Management Plan (TOMP) 16.09.110(i).
 - g. Modified solids discharge prohibition to include viscous materials.
 - h. Changed instantaneous limits to maximum allowable concentrations. 16.09.110(m).
 - i. Changed maximum allowable cyanide concentration from 1.0 to 0.5 mg/L 16.09.110(m).
 - j. Clarified that metals limits are for total metals.
- 6. Best Management Practices 065 (new)**
- a. May require submission of documentation demonstrating implementation.
- 7. Food Service Establishments 075 (103)**
- a. Expanded requirements and codified best management practices.
- 8. Industrial waste discharge permit 080 (020)**
- a. Compliance with permit doesn't ensure compliance with State and Federal requirements.
- 9. Permit Procedure 085 (030)**
- a. Changed "categorical" to "national pretreatment standards."
 - b. All permits, reports and certifications must be signed by authorized representative.
 - c. Notification may be posted on a City web page.
- 10. Requirements for facilities subject to national pretreatment standards 090 (031)**
- a. Reporting requirements for new facilities amended to include critical Federal requirements and reference to the Federal requirements.
- 11. Modification of permit 095 (040)**
- a. Clarification of circumstances leading to permit modifications.
- 12. Discharger Monitoring 110 (061)**
- a. Required cleaning, inspection and testing of sewer and appurtenances for closing industrial and commercial facilities.
- 13. Dilution 115 (121)**
- a. Expressly prohibited dilution without stipulation that the intent be to meet limits.
- 14. Discharger Self Monitoring 120 (095)**
- a. Reorganized to group appropriate topics.
 - b. Samples must be representative of conditions during reporting period.

- c. Analyses and sampling conducted using 40 CFR Part 136.
- d. Superintendent may specify subset of toxic organics appropriate for Single Toxic Organic (STO) and Total Toxic Organics (TTO) monitoring.

15. Maintenance and operation of pollution control equipment 125 (new)

- a. Equipment shall be maintained.
- b. Records of maintenance shall be kept for 3 years and available to inspectors.
- c. Unlawful to tamper with controls, monitoring equipment, or to divert flows.

16. Reporting 130 (150)

- a. Added reporting of any changes to process, discharge, treatment.
- b. Added reporting of any changes for potential for spills or slug loads.

17. Reporting Requirements 135 (033)

- a. Added semi-annual due dates.
- b. Added zero discharge certification.
- c. Added compliance certification.
- d. Added Best Management Practices (BMP) certification.
- e. Added that any additional monitoring must be reported.

18. Reporting Non-compliance 140 (155)

- a. Expanded to include storm drain system, not just sanitary discharges.
- b. Expanded to include/clarify increased loading, slug discharges, accidental discharges, treatment system failures, and hazardous waste discharges in addition to noncompliance with discharge limits.
- c. Added follow-up sampling required within 30 days.
- d. Added must take immediate steps to stop, contain and clean-up discharge.
- e. Added shall take samples representative of discharge or release.

19. Certification of reports 145 (new)

- a. All submissions accompanied by signed certification of accuracy.

20. Falsification of information 150 (new)

- a. Submission of false or misleading information is a violation.

21. Receipt of report 155 (new)

- a. Receipt date is postmark.

22. Retention of records 160 (new)

- a. Records retained for three years and available to inspectors.

23. Storm drain prohibited discharges 165 (106)

- a. Removed that a threatened discharge must demonstrate a "probability of harm" to be prohibited.
- b. Must take steps for containment and clean-up of a storm drain spill.
- c. Added reporting requirements for storm drain spills.
- d. Modified "threatened discharges" to exclude spills where discharge has been controlled and the flow has been blocked in addition to the material is actively being cleaned up.
- e. Carwash to storm drain prohibited for Multi-family residential units and residential development projects.
- f. Carwash provided for new multi-residential moved to 16.09.032
- g. Carwash provided changed to more specifically include multi-single family home community projects. This will specifically now cover home development projects with more than 25 detached or shared wall units.

- h. Covered dumpster area provided for new multi-residential moved to 16.09.032.

24. General Prohibitions and Practices 175 (092, 032)

- a. No Interior (indoor) floor drains unless secondary containment is provided for chemicals, hazardous materials or waste. Exceptions:
 - i. Connected to a wastewater treatment;
 - ii. Protected from spills;
 - iii. Safety showers with a temporary plug or protected from spills;
 - iv. Industrial if no hazardous waste and failsafe valve.
- b. Exterior (outdoor) drains if covered or protected. Reference to single Loading Dock section. Interior floor drains shall not be connected to the storm drain.
- c. Exterior drains to the storm drain. Except:
 - i. Equipment or vehicle washing areas;
 - ii. Areas with chemicals unless secondary containment is provided;
 - iii. Equipment or vehicle fluid changing areas;
 - iv. Loading docks with chemicals (reference to single Loading Dock section).
- d. Roof drains may discharge to the storm drain if roof equipment, tanks, and pipes containing other than potable water, cooling system water, or heating system hot water have secondary containment.
- e. Boiler drain lines may not be discharged to the storm drain system.
- f. Condensate lines may not drain to the storm drain system.
- g. Secondary containment shall be provided for exterior work areas where hazardous materials or hazardous wastes are used or stored.
- h. Aspirators connected to laboratory sink faucets are prohibited.
- i. Laboratory countertops and laboratory sinks shall be separated by a lip.
- j. Sewer traps below laboratory sinks shall be made of glass when there is use of elemental mercury.

25. New Construction 180 (032, 160)

- a. Floor drains allowed when equipped with berms.
- b. Copper drain line prohibition modified to allow copper traps and short length connection pipes only for domestic waste and where alternatives are not practical. 16.09.032(b)(9).
- c. Swimming pool discharge modified to allow fixed discharge point with air gap. 16.09.032(b)(15).
- d. Covered dumpster requirement clarified to cover residential developments providing centralized collection and requiring sizing adequate for all solids waste streams. Clarified use of berm system or grading to prevent runoff. 16.09.032(b)(17)
- e. No mercury switches in sewer or storm drain sumps.
- f. Moved a number of items to 16.06.092 Prohibited Materials and Practices. These items are now standard in most industrial facilities. This was not the case at the time of the original ordinance.
- g. Clarified prohibition on copper roofing and gutters to include downspouts. 16.09.160(b)

26. Personnel Orientation 185 (035)

- a. Clarification of work area and sink signage requirements.

27. Accidental discharge prevention 190 (090)

- a. Preparation of Slug Control Plans may be required.

28. Fountains, pools, spas and cooling towers 205 (114)

- a. Added boilers and cooling systems.
- b. Prohibited discharge to storm drains.
- c. Prohibited addition of chemicals to fountains, pools, spas, cooling towers, storm drains or the sanitary sewer that contain greater than 2 ppm of Molybdenum or Zinc.
- d. Removed passed cooling tower compliance deadline for meeting 0.25 ppm Cu limit and replaced with one year compliance schedule for new cooling towers.

29. Root Control Chemicals 210 (101)

- a. Prohibition against use without permit.

30. Photographic Processing 215 (111)

- a. Records shall be maintained for three years and made available for inspection.
- b. Removed separate limit for photo processors with reduced water use.
- c. Removed passed compliance dates and compliance schedules.

31. Dental Requirements 220 (112)

- a. Removed past dental requirement implementation dates.
- b. Added record retention and availability requirements.
- c. Remove exemptions.
- d. Added annual reporting requirements.

32. Automotive 225 (113)

- a. Removed past automotive requirement implementation dates.
- b. Requirement to handle solids in accordance with State and Local regulations.
- c. Required labeling of storm drains.

33. Enforcement Remedies

- a. Rearranged in order of severity and consolidated all enforcement.
- b. Moved Damage to facilities 275 (130).
- c. Moved termination of discharge 280 (152).
- d. Added not exclusive to those listed in ordinance 280 (new).
- e. Added Warning 240 (new).

34. End

Memorandum



DATE: October 27, 2006

TO: Brad Eggleston, City of Palo Alto

SUBJECT: City of Palo Alto Local Limits
Evaluation

cc: Betsy Elzufon, LWA
Eric Zeigler, LWA

Gorman Lau, P.E.

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INTRODUCTION

The purpose of this technical memorandum is to evaluate recent monitoring data for the period 2004 through 2005 to determine if the City of Palo Alto's (City's) current local limits are adequate to protect the Palo Alto Regional Water Quality Control Plant (RWQCP) from upset, protect biosolids quality, meet current National Pollutant Discharge Elimination System (NPDES) effluent limitations, and protect worker health and safety.

The major elements of this technical memorandum include the following:

- Background;
- Local limits evaluation;
- Local limits update strategy;
- Pretreatment Streamlining Rule; and
- Recommendations.

BACKGROUND

Regional Water Quality Control Plant Treatment Process Description

The City owns and operates the RWQCP, which provides treatment of domestic, commercial, and industrial wastewater from the cities of Los Altos Hills, Los Altos, Palo Alto, Mountain View, the service area of East Palo Alto Sanitary District, and Stanford University. The RWQCP is a tertiary wastewater treatment facility with a dry weather design capacity of 39 million gallons per day (MGD) and can treat up to 80 MGD during wet weather conditions. Wastewater treatment consists of screening, primary sedimentation, fixed film roughing filters, activated sludge, nitrification, secondary clarification, filtration, disinfection, and dechlorination.

Approximately 95% of the treated effluent is discharged into a man-made channel (Latitude 37°27'30", Longitude 122°06'45"), which is tributary to Lower South San Francisco Bay. Approximately 5% of the treated effluent is discharged into the Renzel Marsh Pond, which is a reclamation project. A small percentage of the treated effluent is reused for irrigation and construction dust suppression.

Biosolids are currently thickened, dewatered using belt presses, and incinerated. Ash is hauled offsite and used for soil augmentation on farm and ranch lands in the Central Valley.

Development of Local Limits

The development and implementation of local limits is a requirement of the National Pretreatment Program and the City's NPDES permit. As such, local limits are designed to protect the RWQCP against industrial discharges that may cause treatment process upset, cause violation of NPDES permit requirements, or create potential health and safety concerns for facility operators and the public.

The City's existing local limits were generally derived according to the procedures and recommendations presented in the *USEPA Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program* (1987). Since the development of City's local limits, USEPA developed its *Local Limits Development Guidance* (Local Limits Guidance) in July 2004, which updates the 1987 guidance. The evaluation of the City's local limits presented in this memorandum follows the guidance and recommendations of the Local Limits Guidance.

Pollutants of Concern (POCs)

The 1987 local limits guidance specified ten national POCs: arsenic, cadmium, chromium, copper, cyanide, lead, mercury, nickel, silver, and zinc. The 2004 Local Limits Guidance recommends that the initial ten national POCs be evaluated, as well as five new POCs: molybdenum, selenium, ammonia, 5-day biochemical oxygen demand (BOD), and total suspended solids (TSS).

Local Limits Evaluation

The City currently has local limits for each of the 2004 national POCs except ammonia, BOD, and molybdenum. Additionally, the City has local limits for other constituents for which there are no local limits derivation driving factors or for which adequate data were not available to evaluate the need for a local limit. These constituents were not evaluated as part of this effort.

For this local limits evaluation, updated maximum allowable headworks loadings (MAHLs) were calculated for each of the national POCs (including ammonia and BOD). Adequate data were not available to calculate an MAHL for molybdenum. The purpose of recalculating MAHLs for each POC is to account for updated information including the City's current NPDES permit, recent removal efficiency data, and other changes to RWQCP operations.

LOCAL LIMITS EVALUATION

This local limits evaluation is divided into two tasks:

- Compare current influent loadings with MAHLs for each POC; and
- Review of compliance history.

This local limits evaluation utilizes data collected between January 2004 and December 2005 for influent, effluent, and biosolids. Biosolids data from 2004 and 2005 are evaluated to determine compliance with California Code of Regulations (CCR) and air emission standards.

Comparison of Current Influent Loadings with MAHLs

Evaluation Criteria

Local Limits Guidance recommends that a MAHL be calculated for each POC. After MAHLs are calculated for each POC, the MAHLs are compared to existing influent loadings. Local Limits Guidance suggests that local limits are necessary if any of the following criteria are satisfied:

- Average influent loading of a toxic pollutant exceeds 60 percent of the MAHL, or
- Maximum daily influent loading of a toxic pollutant exceeds 80 percent of the MAHL any time in the 12-month period preceding the analysis, or
- Monthly average influent loading reaches 80 percent of the average design capacity for BOD, TSS, and ammonia during any one month in the 12-month period preceding the analysis.

Because the City's current local limits were derived according to the 1987 local limits guidance, the above criteria were not used to determine POCs for which local limits are necessary. As a result, there are existing local limits for POCs that do not meet the above-listed criteria. These constituents (listed below) are not included in the following local limits evaluation.

- Barium;
- Beryllium;
- Boron;
- Cobalt;
- Fluoride;
- Formaldehyde;
- Manganese;
- Phenols;
- Single toxic organics (STOs);

- Total dissolved solids; and
- Total toxic organics.

For POCs that do not currently have an MAHL or local limit, the 2004 criteria listed above were used to evaluate the need for local limits or other actions for these POCs by the City. Local Limits Guidance recommends the following steps be taken to evaluate POCs for which local limits are not currently established:

- If the current influent pollutant loading exceeds the MAHL, USEPA recommends that a local limit is established for the pollutant. The source of the elevated loading should be investigated, monitoring should be increased, and pollution prevention efforts should be considered.
- If the current influent pollutant loading exceeds the established threshold value (criteria listed previously) for the first time, USEPA recommends increased monitoring for the pollutant.
- If the current influent pollutant loading exceeds the established threshold value for the second time, USEPA recommends establishing a local limit and increasing pollutant monitoring.
- If the current influent pollutant loading is below the established threshold, USEPA recommends reviewing the pollutant periodically.

For pollutants that currently have local limits, USEPA recommends the following steps for evaluating each POC:

- If the current influent POC loading exceeds the MAHL, USEPA recommends revising the local limit (unless an investigation reveals that the elevated loading is due to an unusual, one-time event), investigating the cause of the high loading, identifying any non-complying industries, increasing monitoring of industrial users, and considering adopting pollution prevention efforts.
- If the current influent POC loading has increased significantly from the previous year (e.g. from 55% to 75% of the MAHL), USEPA recommends that the cause of the increased loading be investigated, monitoring for the POC be increased, or the local limit be revised.
- If the current influent POC loading is below the established threshold, USEPA recommends reviewing the pollutant periodically.

MAHL Calculations

MAHLs that were used to derive the City's existing local limits have changed over time due to changes to the RWQCP treatment process, changes to the City's NPDES permit upon renewal, and updates to effluent limitations. Six major factors serve as the basis for MAHL development. These include NPDES permit effluent limitations, California Toxics Rule and San Francisco Bay Region Basin Plan water quality criteria/objectives, biosolids disposal restrictions, air emission standards, treatment process inhibition levels, and treatment plant design capacity.

In this evaluation, MAHLs for each POC were recalculated based on the equations and derivation procedures outlined in the Local Limits Guidance. To calculate MAHLs based on water quality criteria/objectives, it is assumed that the receiving water hardness is 100 mg/L as CaCO₃ (as has been assumed in the existing NPDES permit) and that the receiving water is effluent-dominated. This leads to the direct application of water quality criteria/objectives as effluent limits using the pass-through MAHL derivation equations.

Current treatment plant removal efficiencies have been calculated using influent and final effluent data collected between January 2004 and December 2005. Domestic collection system data are not available for ammonia, BOD, and TSS. Typical domestic collection system data from other municipalities are used for these three constituents.

In this evaluation, the cyanide MAHL was calculated differently from Local Limits Guidance. Additionally, the cyanide MAHL calculation also used the proposed cyanide saltwater site-specific objective (SSO) for San Francisco Bay (draft August 18, 2006), which increases the criterion maximum concentration (acute) from 1 µg/L to 9.4 µg/L and the criterion continuous concentration (chronic) from 1 µg/L to 2.9 µg/L. Under the proposed SSO, the City will also be granted an attenuation factor of 2.25 in the derivation of effluent limits which accounts for dilution and degradation of cyanide in the receiving water. The projected NPDES permit effluent limitation calculation for cyanide is provided in Attachment A.

Instead of using removal efficiencies to calculate the MAHL as described in the Local Limits Guidance, an average cyanide formation load is used to assume that cyanide is always formed during treatment. The average formation load is calculated according to the following equation:

$$L_F = 0.00834 \cdot Q_{IN} \cdot (C_{EFF} - C_{INF}) \quad (1)$$

Where:

L_F = Average formation load [lbs/day];

Q_{IN} = Influent flow rate [MGD];

C_{EFF} = Average effluent pollutant concentration [mg/L]; and

C_{IN} = Average influent pollutant concentration [mg/L].

It is necessary to calculate allowable headworks loadings (AHLs), which are estimated loadings of a pollutant that can be received at the RWQCP headworks without causing the RWQCP to violate a particular operational restriction or environmental criterion. AHLs are calculated for each type of restriction (NPDES permit effluent limitations, RWQCP design capacity, treatment process inhibition levels, and biosolids disposal restrictions), and the most limiting (lowest) AHL is the MAHL. The cyanide MAHL is revised to account for the formation load according to the following equation:

$$MAHL = AHL_{MIN} - L_F \quad (2)$$

Where:

MAHL = Maximum allowable headworks loading [lbs/day];

AHL_{MIN} = Minimum allowable headworks loading [lbs/day]; and

L_F = Average formation load [lbs/day].

The subsequent maximum allowable industrial loading (MAIL) and uniform concentration local limit are calculated according to Local Limits Guidance. The resulting MAHLs for each POC are presented in Table 1. MAHL calculations are presented in further detail in Attachment B.

Table 1. Revised Maximum Allowable Headworks Loadings

Constituent	MAHL (lb/day)
Ammonia	109,000
Arsenic	2.19
Biochemical Oxygen Demand (BOD)	69,100
Cadmium	1.43
Chromium	5.42
Copper	14.8
Cyanide with proposed SSO	1.04
Lead	9.38
Mercury	0.19
Molybdenum ^a	-
Nickel	11.4
Selenium	1.44
Silver	5.04
Total Suspended Solids (TSS)	62,400
Zinc	72.3

^aNo influent data available – no MAHL could be calculated.

Influent Loading Analysis and MAHL Comparison

Influent loadings were calculated as the product of the measured pollutant concentration and influent flow on the day the pollutant sample was taken. Pollutant loadings for each year were statistically analyzed using regression on order statistics (ROS), which is a method that estimates summary statistics for data sets that have non-detect data. The ROS method develops probability plotting positions for each data point (detect and non-detect values) based on an ordering of the data. The log-transformation of the

concentrations is regressed and fit with a least squares line to probability plotting positions. Non-detect data points are assigned concentrations for calculation of summary statistics based on their probability plotting positions and regression line equation. Summary statistics are calculated based on detected data points and "filled-in" non-detect values. Variance summary statistics are calculated using a Tukey-Jackknife algorithm, which sequentially removes one point from the dataset, runs the analysis, and calculates the variance estimators as the average of each of the "n" runs of data.

The ROS method cannot be used if there are insufficient detected data to perform the analysis (<20% detected data), but yet is found to provide only small errors for important summary statistics parameters (mean, median, standard deviation, and interquartile range) when less than 100% of the data are detected. It should also be noted that unless 100% of the data set is detected, the ROS method is only an estimation of the data.

In cases where the ROS method could not be used due to insufficient detected data, a surrogate was used to substitute for non-detect results. The three surrogates commonly used (per Local Limits Guidance) are the reporting limit, zero, and one-half the reporting limit. The most conservative approach is to select a surrogate equal to the reporting limit, which assumes that the pollutant concentration is the maximum possible value. On the other hand, if the surrogate is equal to zero, it assumes that the pollutant concentration is the lowest possible value. Using one-half the reporting limit as the surrogate attempts to compromise between the two extremes. For this local limits evaluation, one-half the reporting limit is used for non-detect data when there were insufficient detected data (e.g. cyanide) to use the ROS method. A summary of the statistical analyses used in calculating influent loadings is presented in Table 2.

Table 2. Summary of Statistical Methods Used for Calculating Influent Loadings

Constituent	2004		2005	
	% Detected Data	Statistical Method Used	% Detected Data	Statistical Method Used
Ammonia	100	ROS	100	ROS
Arsenic	100	ROS	100	ROS
Biochemical Oxygen Demand	100	ROS	100	ROS
Cadmium	100	ROS	98	ROS
Chromium	100	ROS	100	ROS
Copper	100	ROS	100	ROS
Cyanide ^a	-	½ MDL	-	½ MDL
Lead	100	ROS	100	ROS
Mercury	100	ROS	100	ROS
Molybdenum ^b	-	-	-	-
Nickel	100	ROS	100	ROS
Selenium	100	ROS	100	ROS
Silver	100	ROS	100	ROS
Total Suspended Solids	100	ROS	100	ROS
Zinc	100	ROS	100	ROS

^bNo influent data available.

Daily maximum and annual average influent pollutant loadings are summarized in Table 3. A comparison of annual average and daily maximum influent pollutant loadings with the MAHLs are summarized in Table 4.

Local Limits Evaluation

Table 3. Annual Average and Daily Maximum Influent Pollutant Loadings for 2004 and 2005

Constituent	Annual Average Influent Load (lb/day)		Maximum Daily Influent Load (lb/day)	
	2004	2005	2004	2005
Arsenic	0.21	0.23	0.42	0.46
Cadmium	0.06	0.07	0.13	0.17
Chromium	0.74	1.00	1.52	1.91
Copper	11.5	14.2	17.9	22.9
Cyanide	0.16	0.17	0.20	0.21
Lead	0.93	1.12	1.97	1.92
Mercury	0.067	0.050	0.132	0.094
Molybdenum ^a	-	-	-	-
Nickel	1.12	1.59	2.25	2.87
Selenium	0.15	0.18	0.26	0.24
Silver	0.42	0.39	0.93	1.06
Zinc	28.8	30.1	54.9	53.5

^aNo influent data available.

Table 4. Comparison of Influent Pollutant Loadings to MAHLs

Constituent	Average Influent % of MAHL ^a		Maximum Daily Influent % of MAHL ^a	
	2004	2005	2004	2005
Arsenic	9.6%	10.5%	19.2%	21.0%
Cadmium	4.2%	4.9%	9.1%	11.9%
Chromium	13.7%	18.5%	28.0%	35.2%
Copper	77.7%	95.9%	121%	155%
Cyanide with proposed SSO	15.4%	16.3%	19.2%	20.2%
Lead	9.9%	11.9%	21.0%	20.5%
Mercury	35.3%	26.3%	69.5%	49.5%
Molybdenum ^b	–	–	–	–
Nickel	9.8%	13.9%	19.7%	25.2%
Selenium	10.4%	12.5%	18.1%	16.7%
Silver	8.3%	7.7%	18.5%	21.0%
Zinc	39.8%	41.6%	75.9%	74.0%

^aConstituents in bold exceed the average 60% of MAHL influent loading and/or the maximum 80% of MAHL influent loading.

^bNo influent data available.

Local Limits Guidance recommends using a monthly average comparison of influent loading to the MAHL because POTWs are expected to have capacity to consistently treat a specified amount of conventional constituent load to acceptable levels for discharge. Maximum monthly average influent loads for ammonia, BOD, and TSS and percentages of respective MAHLs are provided in Table 5.

Table 5. Maximum Annual Monthly Average Influent Loads for Ammonia, BOD, and TSS

Constituent	2004 Maximum Monthly Average Influent Load (lb/day)	2004 Maximum Monthly Average Influent % of MAHL ^a	2005 Maximum Monthly Average Influent Load (lb/day)	2005 Maximum Monthly Average Influent % of MAHL ^a
Ammonia	5,704	5.2%	5,847	5.4%
Biochemical Oxygen Demand (BOD)	41,375	59.9%	50,634	73.3%
Total Suspended Solids (TSS)	48,574	77.8%	51,831	83.1%

^aConstituents in bold exceed the maximum 80% of MAHL influent loading.

MAHL Evaluation

Based on the evaluation of influent pollutant loadings, local limits should only be considered for several constituents according to Local Limits Guidance criteria previously listed. These constituents include the following:

- Copper; and
- Total suspended solids (TSS).

These constituents trigger additional consideration for local limit development because average and/or maximum daily influent loadings exceed recommended threshold levels outlined in the Local Limits Guidance. The copper local limit needs to be examined further because there is a high influent loading to MAHL ratio. Additionally, it appears that the maximum monthly average influent loading incident for TSS was a one-time event and not consistent with typical conditions. Therefore, local limits for TSS is not necessary at this time according to Local Limits Guidance. The City will continue to monitor influent loadings for these constituents.

Review of Compliance History

Local Limits Guidance recommends that compliance records should also be examined to determine if existing local limits are providing sufficient protection from pass-through and treatment plant/process inhibition and/or upset. The following areas were reviewed to determine the City's compliance history:

- RWQCP inhibition and/or upset;
- NPDES permit effluent limitations;
- Biosolids regulations/air emission standards; and
- Pretreatment program standards.

RWQCP Inhibition and/or Upset

In 2002 and 2003, the RWQCP's nitrification process showed intermittent signs of inhibition. During these episodes, nitrification was not complete and ammonia in the RWQCP's effluent was at higher levels than usual. However, there were no discharge violations. In 2004, such events were relatively minor and no events met the EPA definitions of upset or interference and no effluent limits were violated. In 2005, no periods of nitrification inhibition were noted and only a few minor indications of stress were found during close examination of operational data. The City is currently working with Stanford University, UC Irvine, and a consultant to develop gene-based nitrification testing protocols. The testing protocols will be used to evaluate ammonia oxidizing-related genes involved in nitrification in order to prevent nitrification inhibition. For now, there is no evidence that RWQCP inhibition or upset should trigger changes to existing local limits.

NPDES Permit Effluent Limitations

The City has effluent limitations in its current NPDES permit (CA0037834, adopted September 2003) for copper, mercury, nickel, cyanide, chlorodibromomethane, 4,4'-DDE, dieldrin, heptachlor epoxide, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene. The City has been in compliance with its NPDES permit effluent limitations in 2004 and 2005. While daily copper sample results have exceeded the monthly average limitation for single samples, the City has not exceeded the average monthly effluent limitation between January 2004 and December 2005.

Biosolids Regulations/Air Emission Standards

With the exception of copper, a review of 2004 and 2005 biosolids and ash monitoring data shows that the City is in compliance with all applicable biosolids regulations and air emission standards.

Influent copper mass loadings, and subsequent effluent mass loadings, have increased in recent years. In addition to increases in influent and effluent mass loadings, copper concentrations in the RWQCP's incinerator ash have occasionally exceeded the soluble threshold limit concentration (STLC) hazardous waste limit for copper. Ash is currently applied to pasture and feed crop land as a soil amendment and copper is desirable as a micronutrient for this use. The City has initiated the following steps to verify the apparent increased copper load and to identify causes:

- Evaluate possible changes in industrial copper loading;
- Determine effects of chloramine disinfection on copper corrosion in drinking water piping;
- Investigate possible contamination in fluoride added to drinking water;
- Explore impacts of additions of copper sulfate to drinking water reservoirs;
- Examine effects of collection system line cleaning activities on copper influent;
- Determine relationships between copper concentrations in collection system trunk lines and RWQCP influent; and
- Identify factors influencing copper concentration variability in RWQCP incinerator ash.

Following the completion of these activities, the City will be able to evaluate and implement source control measures to reduce copper in its biosolids.

Pretreatment Program Standards

The City has 20 categorical significant industrial users (SIUs), 48 non-categorical SIUs, and 35 other industrial users. The City conducts sampling of categorical industrial users twice per year, and the industries are required to conduct semi-annual sampling of their discharge as well. Water quality samples are collected and analyzed for compliance

with existing local limits and categorical limits. Inspection frequencies for industrial and commercial users are summarized in Table 6.

Table 6. Pretreatment Program Inspection Frequency

Type of Facility	Discharge Status	Inspection Frequency
Categorical/SIUs	Active	2 per year
Categorical/SIUs	Zero	1 per year
Non-Categorical (potential toxic)	Active	2 per year
Non-Categorical (minor)	Active	1 per year
BMP	Active	1 per year
Non-permitted	Active	1 per year
Groundwater	Active	Upon permit renewal
Machine shops	Active	1 per year
Photo processors	Active	1 per year
Automotive facilities	Active	2 per year
Restaurants	Active	As needed

The City has observed inconsistent compliance with several industrial users with arsenic, chromium, copper, lead, nickel, silver, and zinc. The City enforces its local limits and categorical limits by requiring additional sampling and issuing notices of non-compliance. If these requirements are not met, then the City follows its Enforcement Response Plan and escalates penalties.

LOCAL LIMITS UPDATE STRATEGY

The City currently does not have local limits for ammonia, BOD and molybdenum and the development of these local limits is discussed in this section. Additionally, local limits and strategies to manage copper, as well as cyanide and other POCs, are also discussed in this section.

Ammonia, BOD, and Molybdenum

Local limits for ammonia and BOD are not triggered based on the previously discussed influent loading analysis. However, ammonia and BOD are national POCs. Therefore, the City may consider adopting a uniform local limit for these constituents as a way to regulate industrial discharges and to prevent overloading of the RWQCP. Proposed MAILs and associated uniform concentration local limits for ammonia and BOD are presented in Table 7. Detailed MAIL calculations for these constituents are presented in Attachment B.

Table 7. Maximum Allocation Industrial Loading and Uniform Local Limits

Constituent	Maximum Allowable Industrial Loading (lb/day)	Uniform Local Limit (mg/L) ^a
Ammonia	92,500	9,700
Biochemical Oxygen Demand	21,500	2,300

^aExpressed as a daily maximum concentration.

The City currently does not have sufficient molybdenum data to calculate an MAHL or associated MAIL. It is recommended that the data necessary to develop a local limit be collected.

Copper

The City currently has a tiered approach for allocating copper local limits to its industrial users, which is presented in Table 8.

Table 8. Current Copper Allocations

Group 1 Industrial Users with High-Strength Copper Processes	Group 2 Other Industrial Users with No Known Copper Processes	Group 3 Commercial Users
Individual mass limit or Average Concentration Limit = 0.4 mg/L AND Maximum Concentration Limit >50,000 gpd = 1.0 mg/L <50,000 gpd = 2.0 mg/L	Maximum Concentration Limit = 0.25 mg/L	Maximum Concentration Limit = 2.0 mg/L

The City's current copper allocation has proven to be sufficient for protecting the RWQCP from treatment process inhibition/upset and meeting the City's NPDES permit final effluent limitation for copper. Although influent copper loadings are high compared to the MAHL, the City has completed mass balance studies of copper sources and determined that industrial users contribute only 2% of the total influent copper loadings, as presented in Table 9. Corrosion of piping contributes approximately 58% of the total influent copper loading. The City intends to maintain its current copper local limit allocation and focus on reducing copper loadings from corrosion sources.

Table 9. 2005 Industrial Copper Loadings

Industrial Process Load	Copper Loading (lb/day)
Metal Finishers	0.05
Hospitals	0.08
Laboratories	0.02
Other	0.04
Stanford	0.09
Total Industrial Process Load	0.29
Total Influent Load	14.2

Cyanide

The City changed its influent sampling location in January 2006 because the previous influent sampling location included some amount of RWQCP process return flows, including incinerator scrubber return water, which is known to have high cyanide concentrations. Data collected prior to January 2006 showed periodically high influent cyanide concentrations. In comparison, typical raw influent wastewater contains little to no cyanide. For the influent loading analysis, it was assumed that the influent cyanide concentration was non-detect at a reporting limit of 1.6 µg/L, which were the results from influent monitoring data obtained after changing the influent sampling location in January 2006.

Cyanide is generated through the chlorine disinfection process. As such, the cyanide MAHL was calculated using an average formation loading and completing a mass balance through the treatment process. This calculation method deviates from Local Limits Guidance. Additionally, the proposed cyanide SSO is used in calculating projected NPDES permit effluent limitations that can be expected in the City's next NPDES permit. These assumptions result in a cyanide MAHL of 1.04 lbs/day, which may be uniformly distributed to all industrial users as a maximum daily concentration of 55 µg/L. The City's existing cyanide local limit is 1,000 µg/L. While the City currently does not have compliance issues with its interim cyanide effluent limitation, the City may consider adopting the more stringent cyanide local limit in anticipation of effluent limitations in its next NPDES permit.

Other POCs

This evaluation determined that existing local limits are sufficiently protective for arsenic, cadmium, chromium, lead, mercury, nickel, selenium, silver, zinc and total suspended solids according to Local Limits Guidance. To protect the RWQCP, the City intends to maintain the existing local limits for these constituents.

PRETREATMENT STREAMLINING RULE

In February 2006, USEPA adopted the Pretreatment Streamlining Rule (Streamlining Rule), which requires a publicly-owned treatment work (POTW) to modify certain provisions of its pretreatment program and provides the option to modify other aspects of its pretreatment program. The following changes are required by the Pretreatment Streamlining Rule:

- *Slug control requirements must be included in SIU control mechanisms* [§403.8(f)(1)(iii)(B)(6)] – POTWs must incorporate slug control requirements into their SIU control mechanism and must revise their approved program, if necessary, to ensure that they have the legal authority and procedures to modify control mechanisms as needed.
- *SIUs must be evaluated for the need for a plan or other action to control slug discharges within a year from the final rule's effective date or from becoming an SIU* [§403.8(f)(2)(vi)] – The Streamlining Rule specifies that POTWs must evaluate all of their SIUs for the need for a slug control plan or other actions at least one time. If the POTW has not yet done so, it must complete evaluations before October 14, 2006 or within a year of the IU being designated as significant.
- *SIUs are required to notify the POTW immediately of any changes at its facility affecting the potential for a slug discharge* [§403.8(f)(2)(vi)] – The Streamlining Rule requires SIUs to notify the POTW immediately of changes that occur at the facility affecting the potential for a slug discharge, thereby allowing the POTW to reevaluate the need for a slug control plan or other actions to prevent such discharges.
- *Significant noncompliance (SNC) definition is expanded to include additional types of Pretreatment Standards and Requirements* [§403.8(f)(2)(viii)(A-C)] – The Streamlining Rule made several wording changes that expand the types of Standards and Requirements that are to be considered when determining whether an SIU's violations constitute SNC. These changes affect what USEPA considers "chronic violations" [§403.8(f)(2)(viii)(A)], "Technical Review Criteria violations" [§403.8(f)(2)(viii)(B)], and "other" violations [§403.8(f)(2)(viii)(C)].
- *SIU reports must include Best Management Practice (BMP) compliance information* [§403.12(b),(e),(h)] – The Streamlining Rule requires SIUs to submit documentation as required by the Regional Water Board or applicable Pretreatment Standards and Requirements to determine compliance with BMP-based standards or local limits.
- *SIU control mechanisms must contain any BMPs required by a Pretreatment Standard, local limits, state, or local law* [§403.8(f)(1)(iii)(B)(3)] – The Streamlining Rule clarified that among effluent limits that must be contained in all SIU control mechanisms are BMPs that are required by a categorical Pretreatment standard, local limit, state or local law.

- *Documentation of compliance with BMP requirements must be maintained as part of the SIU's and POTW's record-keeping requirements [§403.12(o)]* – The Streamlining Rule clarified that the POTW and the SIU must maintain records of BMP compliance in the same way other records are maintained as part of §403.12(o).
- *Control Authorities which perform sampling for SIUs must perform any required repeat sampling and analysis within 30 days of becoming aware of a violation [§403.12(g)(2)]* – The Streamlining Rule provides that where a Control Authority has assumed responsibility for sampling in lieu of the SIU, it is the Control Authority which must repeat sampling and analysis within 30 days of becoming aware of an exceedance. The only exception to this requirement is if the Control Authority specifically requires the Industrial User to perform the repeat analysis.
- *Require periodic compliance reports to comply with sampling requirements, require Control Authority to specify the number of grab samples necessary in periodic and non-categorical SIU reports, and require non-categorical SIUs to report all monitoring results [§403.12(g)(3),(4),(6)]* – SIUs are now required to follow sampling requirements in §403.12 for periodic compliance report [§403.12(e) and (h)], whereas they were previously only explicitly applicable to baseline monitoring reports and 90-day compliance reports. In addition, for the reports required in §403.12(e) and (h), the Streamlining Rule requires the Control Authority to indicate the number of grab samples necessary to assess and assure compliance by industrial users with applicable categorical Pretreatment Standards and Requirements. Also, non-categorical SIUs are required to report all monitoring results, whereas the previous regulations only made this requirement explicit for categorical SIUs.
- *Non-categorical SIUs are required to provide representative samples in their periodic monitoring report [§403.12(g)(3)]* – The Streamlining Rule extends to the §403.12(b), (d), and (h) monitoring requirements that SIUs provide data which are representative of conditions during the reporting period.

Prior to the adoption of the Streamlining Rule, there were no rules regarding whether a POTW could use BMPs in lieu of numeric local limits and industrial users were not explicitly required to report compliance data from BMPs. With regards to implementation of BMPs in the Pretreatment Program, the Streamlining Rule specifies:

- BMPs developed by POTWs may serve as local limits;
- Full categorical industrial user reporting is required where BMPs are required for categorical standards;
- The necessity for POTWs to document the rationale for specific BMPs;
- The definitions of BMPs; and
- What USEPA considers as the minimum elements that make BMPs enforceable.

RECOMMENDATIONS

Local Limits Update

It is recommended that the City adopt and implement the local limits presented in Table 10.

Table 10. Proposed Local Limits for the City of Palo Alto

Constituent	Maximum Allowable Industrial Loading (lb/day)	Uniform Local Limit (mg/L) ^a
Ammonia	92,500	9,700
Biochemical Oxygen Demand	21,500	2,300

^aExpressed as a daily maximum concentration.

The City intends to maintain its existing copper local limit and focus on reducing influent copper loadings to the RWQCP from other sources, particularly corrosion of piping. Because adequate RWQCP data are not available for several constituents with existing local limits, and there are no driving factors for the development of local limits for many of these existing local limits constituents, only the 15 USEPA pollutants of concern (POCs) were considered in this evaluation. It is also recommended that the City collect molybdenum data so that a local limit can be developed.

Pretreatment Streamlining Rule

It is recommended that the City implement modifications to its pretreatment program as required by the Streamlining Rule. The City may also want to consider optional aspects of the Streamlining Rule such as developing BMPs in lieu of local limits in the future.

Ongoing Evaluation

The local limits that were developed as part of this effort are part of a dynamic process that includes periodic review and update as necessary. The City currently has an effective ongoing monitoring program that collects data that are necessary for local limits evaluations and tracks trends in POC loadings. It is recommended that the City collect molybdenum data during its residential monitoring events as well as at the RWQCP influent so that a local limit for molybdenum can be developed. Additionally, it is recommended that the City periodically collect priority pollutant organics data at its residential monitoring locations.

Future circumstances may again create a need to update the City's MAILs to allow for the compliance with environmental and operational restrictions. Such circumstances may include the following:

- Significant changes in the City's industrial base;

- Significant changes in discharge characteristics of existing industries;
- Significant changes in environmental and/or NPDES permit regulations applicable to City;
- Future facility operational difficulties, discharge compliance difficulties, or biosolids disposal compliance difficulties from any constituents known or suspected to be significantly contributed from industrial sources;
- Future facility infrastructure upgrades that can affect wastewater and/or biosolids treatment processes and quality; and
- Difficulties in meeting local limits without any corresponding facility operational challenges, discharge compliance challenges, or biosolids disposal compliance challenges.



Attachment A
Projected NPDES Permit Effluent Limitation
Calculation for Cyanide



Water Quality-Based Effluent Limitations Calculation

Constituent Units	Cyanide ug/L
Basis and Criteria Type	BP SW with SSO
Lowest WQO	2.9
Translators? (Y/N)	N
Dilution Factor (D) (if applicable)	2.25
No. of samples per month	4
Aquatic life criteria analysis required? (Y/N)	N
HH criteria analysis required? (Y/N)	Y
Applicable Acute WQO	9.4
Applicable Chronic WQO	2.9
HH criteria	220000
Background (max conc for Aq Life calc)	0.4
Background (avg conc for HH calc)	0.4
Is the pollutant Bioaccumulative? (Y/N)	N
ECA acute	29.65
ECA chronic	8.525
ECA HH	714999
No. of data points < 10 or at least 80% of data reported non detect? (Y/N)	N
Avg of effluent data points	2.96
Std Dev of effluent data points	1.65
CV calculated	0.56
CV (Selected) - Final	0.56
ECA acute mult99	0.34
ECA chronic mult99	0.55
LTA acute	10.1
LTA chronic	4.7
minimum of LTAs	4.7
AMEL mult95	1.51
MDEL mult99	2.94
AMEL (aq life)	7.1
MDEL (aq life)	14
MDEL/AMEL Multiplier	1.94
AMEL (HH)	714999
MDEL (HH)	1388335
minimum of AMEL for Aq. Life vs HH	7.1
minimum of MDEL for Aq. Life vs HH	13.7
Average Monthly Concentration (AMC)	7.3
Maximum Effluent Concentration (MEC)	7.3
Feasibility to comply?	No

*Calculations based on data collected from August 2003-August 2006.



Attachment B
Local Limits Derivation Worksheets



Local Limits - Conventional

A	B	C	D	E
1	Ammonia			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	mg/L	24.3	January 2004-December 2005 Data
7	Maximum Influent Concentration	mg/L	34	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	mg/L	23.2	January 2004-December 2005 Data
9	Average Effluent Concentration	mg/L	0.1	January 2004-December 2005 Data
10	Maximum Effluent Concentration	mg/L	0.52	January 2004-December 2005 Data
11	Average Domestic Concentration	mg/L	25.3	Reference Data
12	Existing Loading			
13	Average Influent Loading	lbs/day	5,249	$8.34 \cdot D4 \cdot D6$
14	Maximum Influent Loading	lbs/day	7,344	$8.34 \cdot D4 \cdot D7$
15	Average Domestic Loading	lbs/day	5,108	$8.34 \cdot (D4 - D5) \cdot D11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	99.6%	$(D6 - D9) / D6$
18	In-Plant Removal, Worst	%	97.9%	$(D6 - D10) / D6$
19	In-Plant Primary Removal	%	4.5%	$(D6 - D8) / D6$
20	Treatment/Discharge Limits			
21	Discharge Limit (Daily)	mg/L	8	NPDES Permit
22	Discharge Limit (Monthly)	mg/L	3	NPDES Permit
23	Activated Sludge Inhibition Limit	mg/L	480	EPA Local Limits Guidance Manual
24	Plant Capacity	mg/L	-	-
25	Headworks Loading Limits			
26	Daily Discharge Loading Limit	lbs/day	419,916	$8.34 \cdot D4 \cdot D21 / (1 - D17)$
27	Monthly Discharge Loading Limit	lbs/day	157,468	$8.34 \cdot D4 \cdot D22 / (1 - D17)$
28	Activated Sludge Inhibition Loading Limit	lbs/day	108,599	$8.34 \cdot D4 \cdot D23 / (1 - D19)$
29	Plant Capacity Loading Limit	lbs/day	-	-
30	Maximum Allowable Headworks Loading (MAHL)			
31	Headworks Limit	lbs/day	108,599	MIN(D26:D29)
32	Driving Factor			Activated Sludge Inhibition Loading Limit
33	Maximum Allowable Industrial Loading (MAIL)			
34	Safety Factor	10%	10,860	$C34 \cdot D31$
35	Industrial Allocation	lbs/day	92,631	$D31 - D15 - D34$
36	Equivalent Across-the-Board Limit	mg/L	6,572	$D35 / D5 / 8.34$

Local Limits - Conventional

	F	G	H	I	J
1	Biochemical Oxygen Demand (BOD)				
2			Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)				
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow	
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report	
6	Average Influent Concentration	mg/L	204	January 2004-December 2005 Data	
7	Maximum Influent Concentration	mg/L	290	January 2004-December 2005 Data	
8	Average Primary Effluent Concentration	mg/L	-	-	
9	Average Effluent Concentration	mg/L	1.5	January 2004-December 2005 Data	
10	Maximum Effluent Concentration	mg/L	3.7	January 2004-December 2005 Data	
11	Average Domestic Concentration	mg/L	197	Reference Data	
12	Existing Loading				
13	Average Influent Loading	lbs/day	44,065	8.34*I4*I6	
14	Maximum Influent Loading	lbs/day	62,642	8.34*I4*I7	
15	Average Domestic Loading	lbs/day	39,777	8.34*(I4-I5)*I11	
16	Removal Efficiency				
17	In-Plant Removal, Typical	%	99.3%	(I6-I9)/I6	
18	In-Plant Removal, Worst	%	98.2%	(I6-I10)/I6	
19	In-Plant Primary Removal	%	-	-	
20	Treatment/Discharge Limits				
21	Discharge Limit (Daily)	mg/L	20	NPDES Permit	
22	Discharge Limit (Monthly)	mg/L	10	NPDES Permit	
23	Activated Sludge Inhibition Limit	mg/L	-	-	
24	Plant Capacity	mg/L	320	Design Capacity	
25	Headworks Loading Limits				
26	Daily Discharge Loading Limit	lbs/day	587,536	8.34*I4*I21/(1-I17)	
27	Monthly Discharge Loading Limit	lbs/day	293,768	8.34*I4*I22/(1-I17)	
28	Activated Sludge Inhibition Loading Limit	lbs/day	-	-	
29	Plant Capacity Loading Limit	lbs/day	69,122	8.34*I4*I24	
30	Maximum Allowable Headworks Loading (MAHL)				
31	Headworks Limit	lbs/day	69,122	MIN(I26:I29)	
32	Driving Factor			Plant Capacity Loading Limit	
33	Maximum Allowable Industrial Loading (MAIL)				
34	Safety Factor	10%	6,912	H34*I31	
35	Industrial Allocation	lbs/day	22,433	I31-I15-I34	
36	Equivalent Across-the-Board Limit	mg/L	1,592	I35/I5/8.34	

Local Limits - Conventional

	K	L	M	N	O
1	Total Suspended Solids (TSS)				
2			Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)				
4		Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5		Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6		Average Influent Concentration	mg/L	209	January 2004-December 2005 Data
7		Maximum Influent Concentration	mg/L	330	January 2004-December 2005 Data
8		Average Primary Effluent Concentration	mg/L	57	January 2004-December 2005 Data
9		Average Effluent Concentration	mg/L	1.3	January 2004-December 2005 Data
10		Maximum Effluent Concentration	mg/L	5.7	January 2004-December 2005 Data
11		Average Domestic Concentration	mg/L	158	Reference Data
12	Existing Loading				
13		Average Influent Loading	lbs/day	45,145	8.34*N4*N6
14		Maximum Influent Loading	lbs/day	71,282	8.34*N4*N7
15		Average Domestic Loading	lbs/day	31,902	8.34*(N4-N5)*N11
16	Removal Efficiency				
17		In-Plant Removal, Typical	%	99.4%	(N6-N9)/N6
18		In-Plant Removal, Worst	%	97.3%	(N6-N10)/N6
19		In-Plant Primary Removal	%	-	-
20	Treatment/Discharge Limits				
21		Discharge Limit (Daily)	mg/L	20	NPDES Permit
22		Discharge Limit (Monthly)	mg/L	10	NPDES Permit
23		Activated Sludge Inhibition Limit	mg/L	-	-
24		Plant Capacity	mg/L	289	Design Capacity
25	Headworks Loading Limits				
26		Daily Discharge Loading Limit	lbs/day	694,542	8.34*N4*N21/(1-N17)
27		Monthly Discharge Loading Limit	lbs/day	347,271	8.34*N4*N22/(1-N17)
28		Activated Sludge Inhibition Loading Limit	lbs/day	-	-
29		Plant Capacity Loading Limit	lbs/day	62,426	8.34*N4*N24
30	Maximum Allowable Headworks Loading (MAHL)				
31		Headworks Limit	lbs/day	62,426	MIN(N26:N29)
32		Driving Factor			Plant Capacity Loading Limit

Local Limits - Priority Pollutant Metals

A	B	C	D	E
1	Arsenic			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	1.1	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	2.2	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	0.9	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	0.8	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	1	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	0.94	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	0.24	$0.00834 * D4 * D6$
14	Maximum Influent Loading	lbs/day	0.48	$0.00834 * D4 * D7$
15	Average Domestic Loading	lbs/day	0.19	$0.00834 * (D4 - D5) * D11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	27.3%	$(D6 - D9) / D6$
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	18.2%	$(D6 - D8) / D6$
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	3.14	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	36	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	-	-
32	Activated Sludge Inhibition Limit	ug/L	100	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	1,500	EPA Local Limits Guidance
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	10	40 CFR 503.43
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	500	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	10.7	$0.00834 * D4 * D29 / (1 - D17)$
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	-	-
42	Activated Sludge Inhibition Loading Limit	lbs/day	26.4	$0.00834 * D4 * D32 / (1 - D19)$
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	396	$0.00834 * D4 * D34 / (1 - D19)$
45	Incinerator Biosolids Feed Loading Limit	lbs/day	2.19	$8.34 * D21 * D23 * D25 * D35 / D17$
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	17.5	$8.34 * D22 * D26 * D37 / D17$
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	2.19	MIN(D39:D47)
50	Driving Factor			Incinerator Biosolids Feed Loading Limit

Local Limits - Priority Pollutant Metals

	F	G	H	I	J
1	Cadmium				
2			Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)				
4		Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5		Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6		Average Influent Concentration	ug/L	0.3	January 2004-December 2005 Data
7		Maximum Influent Concentration	ug/L	0.7	January 2004-December 2005 Data
8		Average Primary Effluent Concentration	ug/L	0.4	January 2004-December 2005 Data
9		Average Effluent Concentration	ug/L	0.1	January 2004-December 2005 Data
10		Maximum Effluent Concentration	ug/L	0.3	January 2004-December 2005 Data
11		Average Domestic Concentration	ug/L	0.4	March 2000-September 2005 Data
12	Existing Loadings				
13		Average Influent Loading	lbs/day	0.06	$0.00834 \cdot I_4 \cdot I_6$
14		Maximum Influent Loading	lbs/day	0.15	$0.00834 \cdot I_4 \cdot I_7$
15		Average Domestic Loading	lbs/day	0.08	$0.00834 \cdot (I_4 - I_5) \cdot I_{11}$
16	Removal Efficiency				
17		In-Plant Removal, Typical	%	66.7%	$(I_6 - I_9) / I_6$
18		In-Plant Removal, Worst	%	-	-
19		In-Plant Primary Removal	%	-33.3%	$(I_6 - I_8) / I_6$
20	Existing Conditions (Biosolids)				
21		Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22		Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23		Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24		Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25		Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26		Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27		Average Ash Concentration, Wet	mg/kg	1.17	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits				
29		Water Quality Criteria/Objective (Lowest)	ug/L	2.4	California Toxics Rule/Basin Plan
30		Discharge Limit (Daily)	ug/L	-	-
31		Discharge Limit (Monthly)	ug/L	-	-
32		Activated Sludge Inhibition Limit	ug/L	1,000	EPA Local Limits Guidance
33		Trickling Filter Inhibition Limit	ug/L	-	-
34		Nitrification Inhibition Limit	ug/L	5,200	EPA Local Limits Guidance
35		Incinerator Biosolids Feed Limit, Dry	mg/kg	59	40 CFR 503.43
36		Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37		Biosolids CCR Limit, Wet	mg/kg	100	CCR 22-66261.24
38	Headworks Loading Limits				
39		Water Quality Loading Limit	lbs/day	1.57	$0.00834 \cdot I_4 \cdot I_{29} / (1 - I_{17})$
40		Daily Discharge Loading Limit	lbs/day	-	-
41		Monthly Discharge Loading Limit	lbs/day	-	-
42		Activated Sludge Inhibition Loading Limit	lbs/day	162	$0.00834 \cdot I_4 \cdot I_{32} / (1 - I_{19})$
43		Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44		Nitrification Inhibition Loading Limit	lbs/day	842	$0.00834 \cdot I_4 \cdot I_{34} / (1 - I_{19})$
45		Incinerator Biosolids Feed Loading Limit	lbs/day	5.29	$8.34 \cdot I_{21} \cdot I_{23} \cdot I_{25} \cdot I_{35} / I_{17}$
46		Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47		Biosolids CCR Loading Limit	lbs/day	1.43	$8.34 \cdot I_{22} \cdot I_{26} \cdot I_{37} / I_{17}$
48	Maximum Allowable Headworks Loading (MAHL)				
49		Limiting MAHL	lbs/day	1.43	MIN(I39:I47)
50		Driving Factor			Biosolids CCR Loading Limit

Local Limits - Priority Pollutant Metals

	K	L	M	N	O
1	Chromium (Total)				
2			Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)				
4		Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5		Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6		Average Influent Concentration	ug/L	4.2	January 2004-December 2005 Data
7		Maximum Influent Concentration	ug/L	8	January 2004-December 2005 Data
8		Average Primary Effluent Concentration	ug/L	1.1	January 2004-December 2005 Data
9		Average Effluent Concentration	ug/L	0.5	January 2004-December 2005 Data
10		Maximum Effluent Concentration	ug/L	1.1	January 2004-December 2005 Data
11		Average Domestic Concentration	ug/L	3.97	March 2000-September 2005 Data
12	Existing Loadings				
13		Average Influent Loading	lbs/day	0.91	$0.00834 * N4 * N6$
14		Maximum Influent Loading	lbs/day	1.73	$0.00834 * N4 * N7$
15		Average Domestic Loading	lbs/day	0.80	$0.00834 * (N4 - N5) * N11$
16	Removal Efficiency				
17		In-Plant Removal, Typical	%	88.1%	$(N6 - N9) / N6$
18		In-Plant Removal, Worst	%	-	-
19		In-Plant Primary Removal	%	73.8%	$(N6 - N8) / N6$
20	Existing Conditions (Biosolids)				
21		Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22		Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23		Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24		Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25		Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26		Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27		Average Ash Concentration, Wet	mg/kg	28.7	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits				
29		Water Quality Criteria/Objective (Lowest)	ug/L	11.4	California Toxics Rule/Basin Plan
30		Discharge Limit (Daily)	ug/L	-	-
31		Discharge Limit (Monthly)	ug/L	-	-
32		Activated Sludge Inhibition Limit	ug/L	1,000	EPA Local Limits Guidance
33		Trickling Filter Inhibition Limit	ug/L	3,500	EPA Local Limits Guidance
34		Nitrification Inhibition Limit	ug/L	250	EPA Local Limits Guidance
35		Incinerator Biosolids Feed Limit, Dry	mg/kg	230	40 CFR 503.43
36		Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37		Biosolids CCR Limit, Wet	mg/kg	500	CCR 22-66261.24
38	Headworks Loading Limits				
39		Water Quality Loading Limit	lbs/day	20.7	$0.00834 * N4 * N29 / (1 - N17)$
40		Daily Discharge Loading Limit	lbs/day	-	-
41		Monthly Discharge Loading Limit	lbs/day	-	-
42		Activated Sludge Inhibition Loading Limit	lbs/day	825	$0.00834 * N4 * N32 / (1 - N19)$
43		Trickling Filter Inhibition Loading Limit	lbs/day	2,887	$0.00834 * N4 * N33 / (1 - N19)$
44		Nitrification Inhibition Loading Limit	lbs/day	206	$0.00834 * N4 * N34 / (1 - N19)$
45		Incinerator Biosolids Feed Loading Limit	lbs/day	15.6	$8.34 * N21 * N23 * N25 * N35 / N17$
46		Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47		Biosolids CCR Loading Limit	lbs/day	5.42	$8.34 * N22 * N26 * N37 / N17$
48	Maximum Allowable Headworks Loading (MAHL)				
49		Limiting MAHL	lbs/day	5.42	MIN(N39:N47)
50		Driving Factor			Biosolids CCR Loading Limit

Local Limits - Priority Pollutant Metals

P	Q	R	S	T
1	Copper			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	62.8	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	110	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	38.8	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	9	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	16	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	78.2	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	13.6	$0.00834 * S4 * S6$
14	Maximum Influent Loading	lbs/day	23.8	$0.00834 * S4 * S7$
15	Average Domestic Loading	lbs/day	15.8	$0.00834 * (S4 - S5) * S11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	85.7%	$(S6 - S9) / S6$
18	In-Plant Removal, Worst	%	74.5%	$(S6 - S10) / S6$
19	In-Plant Primary Removal	%	38.2%	$(S6 - S8) / S6$
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	780	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	-	-
30	Discharge Limit (Daily)	ug/L	17.4	NPDES Permit
31	Discharge Limit (Monthly)	ug/L	11.8	NPDES Permit
32	Activated Sludge Inhibition Limit	ug/L	1,000	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	50	EPA Local Limits Guidance
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	-	-
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	2,500	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	-	-
40	Daily Discharge Loading Limit	lbs/day	14.8	$0.00834 * S4 * S30 / (1 - S18)$
41	Monthly Discharge Loading Limit	lbs/day	17.8	$0.00834 * S4 * S31 / (1 - S17)$
42	Activated Sludge Inhibition Loading Limit	lbs/day	350	$0.00834 * S4 * S32 / (1 - S19)$
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	17.5	$0.00834 * S4 * S34 / (1 - S19)$
45	Incinerator Biosolids Feed Loading Limit	lbs/day	-	-
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	27.8	$8.34 * S22 * S26 * S37 / S17$
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	14.8	MIN(S39:S47)
50	Driving Factor			Daily Discharge Loading Limit

Local Limits - Priority Pollutant Metals

U	V	W	X	Y
1	Lead			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	5	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	9	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	4.4	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	0.3	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	2.7	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	7.6	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	1.08	$0.00834 * X4 * X6$
14	Maximum Influent Loading	lbs/day	1.94	$0.00834 * X4 * X7$
15	Average Domestic Loading	lbs/day	1.53	$0.00834 * (X4 - X5) * X11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	94.0%	$(X6 - X9) / X6$
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	12.0%	$(X6 - X8) / X6$
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	62.9	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	2.6	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	-	-
32	Activated Sludge Inhibition Limit	ug/L	1,000	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	500	EPA Local Limits Guidance
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	540	40 CFR 503.43
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	1,000	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	9.38	$0.00834 * X4 * X29 / (1 - X17)$
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	-	-
42	Activated Sludge Inhibition Loading Limit	lbs/day	245	$0.00834 * X4 * X32 / (1 - X19)$
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	123	$0.00834 * X4 * X34 / (1 - X19)$
45	Incinerator Biosolids Feed Loading Limit	lbs/day	34.3	$8.34 * X21 * X23 * X25 * X35 / X17$
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	10.1	$8.34 * X22 * X26 * X37 / X17$
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	9.38	MIN(X39:X47)
50	Driving Factor			Water Quality Loading Limit

Local Limits - Priority Pollutant Metals

Z	AA	AB	AC	AD
1	Mercury			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	0.269	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	0.7	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	-	-
9	Average Effluent Concentration	ug/L	0.005	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	0.012	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	0.19	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	0.06	$0.00834 * AC4 * AC6$
14	Maximum Influent Loading	lbs/day	0.15	$0.00834 * AC4 * AC7$
15	Average Domestic Loading	lbs/day	0.04	$0.00834 * (AC4 - AC5) * AC11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	98.1%	$(AC6 - AC9) / AC6$
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	10.0%	EPA Local Limits Guidance
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	0.011	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	0.025	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	0.023	NPDES Permit
32	Activated Sludge Inhibition Limit	ug/L	100	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	-	-
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	112	40 CFR 61.52
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	20	CCR 22-86261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	0.29	$0.00834 * AC4 * AC29 / (1 - AC17)$
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	0.27	$0.00834 * AC4 * AC31 / (1 - AC17)$
42	Activated Sludge Inhibition Loading Limit	lbs/day	24.0	$0.00834 * AC4 * AC32 / (1 - AC19)$
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	-	-
45	Incinerator Biosolids Feed Loading Limit	lbs/day	6.82	$8.34 * AC21 * AC23 * AC25 * AC35 / AC17$
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	0.19	$8.34 * AC22 * AC26 * AC37 / AC17$
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	0.19	MIN($AC39; AC47$)
50	Driving Factor			Biosolids CCR Loading Limit

Local Limits - Priority Pollutant Metals

AE	AF	AG	AH	AI
1	Nickel			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	6.6	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	12	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	4.4	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	3.2	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	4	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	5.25	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	1.43	0.00834*AH4*AH6
14	Maximum Influent Loading	lbs/day	2.59	0.00834*AH4*AH7
15	Average Domestic Loading	lbs/day	1.06	0.00834*(AH4-AH5)*AH11
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	51.5%	(AH6-AH9)/AH6
18	In-Plant Removal, Worst	%	39.4%	(AH6-AH10)/AH6
19	In-Plant Primary Removal	%	33.3%	(AH6-AH8)/AH6
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	36.1	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	-	-
30	Discharge Limit (Daily)	ug/L	32.2	NPDES Permit
31	Discharge Limit (Monthly)	ug/L	25.6	NPDES Permit
32	Activated Sludge Inhibition Limit	ug/L	1,000	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	250	EPA Local Limits Guidance
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	48,000	40 CFR 503.43
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	2,000	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	-	-
40	Daily Discharge Loading Limit	lbs/day	11.5	0.00834*AH4*AH30/(1-AH18)
41	Monthly Discharge Loading Limit	lbs/day	11.4	0.00834*AH4*AH31/(1-AH17)
42	Activated Sludge Inhibition Loading Limit	lbs/day	324	0.00834*AH4*AH32/(1-AH19)
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	81.0	0.00834*AH4*AH34/(1-AH19)
45	Incinerator Biosolids Feed Loading Limit	lbs/day	5,569	8.34*AH21*AH23*AH25*AH35/AH17
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	37.0	8.34*AH22*AH26*AH37/AH17
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	11.4	MIN(AH39:AH47)
50	Driving Factor			Monthly Discharge Loading Limit

Local Limits - Priority Pollutant Metals

AJ	AK	AL	AM	AN
1	Selenium			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	0.8	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	1.3	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	1.2	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	0.6	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	0.8	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	0.52	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	0.17	$0.00834 \cdot AM4 \cdot AM6$
14	Maximum Influent Loading	lbs/day	0.28	$0.00834 \cdot AM4 \cdot AM7$
15	Average Domestic Loading	lbs/day	0.10	$0.00834 \cdot (AM4 - AM5) \cdot AM11$
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	25.0%	$(AM6 - AM9) / AM6$
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	-	-
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	3.41	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	5	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	-	-
32	Activated Sludge Inhibition Limit	ug/L	-	-
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	-	-
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	-	-
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	500	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	1.44	$0.00834 \cdot AM4 \cdot AM29 / (1 - AM17)$
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	-	-
42	Activated Sludge Inhibition Loading Limit	lbs/day	-	-
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	-	-
45	Incinerator Biosolids Feed Loading Limit	lbs/day	-	-
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	19.1	$8.34 \cdot AM22 \cdot AM26 \cdot AM37 / AM17$
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	1.44	$MIN(AM39; AM47)$
50	Driving Factor			Water Quality Loading Limit

Local Limits - Priority Pollutant Metals

AC	AP	AQ	AR	AS
1	Silver			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	1.9	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	5	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	1.1	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	<0.2	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	<0.2	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	0.87	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	0.41	0.00834*AR4*AR6
14	Maximum Influent Loading	lbs/day	1.08	0.00834*AR4*AR7
15	Average Domestic Loading	lbs/day	0.18	0.00834*(AR4-AR5)*AR11
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	94.7%	(AR6-AR9)/AR6
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	-	-
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	30.6	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	2.2	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	-	-
32	Activated Sludge Inhibition Limit	ug/L	-	-
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	-	-
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	-	-
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	500	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	9.17	0.00834*AR4*AR29/(1-AR17)
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	-	-
42	Activated Sludge Inhibition Loading Limit	lbs/day	-	-
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	-	-
45	Incinerator Biosolids Feed Loading Limit	lbs/day	-	-
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	5.04	8.34*AR22*AR26*AR37/AR17
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	5.04	MIN(AR39:AR47)
50	Driving Factor			Biosolids CCR Loading Limit

Local Limits - Priority Pollutant Metals

AT	AU	AV	AW	AX
1	Zinc			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	141	January 2004-December 2005 Data
7	Maximum Influent Concentration	ug/L	280	January 2004-December 2005 Data
8	Average Primary Effluent Concentration	ug/L	79	January 2004-December 2005 Data
9	Average Effluent Concentration	ug/L	48	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	68	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	161	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	30	0.00834*AW4*AW6
14	Maximum Influent Loading	lbs/day	60	0.00834*AW4*AW7
15	Average Domestic Loading	lbs/day	33	0.00834*(AW4-AW5)*AW11
16	Removal Efficiency			
17	In-Plant Removal, Typical	%	66.0%	(AW6-AW9)/AW6
18	In-Plant Removal, Worst	%	-	-
19	In-Plant Primary Removal	%	44.0%	(AW6-AW8)/AW6
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	992	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	120	California Toxics Rule/Basin Plan
30	Discharge Limit (Daily)	ug/L	-	-
31	Discharge Limit (Monthly)	ug/L	-	-
32	Activated Sludge Inhibition Limit	ug/L	300	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	290	EPA Local Limits Guidance
35	Incinerator Biosolids Feed Limit, Dry	mg/kg	-	-
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	5,000	CCR 22-66261.24
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	76.1	0.00834*AW4*AW29/(1-AW17)
40	Daily Discharge Loading Limit	lbs/day	-	-
41	Monthly Discharge Loading Limit	lbs/day	-	-
42	Activated Sludge Inhibition Loading Limit	lbs/day	116	0.00834*AW4*AW32/(1-AW19)
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	112	0.00834*AW4*AW34/(1-AW19)
45	Incinerator Biosolids Feed Loading Limit	lbs/day	-	-
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	72.3	8.34*AW22*AW26*AW37/AW17
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	72.3	MIN(AW39:AW47)
50	Driving Factor			Biosolids CCR Loading Limit

Local Limits - Other Toxics

A	B	C	D	E
1	Cyanide with Proposed SSO (August 2006 Draft)			
2		Units	Calculations	Formula/Source
3	Existing Conditions (Wastewater)			
4	Average Influent Flow	mgd	25.9	2005 Average Influent Flow
5	Average Industrial Flow	mgd	1.69	2005 Pretreatment Annual Report
6	Average Influent Concentration	ug/L	<1.6	Post December 2006 Data*
7	Maximum Influent Concentration	ug/L	<1.6	Post December 2006 Data*
8	Average Primary Effluent Concentration	ug/L	-	-
9	Average Effluent Concentration	ug/L	3.1	January 2004-December 2005 Data
10	Maximum Effluent Concentration	ug/L	7.3	January 2004-December 2005 Data
11	Average Domestic Concentration	ug/L	<1.6	March 2000-September 2005 Data
12	Existing Loadings			
13	Average Influent Loading	lbs/day	0.17	0.00834*D4*D6
14	Maximum Influent Loading	lbs/day	0.17	0.00834*D4*D7
15	Average Domestic Loading	lbs/day	0.16	0.00834*(D4-D5)*D11
16	Average Effluent Loading	lbs/day	0.67	0.00834*D4*D9
17	Average Formation Loading	lbs/day	0.50	D16-D13
18	Removal Efficiency			
19	In-Plant Primary Removal	%	0.0%	Assumed Zero Removal
20	Existing Conditions (Biosolids)			
21	Biosolids Flow to Incinerator	mgd	0.027	Average Flow to Incinerator
22	Biosolids Flow to Landfill	mgd	0.0013	Average Flow to Landfill
23	Percent Solids to Incinerator	%	26.9%	January 2004-December 2005 Data
24	Percent Solids to Landfill	%	58.3%	January 2004-December 2005 Data
25	Biosolids Density to Incinerator	kg/L	1.00	Local Limits Guidance
26	Biosolids Density to Landfill	kg/L	0.88	Metcalf & Eddy
27	Average Ash Concentration, Wet	mg/kg	3.18	January 2004-December 2005 Data
28	Treatment/Discharge/Disposal Limits			
29	Water Quality Criteria/Objective (Lowest)	ug/L	-	-
30	Discharge Limit (Daily)	ug/L	14	Projected NPDES Permit Limits
31	Discharge Limit (Monthly)	ug/L	7.1	Projected NPDES Permit Limits
32	Activated Sludge Inhibition Limit	ug/L	100	EPA Local Limits Guidance
33	Trickling Filter Inhibition Limit	ug/L	-	-
34	Nitrification Inhibition Limit	ug/L	340	EPA Local Limits Guidance
35	Incinerator Air Emission Limit, Dry	mg/kg	-	-
36	Biosolids 40 CFR 503 Limit, Dry	mg/kg	-	-
37	Biosolids CCR Limit, Wet	mg/kg	-	-
38	Headworks Loading Limits			
39	Water Quality Loading Limit	lbs/day	-	-
40	Daily Discharge Loading Limit	lbs/day	2.46	0.00834*D4*D30-D17
41	Monthly Discharge Loading Limit	lbs/day	1.04	0.00834*D4*D31-D17
42	Activated Sludge Inhibition Loading Limit	lbs/day	21.1	0.00834*D4*D32/(1-D19)-D17
43	Trickling Filter Inhibition Loading Limit	lbs/day	-	-
44	Nitrification Inhibition Loading Limit	lbs/day	72.9	0.00834*D4*D34/(1-D19)-D17
45	Incinerator Air Emission Loading Limit	lbs/day	-	-
46	Biosolids 40 CFR 503 Loading Limit	lbs/day	-	-
47	Biosolids CCR Loading Limit	lbs/day	-	-
48	Maximum Allowable Headworks Loading (MAHL)			
49	Limiting MAHL	lbs/day	1.04	MIN(D39:D47)
50	Driving Factor			Monthly Discharge Loading Limit
51	Maximum Allowable Industrial Loading (MAIL)			
52	Safety Factor	10%	0.10	C52*D49
53	Industrial Allocation	lbs/day	0.77	D49-D15-D52
54	Equivalent Across-the-Board Limit	ug/L	55	D53/D5/0.00834
55	*Prior to January 2006, the influent sampling location was not representative of raw influent and included some process return flow. MAHL was calculated assuming non-detect cyanide results (<1.6 ug/L) at the influent.			

Attachment C
Air Emission Standards Calculations



This attachment provides documentation of sources of data used to calculate air emission standards that are applicable to the Palo Alto Regional Water Quality Control Plant biosolids incinerator. Air emission standards calculations are based on equations provided in the 40 Code of Regulations §503.43 and Local Limits Guidance. Variations from these data sources are noted on a pollutant-by-pollutant basis.

For All Pollutants

- The maximum sludge cake feed rate is 28.8 dry metric tons per day (mton/day).
- The incinerator control efficiencies are from the City's 1994 permit application.
- The dispersion factor is 41.7 $\mu\text{g}/\text{m}^3/\text{g}/\text{s}$.

Lead

The following equation is used to calculate the average daily concentration criterion for lead in sludge cake fed into the biosolids incinerator.

$$C = \frac{NAAQS \cdot 8,640}{DF \cdot (1 - CE) \cdot SF}$$

Where:

C = Average daily concentration in sewage sludge [mg/kg];

NAAQS = National Ambient Air Quality Standard [$\mu\text{g}/\text{m}^3$];

DF = Dispersion factor [$\mu\text{g}/\text{m}^3/\text{g}/\text{s}$];

CE = Incinerator control efficiency [in hundredths]; and

SF = Sludge cake feed rate [dry mton/day].

The National Ambient Air Quality Standard for lead is 1.5 $\mu\text{g}/\text{m}^3$ for a maximum arithmetic mean over a calendar quarter (40 CFR 50.12).

Arsenic, Cadmium, Chromium, Nickel

The following equation is used to calculate the average daily concentration criterion for arsenic, cadmium, chromium, and nickel in sludge cake fed into the biosolids incinerator:

$$C = \frac{86,400 \cdot RSC}{DF \cdot (1 - CE) \cdot SF}$$

Where:

C = Average daily concentration in sewage sludge [mg/kg];

RSC = Risk specific concentration [$\mu\text{g}/\text{m}^3$];

DF = Dispersion factor [$\mu\text{g}/\text{m}^3/\text{g}/\text{s}$];

CE = Incinerator control efficiency [in hundredths]; and

SF = Sludge cake feed rate [dry mton/day].

The risk specific concentration (RSC) for arsenic, cadmium, and nickel are 0.023, 0.057, and $2.0 \mu\text{g}/\text{m}^3$, respectively (40 CFR 503.43 Table 1). The City's biosolids incinerator is a multiple hearth furnace with a wet scrubber. As such, the chromium RSC is $0.064 \mu\text{g}/\text{m}^3$ (40 CFR 503.43 Table 2).

Mercury

The following equation is used to calculate the average daily concentration criterion for mercury in sludge cake fed into the biosolids incinerator:

$$C = \frac{NESHAP}{(1 - CE) \cdot SF}$$

Where:

C = Average daily concentration in sewage sludge [mg/kg];

NESHAP = National Emission Standard for mercury [g/day];

CE = Incinerator control efficiency [in hundredths]; and

SF = Sludge cake feed rate [dry mton/day].

The National Emission Standard for Hazardous Air Pollutants (NESHAP) for mercury is 3,200 g/d, respectively (40 CFR 61.52). The mercury incinerator control efficiency was calculated to be 0.005 based on January 2004-December 2005 sludge cake and ash data.

Attachment D
**San Francisco Bay Area Publicly-Owned Treatment
Works Local Limits**

Local Limits for San Francisco Bay POTWs

Publicly Owned Treatment Works	Units	Copper	Cyanide	Zinc
Palo Alto, City of (existing)	mg/L	0.25/2 ^a	1	2
American Canyon, City of	mg/L	0.87	1	3.2
Benicia, City of	mg/L	3	0.3	1
Burlingame, City of	mg/L	2	0.292	0.386
Castro Valley Sanitary District	mg/L	0.5	1	3
Central Contra Costa Sanitary District	mg/L	5	1.5	5
East Bay Municipal Utilities District	mg/L	5	5	5
Fairfield-Suisun Sewer District	mg/L	1.3	0.7	2.3
Livermore, City of	mg/L	1	0.04	3
Millbrae, City of	mg/L	0.73	0.11	2
Novato Sanitary District	mg/L	1.5	1	2.6
Oro Loma Sanitary District	mg/L	1.9	1	3
Petaluma, City of	mg/L	-	0.26	1
Pittsburg, City of	mg/L	0.5	0.2	1
Redwood City, City of	mg/L	0.2	0.06	1
Richmond, City of	mg/L	0.65	0.97	1
San Jose-Santa Clara Water Pollution Control Plant	mg/L	2.7	0.5	2.6
San Leandro, City of	mg/L	2	0.5	3
San Mateo, City of	mg/L	2	1	3
Sunnyvale, City of	mg/L	0.5	0.5	1.48
Union Sanitary District	mg/L	2	0.65	3
Vallejo Sanitation & Flood Control District	mg/L	0.5	0.4	1

^aDependent on type and amount of discharge.

