RESOLUTION NO. 2021-028

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ONTARIO, CALIFORNIA, APPROVING THE UPDATE OF THE SEWER SYSTEM MANAGEMENT PLAN (SSMP).

WHEREAS, on May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Water Quality Order No. 2006-0003, which established the Statewide General Waste Discharge Requirements (WDRs) for all publicly owned or operated sanitary sewer systems within the State of California. Water Quality Order No. 2006-0003 was later amended by Water Quality Order Nos. 2008-0002-EXEC and 2013-0058-EXEC; and

WHEREAS, the WDRs require that all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California; 1) report Sanitary Sewer Overflows (SSOs) to the SWRCB; and 2) develop and implement a Sewer System Management Plan (SSMP); and

WHEREAS, the SSMP is a written document that details how an entity's sewer system is operated, maintained, repaired, and funded. The WDR requires the SSMP to be updated every five (5) years and to be re-certified by the city council when significant updates to the SSMP are made.

WHEREAS, the City Council last approved the SSMP on April 15, 2014 (Resolution No. 2014-032); and

WHEREAS, approval of the SSMP is exempt from California Environmental Quality Act (Public Resources Code §21000 et seq.) (CEQA) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment. (Cal. Code Regs., Tit. 14, §15308). In addition, this action is exempt from CEQA pursuant to Cal. Code Regs., Title 14, §15301 to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in Section 15301, and §15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Ontario hereby approves the update of the Sewer System Management Plan, attached to this Resolution as Exhibit A.

LET IT BE FURTHER RESOLVED that the City Manager, or a designee, is hereby authorized and empowered to execute in the name of the City of Ontario all documents necessary to comply with the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (Water Quality Order No. 2006-0003, as amended).

The City Clerk of the City of Ontario shall certify as to the adoption of this Resolution.

PASSED, APPROVED, AND ADOPTED this 6th day of April 2021.

PAUL S. LEON, MAYOR

ATTEST:

SHEILA MAUTZ, CITY CLERK

APPROVED AS TO FORM:

BEST BEST & KRIEGER, LLP
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO)
CITY OF ONTARIO)

I, SHEILA MAUTZ, City Clerk of the City of Ontario, DO HEREBY CERTIFY that foregoing Resolution No. 2021-028 was duly passed and adopted by the City Council of the City of Ontario at their regular meeting held April 6, 2021 by the following roll call vote, to wit:

AYES:	MAYOR/COUNCIL MEMBERS:	LEON, WAPNER, BOWMAN, DORST-PORADA AND VALENCIA
NOES:	COUNCIL MEMBERS:	NONE
ABSENT:	COUNCIL MEMBERS:	NONE

Sheila Mautz
SHEILA MAUTZ, CITY CLERK

(SEAL)

The foregoing is the original of Resolution No. 2021-028 duly passed and adopted by the Ontario City Council at their regular meeting held April 6, 2021.

Sheila Mautz
SHEILA MAUTZ, CITY CLERK

(SEAL)

EXHIBIT A

Sewer System Management Plan

ONTARIO MUNICIPAL UTILITIES COMPANY

1425 S. Bon View Avenue
Ontario, CA 91761

April 2021

Table of Contents

Table of Contents

Cross Reference to SWRCB Order No. 2006-003

Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Specific SSMP Requirements

SS WDRs	Page Number
Goal [WDR D.13.(i)]	1
Organization [D.13.(ii)(a)]	2
Organization [WDR D.13.(ii)(b)]	2-3
Organization [WDR D.13.(ii)(c)]	3-9
Legal Authority [WDR D.13.(iii)(a-e)]	9-10
Organization and Maintenance Program [WDR D.13.(iv)(a)]	Page 12-13, Appendix J, and incorporated materials
Organization and Maintenance Program [WDR D.13.(iv)(b)]	13-18
Organization and Maintenance Program [WDR D.13.(iv)(c)]	18-19
Organization and Maintenance Program [WDR D.13.(iv)(d)]	19-20
Organization and Maintenance Program [WDR D.13.(iv)(e)]	20
Design and Performance Provisions [WDR D.13.(v)(a)]	20
Design and Performance Provisions [WDR D.13.(v)(b)]	20
Overflow Emergency Response Plan [WDR D.13.(vi)(a)]	21
Overflow Emergency Response Plan [WDR D.13.(vi)(b)]	21
Overflow Emergency Response Plan [WDR D.13.(vi)(c)]	21
Overflow Emergency Response Plan [WDR D.13.(vi)(d)]	21
Overflow Emergency Response Plan [WDR D.13.(vi)(e)]	22
Overflow Emergency Response Plan [WDR D.13.(vi)(f)]	22
FOG Source Control Program [WDR D.13.(vii)(a)]	22
FOG Source Control Program [WDR D.13.(vii)(b)]	22
FOG Source Control Program [WDR D.13.(vii)(c)]	22-23
FOG Source Control Program [WDR D.13.(vii)(d)]	23
FOG Source Control Program [WDR D.13.(vii)(e)]	24
FOG Source Control Program [WDR D.13.(vii)(f)]	24

Cross Reference to SWRCB Order No. 2006-003

Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Specific SSMP Requirements

I. Goal

The Sewer System Management Plan (SSMP) is written to comply with the State Water Resources Control Board's Order No. 2006-0003-DWQ (as amended by WQ2008-002-EXEC and WQ2013-0058EXEC), Statewide General Waste Discharge Requirements for Wastewater Collection Agencies (WDR). A SSMP is a document that describes the activities that an agency uses to manage their wastewater collection system effectively. The state describes effective management of a wastewater collection system as including: 1) Maintaining or improving the condition of the collection system infrastructure in order to provide reliable services into the future; 2) Cost-effectively minimizing infiltration/inflow (I/I) and providing adequate sewer capacity to accommodate design flows; and 3) Minimizing the number and impact of sanitary sewer system overflows (SSOs) that occur.

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system, to reduce and prevent Sanitary Sewer Overflows (SSOs), and to mitigate any SSOs that occur.

The original SSMP was approved by City Council on April 7, 2009. The SSMP must be updated periodically to reflect current information. As a result of an internal audit conducted in March of 2013, the SSMP was previously updated on April 15, 2014, pursuant to Section D.13(x) of the WDR. In addition to periodic internal audits, the SSMP must be updated every 5 years pursuant to Section D.14 of the WDR (by April 15, 2019), and re-certification by City Council is required if significant updates are made to the SSMP; this Update of April 6, 2021 is submitted as a result of an internal audit that was conducted in January 2021.

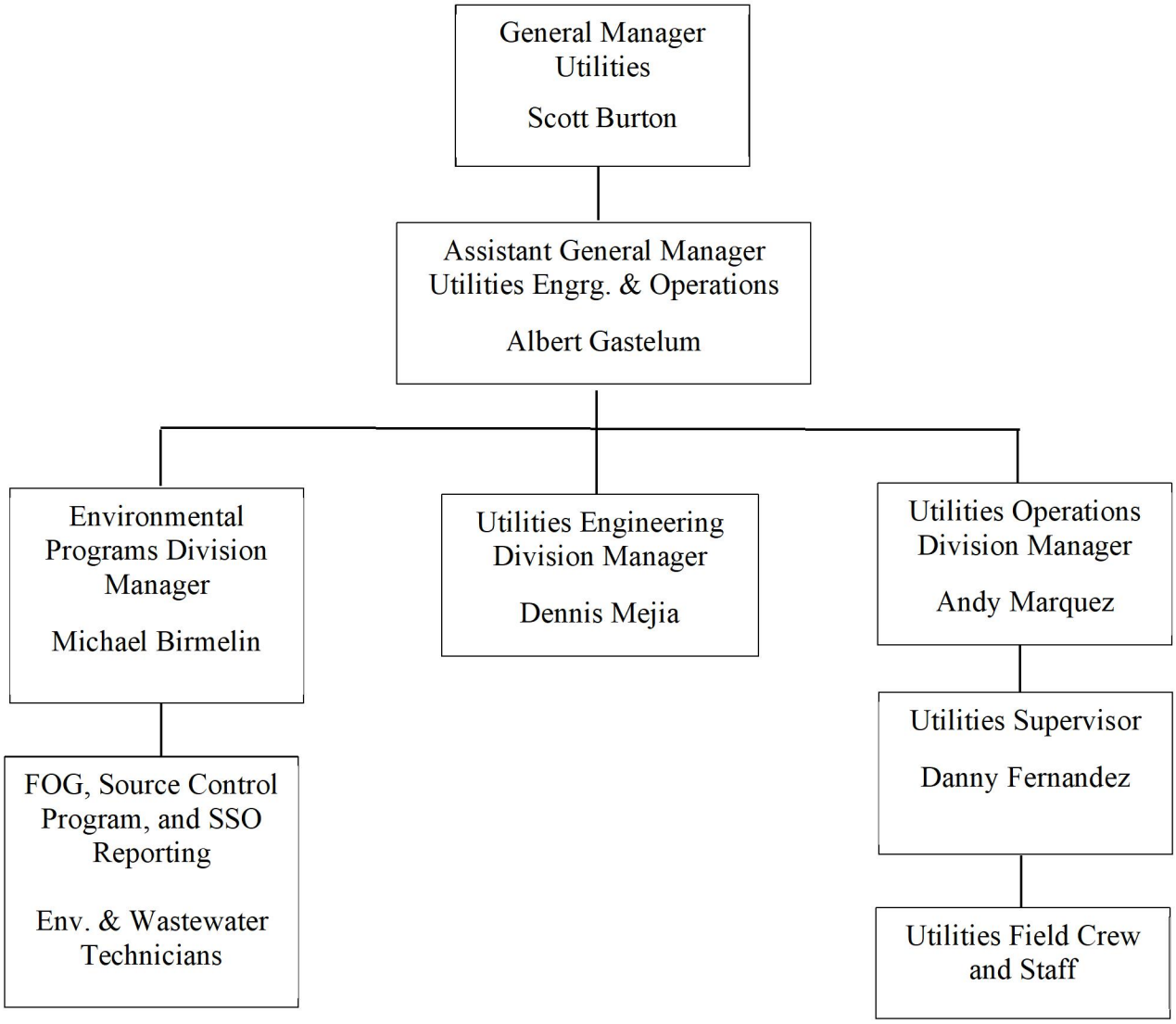
II Organization

The person designated as the Duly Authorized Representative for the City of Ontario, as pertains to Section J of the WDR, is Scott Burton, General Manager of the Ontario Municipal Utilities Company. Names and telephone numbers for other management, administrative, and maintenance personnel responsible for implementing elements of the SSMP are provided in Table 1. A City Organization Chart with only organizations relevant to the SSMP is provided in Figure 1. The chain of communication for reporting SSOs is provided in Table 2.

Table 1 – Organizational Structure

Name	Position	SSMP Responsibilities	Telephone Number
Scott Burton, PE	Utilities General Manager	Duly Authorized Representative	Desk - (909) 395-2682 Mobile - (909) 721-7172
Albert Gastelum, PE	Assistant General Manager -Utilities Engineering and Operations	Legally Responsible Official	Desk - (909) 395-2770 Mobile - (951) 232-7624
Mike Birmelin, CWEA	Manager - Environmental Programs Division	Administers updates to the FOG program, Water Quality Monitoring Plan, and elements of the SSO Emerg. Response Plan	Desk - (909) 395-2661 Mobile - (909) 638-8073
Dennis Mejia, PE	Manager - Utilities Engineering Division	Administers updates to Sewer Master Plan, SSMP, and Capital Improvement Program	Desk - (909) 395- 2609
Andy Marquez, CWEA	Manager - Utilities Operations Division	Administers updates to the SSMP specific to the operation & maintenance of the sewer system	Desk - (909) 395-2683 Mobile - (909) 721-8931

Figure 1: Organization chart reflecting responsible parties for implementation of the SSMP.



The Utilities General Manager is responsible for managing multiple divisions within the Utilities Department, including customer service, integrated waste, utility engineering, water resources (water quality, water production and distribution, recycled water and the backflow program), utility operations (wastewater collection and system operations), pretreatment and source control (industrial wastewater discharge permitting, monitoring, compliance, and enforcement) and for performing infrastructure master planning activities, initiating capital improvement projects, performing water resource functions, establishing policy, planning strategy, leading staff, allocating resources, and delegating other functions as necessary.

The Utilities Assistant General Manager is responsible for providing direction and overseeing the activities, operations, and staff of multiple divisions within the agency, including utility engineering, water resources (water quality, water production and distribution, recycled water and the backflow program), utility operations (wastewater collection and system operations), and pretreatment and source control (industrial wastewater discharge permitting, monitoring, compliance, and enforcement).

The Utility Engineering Division includes all phases of land development project review and approval, infrastructure master planning and an extensive capital improvement program.

The Environmental Programs Division consists of the Pretreatment and Source Control Programs, which includes industrial wastewater pretreatment permitting, sampling & monitoring activities, compliance determination and enforcement, reporting activities, and oversight of the Fats, Oil and Grease (FOG) program. Spill response and some customer billing activities are also part of the division.

The Utilities Operations Division is focused on the installation, maintenance, operation and repair of the City's wastewater collection system. Activities include operating and maintaining line inspection and video equipment, which are utilized for surveying and televising the underground sewer lines in order to identify blockages, damaged lines, and other issues, and ensuring their complete repair.

Table 2 below details the chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Boards and other agencies.

Table 2 – Chain of Communication for Reporting SSOs

Event	Response
Complaint of SSO Received by Customer Service or Police Dispatch.	Obtain information, including: date and time call was received; caller's name, agency, telephone number, and address; location of SSO, including cross-street. Notify appropriate Ontario Utilities Dept. staff by referring to the Mutual Aid Telephone Roster.
Utilities Dept. Receives Notification of SSO from Customer Service or Police Dispatch.	Dispatch collection staff to incident. Implement traffic control. Determine applicable storm water conveyances and other critical areas that must be protected. Contain and clean up the spill. Obtain information needed to complete the SSO Field Report Form found in Appendix E. If spill is outside the City's jurisdiction, contact responsible agency by referring to the Mutual Aid Telephone Roster found in Appendix C. Continue efforts to contain and clean up the spill until responsible agency arrives.
For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the enrollee shall, as soon as possible, but not later than two (2) hours after (A) the enrollee has knowledge of the discharge, (B) notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify the Cal OES and obtain a notification control number. Category 1 – Spills of any volume that reaches surface water.	**Call Cal OES at: (800) 852-7550** **San Bernardino County Health at (800) 782-4264 or (909) 356-3805**
Sewage spill impacts or threatens state water.	Contact California Department of Fish and Game, (916) 445-0411

Table 2 continued – Chain of Communication for Reporting SSOs

Event	Response
Sewage spill affects a state highway.	Contact the Dept. of Transportation (CALTRANS), (866) 383- 4631 or (909) 383-4631
Sewage spill impacts the storm drain system in San Bernardino County.	Contact San Bernardino County Flood Control District, (909) 899-4366, After hours: (909) 356-3805.
Sewage spill discharges into Prado Basin (via tributary creeks) or the Santa Ana River.	Contact Orange County Water District, (714) 378-3200, Fax: (714) 378-3373.
Sewage spill occurs within their jurisdictional boundaries.	Contact California Highway Patrol, normally contacted by CalEMA at (800) 852-7550

City employees, residents, businesses or members of the general public may detect an overflow, or report suspicious circumstances such as unusual odors, flooding, etc., which could indicate the possibility of an overflow.

During normal business hours, calls received by the City will be routed to the Utilities Department. After business hours, weekends and holidays, calls received by the City's police dispatch will be forwarded to the appropriate on call person. Once the initial report is received by the City, collection staff will be dispatched to the site of the reported incident via telephone or two-way radio.

Upon arriving to respond to a spill, if it is found that the spill originated from outside of the City's jurisdiction, the responsible agency will be contacted. As part of the Mutual Aid Agreement with the surrounding agencies, the City will continue its efforts to contain and clean up the spill until the responsible agency arrives. The Mutual Aid Telephone Roster is used for notification of appropriate personnel and it is updated as needed. A copy of the Mutual Aid Telephone Roster is maintained in each responsible employee's Spill Response Binder.

Appropriate staff is dispatched to the location to confirm that an overflow has occurred. Once a spill is verified, additional staff and equipment will be dispatched as necessary. Additionally, the City has installed Smart Covers® in areas that historically have been high-frequency maintenance areas. These manhole covers feature sensors that detect high level and/or intrusion of the manhole. If a high level or intrusion is detected, the sensors will send an alarm to City staff. The responsible staff will be dispatched to the location of the manhole.

The City uses Supervisory Control and Data Acquisition (SCADA), and contracts with Mission Communications, LLC for a monitoring system at the lift stations. If a problem is detected by SCADA, staff is notified via a pager.

When a call is received by dispatch personnel to report a lift station overflow, dispatch will notify the responsible maintenance staff to respond to the incident. Once the lift station overflow is confirmed, corrective actions are initiated which may include requesting additional city staff, utilizing mutual aid and/or contractors, depending on the magnitude of the incident.

Public Works Agency personnel or Police Department personnel obtain and record all relevant information available regarding the overflow on the SSO Field Report Form found in Attachment A & C of each responsible party's Spill Response Binder.

Every effort is made to ensure that all reported spills are responded to within the first hour of notification of the spill.

The City is required to report Category l spills to the California Office of Emergency Services State Warning Center (Cal OES), at (800) 852-7550 within two hours, and Cal OES notifies the Regional Water Quality Control Boards and local Health Departments when a spill notification is received. In order to ensure timely notification to the County, the City will also notify the San Bernardino County Health Department of the Category 1 spill. The City is required to update Cal OES whenever there are substantial changes to previously reported spill volume estimates or impacts.

Table 3 below lists the City's notification, reporting, monitoring, and record keeping requirements in greater detail.

Table 3 – Notification, Reporting, Monitoring, and Record Keeping Requirements

Element	Requirement	Method
Notification (See section B of the State Water Resources Control Board Order No. WQ 2013-0058-Exec)	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES) and obtain a notification control number.	**Call Cal OES at**: (800) 852-7550
Reporting (See section C of the State Water Resources Control Board Order No. WQ 2013-0058-Exec)	1. Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. 2. Category 2 SSO: Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. 3. Category 3 SSO: Submit certified report within 30 calendar days of the end of month in which the SSO occurred. 4. SSO Technical Report: Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. 5. "No Spill" Certification: Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. 6. Collection System Questionnaire: Update and certify every 12 months.	Enter data into the CIWQS Online SSO Database **(http://ciwqs.waterboards.ca.gov/)**, certified by enrollee's Legally Responsible Official(s).

Table 3 – Notification, Reporting, Monitoring, and Record Keeping Requirements

Element	Requirement	Method
Water Quality Monitoring (see section D of the State Water Resources Control Board Order No. WQ 2013-0058-Exec)	Conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
Record Keeping (see section E of the State Water Resources Control Board Order No. WQ 2013-0058-Exec)	1. SSO event records. 2. Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. 3. Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. 4. Collection system telemetry records if relied upon to document and/or estimate SSO Volume.	Self-maintained records shall be available during inspections or upon request.

III Legal Authority

According to WDR Section D.13(iii), the City must demonstrate (in the SSMP), through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (1/1), storm water, chemical dumping, unauthorized debris and cut roots, etc.); require that sewers and connections be properly designed and constructed; ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency; limit the discharge of fats, oils, and grease and other debris that may cause blockages, and enforce any violation of its sewer ordinances.

In Table 4 below, WDR legal authority requirements are cross-referenced with sections of the Ontario Municipal Code which provide corresponding legal authority. City of Ontario Municipal Sewer Ordinance is provided in Appendix B. The Ordinance is expected to undergo an update in 2021. Additionally, the City's Engineering Department provides guidance and standard drawings depicting the City's requirements for the construction of infrastructure, including sewers and sewer connections. Water and Sewer Pipeline Construction Specifications are provided in Appendix F, Water and Sewer Design Development Guidelines and Specifications are provided in Appendix G, and Standard Drawings are provided in Appendix H.

Table 4 – Legal Authority

WDR	Legal Authority	Section of Ontario Municipal Code Providing Legal Authority
D.13.(iii)(a)	Prevent illicit discharges into wastewater collection system.	Title 6, Chapter 7, Article 2, Sections 6-7.201- 208; Prohibitions and Discharge Limits.
D.13.(iii) (b)	Require that sewers and connections be properly designed and constructed.	Title 6, Chapter 7, Article 4, Sections 6-7.401-405; Facilities
D.13.(iii) (c)	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency.	Title 6, Chapter 7, Article 5, Section 6-7.513 Inspection/right-of-entry
0 .13.(iii) (d)	Limit the discharge of fats, oils, and grease and other debris that may cause blockages.	Title 6, Chapter 7, Article 2, Sections 6-7.201- 208; Prohibitions and Discharge Limits.
D.13.(iii) (e)	Enforce any violation of its sewer ordinances.	Title 6, Chapter 7, Article 6, 6-7.601 - 622; Enforcement.

IV Operation and Maintenance Program

This section summarizes the City of Ontario's current procedures and practices pertaining to operation and maintenance (O&M) activities and provides recommendations to enhance compliance with the WDR. Specifically, this section contains a comprehensive evaluation of elements affecting the operation and maintenance of the wastewater collection system, including system inventory and mapping, the work order process, inspection and assessment of the system including objective standards, CIP project identification process, preventive maintenance procedures, repair and rehabilitation procedures, training programs, and staffing requirements recommended to develop and implement an effective and efficient program for the long term maintenance of the wastewater collection system.

The Ontario Municipal Utility Company is responsible for the operation and maintenance of an extensive wastewater collection system and is tasked with ensuring proper and efficient operation of the system. Ontario's service area is located within the city limits. There is a portion of the city in the northeast that is serviced by Cucamonga Valley Water District (CVWD). The City serves a population of over 176,000 people in a 50 square mile service district which generates an estimated 10.3 MGD (million gallons per day) of sewage. Approximately 75 percent of the City is developed, with mixed residential, commercial and industrial land use areas. The City's wastewater collection system consists of approximately 425 miles of gravity lines, 8,693 associated manholes and cleanouts, three city-owned lift stations, one privately owned/city-maintained lift station, over 7,000 feet of associated force mains, and five siphons. The system is divided into seven service areas, also referred to as sewer sheds, primarily based on the outlet points where the City's system

ties into a downstream facility operated by the Inland Empire Utilities Agency (IEUA). The sewers are primarily constructed of vitrified clay pipe with sizes ranging from 4-inches to 42-inches in diameter. Approximately 75 percent of the pipes are 8-inches in diameter. The City's sewers are classified into two groups: primary sewers, greater than 15 inches in diameter, and secondary sewers, 15 inches or smaller in diameter. The City is also responsible for the lower portion of the property laterals (commonly referred to as the lower lateral), the portion of lateral that is within the city's right-of-way, which is approximately 204 miles of primarily 4-inch vitrified clay pipe.

The first of the three city owned lift stations (Magnolia) is small and services a residential neighborhood in the southwestern portion of the city. The second one is a large lift station (Haven) that services a commercial/industrial area in the central eastern portion of the city. The third one is a small lift station (Inland Empire) that services a small commercial/residential area on the north east portion of the city. The privately owned/City maintained lift station (Edenglen) is small and services a residential neighborhood in the southeastern portion of the city. The five siphons were constructed to go under major flood control channels or a conflicting utility.

The City of Ontario is dedicated to improving the condition and performance of its wastewater collection system and reducing the number of SSOs. Development and implementation of a wastewater collection system operations and maintenance program serves to ensure that the wastewater collection system is routinely and properly maintained in a manner that minimizes failures and extends the longevity of the system.

A. Purpose of the Operations and Maintenance Program

Establishment and documentation of a comprehensive program provides the specific details of the activities and procedures that personnel follow to implement the program. A well planned, documented, and executed Operations and Maintenance (O&M) program can provide the optimum level of maintenance activities for the least total maintenance cost. At a minimum, the following components should be included in an O&M program:

1. Inventory and Mapping of the Wastewater Collection System Assets
2. Preventive Maintenance Program
3. Sanitary Sewer Overflow Emergency Response Plan (SSOERP)
4. Fats, Oils, and Grease Reduction and Management Program
5. Wastewater System Inspection and Assessment Program
6. Capital Improvement Program (CIP) Project Identification
7. Computerized Maintenance Management System (CMMS)
8. Equipment and Replacement Part Inventories
9. Training Program
10. Staffing Requirements and Recommendations

B. Map of Sanitary Sewer System

A comprehensive set of sewer maps (also referred to as Atlas Books) show all the features of the City's sanitary sewer systems along with other agencies' systems and some private systems within the City's service area. Information included on these maps include unique identification numbers, locations referencing streets and property lines, easements, pipe sizes and shapes, direction of flow, length and material of manholes, pipes, force mains, lift stations, valves, and storm water facilities. The last edition of the sewer maps were printed in 2020. A condensed Sewer System Map is provided in Appendix J.

The maps are routinely updated to include new and rehabilitated sewers. Maps are updated with information provided by developers, contractors, and City employees. Information is routinely gathered when new facilities are being constructed, during routine cleaning and inspections of the sewer system, and when emergency work is performed. Changes and edits are collected in a "red-line" edition and updated periodically in printed maps. The wastewater collection crews also carry a map of the storm drain system in case a sewer overflow enters a storm drain. This allows crews to quickly locate where flows are directed and take immediate mitigation actions.

The system maps are part of the City's Geographic Information System (GIS), which is a collection of electronic files that can be used to graphically view and analyze data. GIS maps of the entire sanitary sewer systems and other informational layers are available to be used in system management, work prioritization, and management decisions. GIS information can be utilized in the office or in the field for locating and verifying pipelines, maintenance holes, service connections, and other features of the City's systems. The histories of pipe segments are included in the GIS system and line segments are linked to record drawings. Areas of recurring SSOs are also identified in the GIS system.

The City's GIS system is used for both long- and short-term planning. Short-term uses include scheduling work crews, cleaning, maintenance, and closed-circuit television (CCTV) inspections. Mid-term uses include scheduling the purchase of equipment, vehicles, and manhole covers, and planning for sufficient staffing to properly maintain and operate the sewer system. Long-term planning can include estimating repair, maintenance and replacement costs over the life span of the sewer system, allowing the City to procure CIP funds over time to adequately invest in the sewer system.

Sewer modeling is another component of GIS. Using a model developed for the City, sewer flows can be analyzed to determine capacity and related deficiencies. GIS based models can also provide a variety of sewer scenarios. This includes simulation of line breaks and flows utilizing varying pipe diameters. Sewer sheds may be determined by using GIS to identify locations where City sewer flows enter into a downstream facility operated by IEUA.

The City of Ontario has integrated GIS mapping and Cityworks® software. The City intends to use the integrated software to facilitate management of City facilities.

C. Preventive Maintenance

The City has a preventive maintenance program for its sanitary sewer system. The objective of the City's sewer cleaning and maintenance program is to minimize the number of stoppages per mile of sewer, minimize the number of odor complaints, and minimize the number of lift station failures. Sewer segments are identified, prioritized, and scheduled for maintenance based on comprehensive reviews of the maintenance history and system characteristics of all the sewers in the City, including overflows, blockages, excessive maintenance, age, material, and condition. Prioritization of preventive maintenance activities is based on reports and video received. Some segments requiring immediate maintenance are discovered during the condition assessment process. Generally, cleaning is recommended to occur from the upstream manhole to the downstream manhole, since the flow in the pipe can assist moving debris downstream.

D. Descriptions of Cleaning Methods Available

Common cleaning methods include jetting, mechanical rodding, and manual or mechanical digging. The method employed is usually determined in advance and is typically contingent upon the pipe type and size and on the conditions expected in the pipe. Although the commonly used cleaning methods have proven effective in maintaining sewer systems, there are limitations to several of the cleaning methods used. Table 5 below provides a summary of the limitations of several cleaning methods.

Table 5 - Common sewer Cleaning Methods*

Cleaning Method		Limitations
Mechanical	Rodding	Continuous rods are harder to retrieve and repair if broken, and they are not useful in lines with a diameter greater than 12 inches because the rods have a tendency to coil and bend. This device also does not effectively remove sand or grit but may loosen the material to be flushed out at a later time.
	Bucketing (Winching, Dragging)	This device has been known to damage sewers. The bucket machine cannot be used when the line is completely plugged because this prevents the cable from being threaded from one manhole to the next. Set-up of this equipment is time-consuming.
Hydraulic	Balling and Jetting	In general, these methods are only successful when necessary water pressure or head is maintained without flooding basements or houses at low elevations. Jetting -The main limitation of this technique is that caution needs to be used in areas with basement fixtures and in steep- grade hill areas. Balling - Balling cannot be used effectively in pipes with bad offset joints or protruding service connections because the ball can become distorted.
	Flushing	This method is not very effective in removing heavy solids. Flushing achieves temporary movement of debris from one section to another in the system.
	High Velocity Cleaner	The efficiency and effectiveness of removing debris by this method decreases as the cross-sectional areas of the pipe increase. Backups into residences have been known to occur when this method has been used by inexperienced operators. Even experienced operators require extra time to clear pipes of roots and grease.
	Kites, Bags, and Poly	When using this method, use caution in locations with basement fixtures and steep-grade hill areas.

*United States Environmental Protection Agency (Sept. 1999). Collection Systems O&M Fact Sheet - Sewer Cleaning and Inspection. (EPA 832-F-99-031).

The City implements a proactive maintenance program in which "non-problem" sewers are also scheduled for maintenance and cleaning, but on a less frequent basis. The City's proactive maintenance program provides cleaning and maintenance of the "non-problem" sewers at least once every 1.2 years. Maintenance of sewers is performed based on a grid system.

High-frequency maintenance areas are prone to accumulate debris such as sand, silt, grease, roots and rocks. If debris is allowed to accumulate, it reduces the capacity of the pipe and a blockage can eventually occur resulting in overflows from the system into streets, yards, and storm channels. Roots and corrosion can also cause physical damage to sewers. High-frequency maintenance areas are regularly monitored and maintained on a monthly and quarterly schedule. There are ten level monitoring and intrusion devices, called SmartCovers®,

located upstream of high-frequency maintenance areas to alert City staff of a surcharge in the manhole and avoid a potential overflow. Once a designated level is reached or the cover is opened, the system alarm is activated sending an alarm to City staff via pager and text message. SmartCover® locations are provided in Appendix K.

The Ontario Municipal Utility Company does periodic system cleaning, ground surface inspection of rights of way and easements, condition assessment, rehabilitation tasks, and odor investigation. A committed staff annually cleans 85 percent of the sanitary sewer system with high velocity sewer cleaning and inspects maintenance holes associated with the cleaning procedure. Each sewer shed within the collection system is scheduled for cleaning using a grid system. Each grid is set up with sequencing to ensure a proper cleaning pattern to a specific location. Maintenance is documented and entered into the database for each line that is cleaned.

Sewer inspection includes closed-circuit television (CCTV) inspection and condition assessment of the collection system using the National Association of Sewer Companies' (NASCO's) Pipeline Assessment Certification Program (PACP), ground surface inspection of rights of way and easements, and odor monitoring. The City contracted with a private company to do an initial visual CCTV inspection of the system over a period of four years and has since completed the initial inspection of all City sewer mains. City staff continues to be responsible for condition assessment, including the review of the inspection data, and the development of maintenance, rehabilitation, and replacement projects. Following the completion of the initial CCTV inspection program, the City has implemented a continuing inspection program based upon the knowledge gained from the initial program. Additionally, each spill site must be CCTV inspected to pinpoint the cause of the spill and to implement corrective measures to prevent repeat spills.

CCTV inspection records are reviewed to identify deficiencies. Sewers that exhibit high flow levels or operational failure are identified. These may trigger further reviews to determine the cause and/or immediate or accelerated corrective actions. Priorities and schedules are set based on the severity of the problem. All problem sewers are inspected as soon as possible, usually within 48 hours after the initial occurrence of an overflow, using CCTV to identify any necessary repairs or special maintenance needs.

Within the City boundaries there are "blind" areas where an SSO could go unnoticed for long periods of time. These areas include easements and alleyways. Most "blind" spots are located in residential areas, with some easements located within the backyards of residential properties. Local residents are usually the first to notice an overflow from these types of easements and call the City or a plumber for assistance. Occasionally the resident will not notice the spill. In this case the flow may continue until a neighbor or the public right of way is affected. Preventive maintenance occurs regularly within easements and alleys to prevent sewer overflows.

A critical area in the City is located in south-central Ontario at the Ely Basins. The Ely Basins provide an area for groundwater recharge from stormwater and tertiary treated recycled water. Water is allowed to pond within the basin for optimal percolation rates. A variety of wildlife, particularly birds, utilize the basin water and habitat. Wastewater collection pipes run to the north of the basins and south on Vineyard Avenue. An 8-inch line and a 21-inch line run under the structure that connects the basins through an inverted siphon under pressure with an air lift line. A spill in this area and/or the nearby drainage area that feeds stormwater into the basins could have serious effects on the basins and the surrounding habitat depending on the location of the break and the size of the spill. City staff has been trained in responding to SSOs.

The City has upgraded its lift stations and equipped them with state-of-the-art controls, emergency backups, and redundancy systems. The Ontario Municipal Services Center serves as the main center for monitoring. This has eliminated overflows caused by power outages and mechanical failure. Pump run times are routinely monitored and used in scheduling routine maintenance. The maintenance program includes preventive, proactive, predictive, and corrective maintenance; maintenance engineering; and quality control. As a part of the routine preventive maintenance program, Collections System Maintenance Division staff conducts scheduled preventive maintenance of pumps and related accessories on a monthly basis. A crew spends between 30 minutes to 2 hours at a station for every scheduled preventive maintenance visit. Each station is inspected approximately 250 times per year by staff.

In a determined effort to reach the City's goal to have no preventable dry weather overflows and wet weather overflows during only the most severe storm events, the Ontario Municipal Utility Company has considered policies pertaining to the prevention of, and response to construction contract-related sewage spills. The policies considered clearly state the responsibilities of each person in prevention, spill response, reporting, public information dissemination, and follow up. This would require coordination among the staff in pre-design reviews to determine appropriate means for preventing sewage overflows and to determine appropriate sewage flow control requirements during construction to be included in the design, bid and contract documents. It would further require that flow control requirements be explained to potential bidders at the pre-bid meeting.

A map of all sewer construction projects is continuously updated by the Ontario Municipal Utility Company. Contact information for each ongoing construction project, including the names and telephone or pager numbers of the inspector, the inspector's supervisor and contractor's contact person, is prepared and forwarded to the Ontario Municipal Utility Company for staff information and use. The Ontario Municipal Utility Company has a special liaison with City inspectors to communicate spill prevention and response information to contractors working within City limits.

City inspectors are responsible for communicating the City's "no-spills" information and project plans and specifications to the contractor, enforcing the plans and specifications, and ensuring the contractor responds appropriately in case of emergencies. The construction contractor is required to provide a bypass plan prior to commencing work. Collections staff and a City inspector are present onsite during sewage bypasses.

In addition to the City's routine maintenance activities including mechanical root removal, the City started a program in 2008 to control the growth of roots in sewers through the use of environmentally safe chemicals. The effectiveness of chemical root control treatment is carefully monitored, and the frequency of treatment and application rates adjusted as required to eliminate blockages caused by roots.

Overflows caused by blockages from fats, oils, and grease (FOG) are monitored for location and needed cleaning frequency. The City has increased the rotation of cleaning in sewers with repeated FOG-related blockages or overflows. Collection Staff forward information on areas with FOG concerns to Environmental Programs staff for additional follow-up activities. Environmental Programs staff activities include inspecting and permitting of oil/grease interceptors at restaurants and food processing facilities to determine compliance, issuing Notices of Violation if necessary, and conducting follow-up inspections. Additionally, staff provides new restaurants, other businesses, and residents with informational brochures in English and Spanish regarding Best Management Practices (BMPs) that can help to prevent fats, oils, and grease from entering the sewer.

Widespread odor and corrosion issues are not common in Ontario. Sporadic odor complaints are received from various unrelated areas within the City. Upon investigation, most odor issues are found to be related to storm drains and catch basins requiring cleaning. Storm drain maintenance requests are forwarded to the City's Parks and Maintenance Department.

Scheduled and completed tasks are tracked by work orders in a maintenance management system. The City currently utilizes Cityworks® software to manage work orders and service requests. Information on lateral inspections, line locations, sewer connection verification, CCTV activities, lift stations, and maintenance holes is stored within Cityworks®. Cityworks® can store and retrieve work history by site address or maintenance hole number. Information on length of line cleaning, the most recent root treatment date, CCTV information photos and text can all be recalled using Cityworks®. The system can also be utilized to schedule work in the future. The work management system is constantly being reviewed to determine if modifications can make the system more efficient or comprehensive. Currently the system does not store information on linear footage cleaned per day. The system will be updated to address this deficiency.

Customer complaints are reviewed and addressed with the utmost urgency. During normal business hours customer calls can come through a variety of sources. Staff is aware that calls regarding sewer odors, overflows or general collections should be forwarded to the wastewater supervisor or manager. Once the nature of the call is determined, the request is prioritized and addressed. Based on the urgency of the required work, calls can be responded to within one to two days. Once the source of the customer complaint is identified and rectified the customer is contacted to let them know their request was completed. All customer complaints are documented in Cityworks®.

Records are created, updated, and stored on an ongoing basis. There are several methods to collect information on the condition and maintenance of the collection system. Electronic records include work orders, service requests, inspection reports, customer complaints, CCTV videos, photos, GIS information, the Collection System Cleaning Database, and the Sewer Master Plan. Additional records include line cleaning forms, daily work reports and quarterly cleaning information. Records are organized and stored to allow for easy retrieval by staff.

E. Sewer Rehabilitation and Replacement Program

The City has a Sewer Rehabilitation and Replacement Program (Rehab Program), in which structural deficiencies are identified and needed improvements are developed and implemented systematically. The Rehab Program was completed in June 2006 and plays an integral part in documenting the City's legal/regulatory compliance and the overall activities aimed at reducing overflows and protecting public health and the environment. The Rehab Program provides a summary of current project mileage and forecasted mileage for future projects. Rehab Program implementation entails a variety of short- and long-term activities that ensure the sustainability of the sanitary sewer system infrastructure.

All sewers are inspected using CCTV. In addition to the CCTV Program, the City implemented a program to visually inspect and document the condition of each of the approximately 8,693 maintenance manholes in the City's 425-mile system which includes 25 miles of pipeline inspected yearly with a goal of completing the system within a 8 year period. CCTV inspections together with routine flow gauging and physical inspections provide up-to-date information that is used by the City to evaluate the hydraulic and structural condition of its sanitary sewer system. From this assessment, deficiencies are identified and evaluated, and improvement projects are identified and scheduled. Inspection and maintenance of sewers may be contracted to private contractors at the City's discretion.

Information obtained from inspections is used to identify rehabilitation needs. To categorize the condition of inspected sewers, the City uses a five-category rating system based on the type and severity of defects. The categories range from Category 1 (excellent) to Category 5 (emergency condition). Condition ratings trigger follow-up actions that include either

rehabilitation within a certain time frame, or a follow-up inspection. Rehabilitation projects are developed and scheduled for implementation on a prioritized basis. Category 1 and 2 sewers are in excellent to good condition and are scheduled for continued inspections and monitoring. Category 3 sewers are in fair condition and are scheduled for follow-up inspections every five years until repairs have been completed. Category 4 sewers are in a condition that requires close monitoring and may require rehabilitation within five years, and are included in the CIP program for planning, design and construction. Preventive measures are intensified, as appropriate, to avoid emergency situations and follow-up inspections are conducted annually. Category 5 sewers are considered in emergency condition. These are sewers where a pipe failure has already occurred, or there is a full flow obstruction/blockage and immediate repairs are initiated. Follow-up inspections are conducted at overflow locations, usually within 48 hours of overflow occurrence, to identify the extent of necessary repairs or any special maintenance needs.

Individual Capacity Replacement Projects are identified by the current Sewer Master Plan Update and described in the Capital Improvement Program (CIP) section of the document. From the Master Plan CIP, the Sewer Rehabilitation and Replacement Program, and the Bi-annual Rate Study, an annual CIP Budget is prepared annually.

F. Training

Training occurs under various City programs, including formal classroom training, informal on the-job training, and hands-on training. Training is facilitated by City staff and by outside training workshops. Most of the internal functional and safety training is provided through the Collections Division and the Utilities Department. Training courses are added, and existing courses are modified to stay current with the rapidly changing technology and requirements, including computer-aided and online training. On-the-job cross training is actively pursued to ensure staff has a proficient working knowledge of each and every specific part of a task. City staff is cross-trained so that critical tasks can be done without interruption even when crew members change. Task proficiency is a requirement for all job positions and promotions, and training records are maintained to monitor class completion and schedule employee training. Training records are maintained in a training and safety database.

Crews are initially trained in the proper operation and maintenance of all new major mobile equipment and facilities by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for initial start-up training as well as new staff training. Utilities staff is responsible for providing operational training on sewer cleaning equipment. Safety training is an integral part of the City's program. Each staff member receives formal safety training. Staff members are trained in confined space entry and hazardous materials management, as required by regulations.

The Ontario Municipal Utilities Company prepares employees to respond to major emergencies and disasters and has established an operation center and emergency response teams. Emergency training exercises are conducted and documented annually.

The City identifies training needs for staff development in its annual budget and provides adequate funding for tuition reimbursement. The City also maintains a library of self-improvement training courses and encourages and rewards self-training.

G. Equipment and Replacement Parts

The City maintains equipment such as sump pumps, portable generators, traffic control, and night lighting systems, in a ready state for immediate deployment in an emergency. Redundancy is provided for key lift station equipment. The City also maintains an inventory of replacement parts and supplies and follows a structured process to maintain a current electronic inventory. Parts needed for preventive maintenance tasks are identified and secured prior to the start of each task. The City has a procedure for pre-qualifying manufactures and equipment vendors and, in some cases, purchasing sole-source equipment to standardize equipment and parts. This additional procurement option reduces inventories, simplifies procurement procedures, and reduces training and O&M costs. As a backup, managers have credit authority to purchase needed materials and supplies from local vendors of non-stock items when critically needed.

V. Design and Performance Provisions

A. Design and Construction Standards

The design and construction standards and specifications for the installation of new sanitary sewer systems are provided in Appendix F, G, and H. Certain components of new sewer systems, including lift stations, are custom designed by qualified engineers in order to accommodate site-specific conditions and applications.

B. Inspecting/Testing New or Rehabilitated Sewer System Components

The City's Water and Pipeline Construction Specifications include inspection/testing requirements applicable to new or rehabilitated sewer system components. Inspecting/testing requirements include, but are not limited to, soil compaction tests, geotechnical testing, tests for leakage, and video inspection (CCTV). The City's Water and Pipeline Construction Specifications are provided in Appendix F.

VI. Overflow Emergency Response Plan

The Overflow Response Procedure presents a strategy for the City of Ontario to mobilize labor, materials, tools and equipment to correct or repair conditions that cause or contribute to an unauthorized discharge.

The City of Ontario's Sanitary Sewer Overflow Emergency Response Plan (SSOERP) is designed to ensure that every report of a sanitary sewer overflow (SSO) is dispatched to the appropriate response personnel so that the effects of the overflow can be minimized with respect to its adverse impacts on public health, the environment, and property. The source of the SSO shall be stopped and the spill contained as soon as possible. Notification and reporting to governmental agencies, affected residents and property owners shall be done in an appropriate time frame. All state and local regulations shall be observed and implemented in response and remediation procedures.

The Ontario Municipal Utilities Company has developed the Overflow Emergency Response Plan as a separate stand-alone document and is included as Appendix M.

A. Notification to Primary Responders

Proper notification procedures, so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner are discussed in Section 6 of the Overflow Emergency Response Plan in Appendix M.

B. SSO Response

Overflows may occur at locations in the collection system and/or at lift stations. Each of these types of overflows will be responded to differently by the City according to the type and location of the overflow. Proper response procedures are covered in Section 7 of the Overflow Emergency Response Plan in Appendix M.

C. Notification to Regulatory Agencies

Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities of all SSOs that potentially affect public health or reach the waters of the State are discussed in Section 6 of the Overflow Emergency Response Plan in Appendix M.

D. Emergency Response Training

All City of Ontario Municipal Utilities Company field staff has been properly trained in spill containment procedures for responding to SSOs. Emergency Response Training Measures are discussed in Section 9 of the Overflow Emergency Response Plan in Appendix M.

E. Traffic and Crowd Control

Procedures to address emergency operations, such as traffic and crowd control, and other necessary response activities are discussed in Section 7 of the Overflow Emergency Response Plan in Appendix M.

F. Prevention and Mitigation of Environmental Damage

A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to the waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge are discussed in Sections 7 and 8 of the Overflow Emergency Response Plan in Appendix M.

VII. FOG Source Control Program

A Fats, Oil and Grease (FOG) Source Control Program has been developed and implemented by the City of Ontario, in order to reduce the amount of oil and grease that is discharged into the community sewer system.

A. Implementation of Public Education Program Promoting the Proper Disposal of FOG

The City has identified the appropriate methods to educate FSE operators and the public at large. These activities involve participation in public events that are sponsored by the City and/or that take the form of online outreach, and circulation of education materials to the effected customers. Education outreach is also performed during site visits.

B. Plan and Schedule for Disposal of FOG Generated in the Sanitary Sewer System Service Area

FOG is collected as needed and lawfully disposed of by both Ontario's industrial users and City operations staff.

C. Legal Authority

The City has the legal authority to prohibit discharges to the sewer system and has identified measures to prevent SSOs and blockages that are caused by FOG through use of its Ordinance

1. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.201(h) prohibits the discharge of any solid or viscous materials which could cause

obstruction to the flow in the sewer system or cause interference with the operation of the POTW.

2. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.507 allows for the City to require reports for self-monitoring of wastewater constituents and characteristics of the discharger needed for determining compliance with any limitation, or requirements as specified in the user's permit, Federal regulations, or this section of the Ordinance.

3. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.511 allows for the City to require each user to retain records on-site for all waste and wastewater generated, operation and maintenance logs for pretreatment systems, and industrial wastewater monitoring results for a minimum period of five (5) years. Said records shall be made available for inspection and copying by the City at any time. During the course of litigation regarding the user, the City of Ontario, or IEUA, the period of retention shall be extended until the subject of litigation is resolved.

4. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.303 allows for the City to require permit conditions as deemed appropriate by the City to ensure compliance with its Ordinance.

5. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.607 allows for the City to issue a Cease and Desist Order to a user to cease and desist all discharge violations, to comply immediately with all discharge requirements and to take such appropriate remedial or preventive action as may be needed to properly address a continuing or threatened discharge violation, including halting operations and terminating the discharge.

D. Requirements to Install Grease Removal Devices

1. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.404(a) requires any food service establishment (FSE) discharging grease wastes which, under the conditions existing in the downstream sewers, could cause or threaten to cause stoppage or grease accumulations, to install an approved grease and oil interceptor and regularly maintain it so as to prevent excessive discharges of grease and oil into the sewerage system.

2. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.404(d) requires the design plans for any required interceptor not included in the Plumbing Code or City standard drawings to be prepared and signed by an engineer registered in the State of California and to meet the drawing submittal requirements

set forth in § 6-7.401. Such plans shall be reviewed and must be approved by the City prior to any construction of said device.

E. Authority to Inspect Grease Producing Facilities, and Sufficient Staff to Inspect and Enforce the Fog Ordinance

1. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.513 allows for the City to inspect the premises where wastewater is created, conveyed, treated, or discharged, and to sample, perform monitoring, review or copy records, photograph, video tape, or record during all times that the discharger's facility is open, operating, or any other reasonable time. No user is permitted to interfere with, delay, resist or refuse entrance to authorized City or IEUA personnel attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the City's sewerage system.

2. The City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7 Section 6-7.501(c) allows for the City to perform routine monitoring and sampling at the City-approved monitoring facility, and during a period of normal business operations and wastewater flows of the user. The City has enough staff to perform such monitoring.

F. Identification of Sanitary Sewer System Sections Subject to FOG Blockages and Establish Cleaning Maintenance Schedule for Each Section

The FOG Source Control Program has mapped and identified the areas of high threat from FOG sources to the sewer collection system. However, this will be ongoing as new businesses relocate to the Ontario area.

G. Development and Implementation of Source Control Measures

Shown below in Table 6 are the Ordinance Provisions that form the framework for developing the Fats, Oil and Grease (FOG) Source Control Measures.

Table 6 – Ordinance Provisions for Establishing the FOG Program

Authority Levels	Ordinance Provisions	Reason
Water Quality	Prohibit discharges exceeding a maximum FOG concentration	Desirable limit or standard for the FSEs to achieve. There currently is no technical basis for a FOG limit intended to protect a collection system. However, IEUA has imposed sewage quality standards at the point of connection to the Regional Sewer System that could serve as a basis for limiting high strength and high volume discharges. No limitations are currently set, but member Agencies and IEUA are in current talks regarding this topic.
Source Controls	Kitchen BMPs (mandatory)	Mechanism to control FOG discharges to the sanitary sewer in addition to installation of a grease control device.
Equipment Requirements	New FSEs or existing FSEs causing SSOs or in violation of the Public Sewer System Ordinance must install, operate, and maintain grease control equipment.	Ensures installation and maintenance of FOG control device at food service establishments.
	Approval of the type of grease control equipment to be installed.	Allows the City to ensure that inappropriate equipment is not installed at an individual site.
	Approval of size and location of grease control equipment.	Ensures that the equipment is sized properly and located where cleaning and inspections can easily take place.
Facility Access/ Inspections	"Right-to-Enter" the facility must be guaranteed for municipal agency inspectors.	Ensures that the City can inspect the facility
	Pre-determined inspection frequency and notification procedures.	Informs the FSE operators of the planned inspection schedule.
Control Mechanism	Mandatory participation for all FSEs in the FOG Control Program.	Ensures that all FSEs are aware of the FOG Control Program's requirements and are held accountable for compliance.

Table 6 continued – Ordinance Provisions for Establishing the FOG Program

Authority Levels	Ordinance Provisions	Reason
Enforcement	An approved Enforcement Response Plan has already been developed in response to non-compliance.	Notifies the FSEs that the FOG Source Control Program is important and compulsory.
Equipment Maintenance Program	Maintenance requirements established for FOG control equipment (regular inspections and cleaning).	Ensures proper functioning of the FOG control equipment.
	Maintain records of all visual inspections and cleanouts, keep records for a minimum of three years and make records available to inspectors upon request.	Allows the City access to all maintenance records to verify proper operation.
	Prohibit discharge and use of chemical or biological agents that could be used to emulsify FOG.	Prevents discharge of harmful chemicals to the sanitary sewer and prevents solidification of FOG farther along in the sewer system.
Waste Grease Disposal Practices	Require FSEs to contract with licensed and permitted grease handlers.	Ensures that waste grease is removed by reputable and traceable handlers.
	Participate in voucher program to track grease disposal methods.	Notifies the FSEs and handlers that stated grease disposal methods and locations will be verified.

The following permit requirements form the basis of the source control measures that are incorporated into each FSE's permit.

1. **Specific Permit Conditions**

(a.) Clean the facility grease removal equipment (GRE) at a frequency that ensures efficient operation. At a minimum this must be performed according to the frequency determined at the time of inspection or more often for the grease interceptor, in order to comply with the City of Ontario public sewer system ordinance, Title 6, Chapter 7, Section 6-7.404(g). Refer to the attached appendage entitled GRE maintenance requirements for further information. The cleaning frequency must be increased during periods of increased business activity. Failure to follow this requirement will result in the issuance of a Notice of Violation.

(b.) Obtain and retain pumper's receipts and/or manifests on-site for a minimum of three years. Record all maintenance activities, including the dates that the

equipment is cleaned and by whom on the grease interceptor maintenance record that has been provided to you by the City of Ontario Municipal Utilities Company. Provide these records to the City, and/or Inland Empire Utilities Agency inspectors upon request. Failure to follow this requirement will result in the issuance of a Notice of Violation.

2. Standard Permit Conditions

(a.) Retain this permit on the premises and make it available upon request.

(b.) Regularly maintain your grease and oil interceptor so as to prevent excessive discharges of grease and oil into the sewerage system. The costs of installing, inspecting, cleaning, and maintaining such device(s) shall be at the sole expense of the user.

(c.) Have grease removal equipment intercept the waste lines leading from all floor drains, floor sinks, sinks, and waste container wash racks, and keep all domestic wastewater from restrooms, showers, drinking fountains, and condensate (i.e. ice melt, air conditioning) separate from the food service wastewater until the food service wastewater has passed through all necessary pretreatment equipment, devices, or monitoring stations.

(d.) The interceptor must be watertight, structurally sound, durable, properly maintained, and easily accessible for inspection and cleaning to assure that the accumulation of sand, oil or grease does not impair the efficiency of the interceptor or pass through the device.

(e.) Keep grease interceptor maintenance records and hauler's manifests for a minimum of three (3) years. These records shall be made available to the Ontario Municipal Utilities Company upon request. Clean and maintain your interceptor according to the frequency that is outlined in the permit. Submit copies of the maintenance receipts and maintenance log(s) along with the self-monitoring report form according to the Self-Monitoring Requirements.

(f.) If at any time during a required monitoring period, the permittee believes that a grease interceptor cleaning is not required based upon the criteria that is listed in item q below, then it is the responsibility of the permittee to notify the City of Ontario Municipal Utilities Company 15 days prior to the end of the monitoring period, in order to request a grease interceptor-inspection. Failure to do so will

result in a "Notice of Violation" should the permittee fail to pump the interceptor according to the frequency that is outlined in their permit or to notify the City to request an interceptor inspection.

(g.) Utilize a licensed grease hauler who has been permitted for pumping services. Pumping services shall include the initial complete removal of all contents, including floating materials, wastewater and bottom sludge and solids from the interceptor. It is unlawful for any grease waste hauler to reinsert, deposit, dump, place, release, or discharge into a grease trap, grease interceptor, manhole, cleanout, or other sanitary sewer appurtenance any materials that the hauler has removed from the grease trap or grease interceptor, or to cause those materials to be so handled. This prohibition as it pertains to reinsertion of material removed from a grease trap or grease interceptor, shall not apply to a grease waste hauler that has met all of the conditions that are outlined in both the California Penal Code Section 374.5(a)(2)(b) and the City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7, Sec. 6-7.404. Grease interceptor cleaning shall include scraping excessive solids from the walls, floors, baffles and all pipe work. You are responsible for inspecting the grease interceptor during the pumping procedure to ensure that the interceptor is properly cleaned out and that all fittings and fixtures inside the interceptor are in working condition and functioning properly.

(h.) Periodic inspection of the interceptor may be performed by the Ontario Municipal Utilities Company, in order to determine compliance with this section. The owner and/or user of the property shall be subject to enforcement actions if such user fails to maintain the interceptor and/or keep adequate records.

(i.) No user shall introduce or cause to be introduced into the City of Ontario's sewerage system or the POTW any solid or viscous materials which could cause obstruction to the flow in the sewer or cause interference with the operation of the POTW. Provide a collection drum or other container for maximum segregation of fats, oil, and grease, and provide documentation when requested by the Ontario Municipal Utilities Company showing its lawful disposal.

(j.) Implement and post a grease spill control plan when required.

(k.) You must notify the Ontario Municipal Utilities Company at (909) 395-2661 of any:

1. Sale, lease, transfer or assignment.

2. Change of facility name.
3. Changes in food preparation or kitchen practices and/or addition of equipment that requires and/or generates fats, oils or grease; and
4. Spill(s) that result in the discharge of fats, oils or grease to the sewer system.

(l.) You must allow Ontario Municipal Utilities Company representative(s) ready access at all reasonable times to all parts of the premises for purposes of sampling and inspection.

(m.) Any sale, lease, transfer or assignment of the operation for which the permit was issued shall require a new permit.

(n.) The terms and conditions of the permit are subject to modifications and change by the Ontario Municipal Utilities Company during the life of the permit. Ontario Municipal Utilities Company may suspend or revoke this permit for violation of any provision herein or of the City of Ontario Ordinance Title 6, Chapter 7.

(o.) Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate is a crime and may result in the imposition of criminal sanctions and/or civil penalties.

(p.) Any person(s) discharging wastewater in violation of the City of Ontario Public Sewer System Ordinance, Title 6, Chapter 7, is subject to fines, penalties, cost recovery, injunction, termination of sewer service, permit revocation and/or such other remedies as are available to the Ontario Municipal Utilities Company.

(q.) All facilities must comply with the minimum grease interceptor cleaning frequencies required in the user's permit, or more frequently in order to comply with the guidelines noted below:

1. Each food service facility shall determine the frequency at which its grease interceptor(s) shall be pumped according to the following criteria:

a. When the floatable grease layer exceeds six inches (6") in depth as measured by an approved dipping method;
b. When the settleable solids layer exceeds eight inches (8") in depth as measured by an approved dipping method;
c. When the total volume of captured grease and solid material displaces more than twenty percent (20%) of the capacity of the interceptor as calculated using an approved dipping method; or

d. When the interceptor is not retaining/capturing oils and grease; or the removal efficiency of the device, as determined through sampling and analysis, is less than eighty percent (80%).

Periodic inspection of the interceptor may be performed to determine compliance with this. The owner and/or user of the property is subject to enforcement actions if such user fails to maintain the interceptor and/or keep adequate records.

In the permit-based system, FOG handling permits are issued to FSEs. Permit requirements typically include installation of specific FOG removal equipment, required maintenance frequency, and the implementation of FOG handling BMPs.

Permits are a common regulatory control method because they offer a clear channel of communication to the FSE about their requirements for compliance, as well as a concise, uniform, and legal framework for operation of the FOG Source Control Program. The FOG Source Control Program has prioritized each of its FSEs as high, medium, and low priority facilities based upon its required monitoring frequencies determined at the time of their initial inspection. Permits are valid for a period of three years at which time they may be issued a new permit. The program focuses much of its attention on its high priority FSEs that have been identified as causing blockages or contributed to other problems in the sewerage system or have repeated violations. After which the program's attention shifts to those medium priority sites as needed, and then finally to those low priority FSEs. It is the goal of the FOG Source Control program to reduce or eliminate Sanitary Sewer Overflows (SSOs) and blockages and to protect public health and the environment.

VIII. System Evaluation and Capacity Assurance Plan

The City contracted with AKM Consulting Engineers in 2012 to prepare a Sewer Master Plan Update, including a Capital Improvement Plan (CIP), to ensure the provision of adequate hydraulic capacity of key sanitary sewer system elements to meet dry weather peak flow conditions and wet weather events. The Sewer Master Plan was completed in April 2012.

A. Evaluation

To estimate the residential, commercial, and industrial wastewater flows in the City, a temporary flow monitoring study was conducted by ADS Environmental Services from November 4, 2006 to December 12, 2006 at fifteen locations. Major sources that contribute to peak flows, including inflow and infiltration, were considered. Further hydraulic analysis was conducted in order to determine the capacity of key system components and hydraulic deficiencies. Tables summarizing the flow monitoring results and hydraulic deficiencies are provided in Appendix I.

B. Design Criteria

Design criteria are established to ensure that the wastewater collection system can operate effectively under all flow conditions. Each pipe segment must be capable of carrying peak wet weather flows in the hydraulically stable zone of the pipe. Low flows must be conveyed at a velocity that will prevent solids from settling and blocking the system. The design capacity of a gravity pipeline is the calculated capacity of the pipeline based on the Manning formula:

Q = (1.486/n)AR^(2/3)S^(1/2) where

Q = flow in cubic feet per second; R = hydraulic radius in feet = A / P; A = cross-sectional area of the pipe in square feet; P = wetted perimeter in feet; S = slope of pipe in feet of rise per foot of length; n = Manning's friction factor

Sewer system capacity is established using a Manning's friction factor of 0.013 for vitrified clay pipe. The design and analysis of sewer pipes is typically based upon the depth to diameter ratio (d/D). In this study, existing pipes were considered capacity deficient if the d/D is above 0.64 at peak dry weather flows. This d/D ratio was arrived at by taking 75 percent of a pipe's maximum stable flow capacity, which is at a d/D of 0.82. The area above a d/D of 0.82 is considered hydraulically unstable. This provides capacity for 25 percent of peak dry weather flow for inflow and infiltration.

C. Capital Improvement Program and Schedule

Since the 2014 SSMP the Ontario Municipal Utility Company has completed the Draft June 2020 Sewer Master Plan Update, which: 1) Utilized the City's 2010 The Ontario Plan (TOP) land use densities; 2) reevaluated and updated sewer demand factors based on newly collected flow monitoring data, existing land uses, population estimates, historical water use records, newly developed potable demand factors per the May 2016 Ultimate Citywide Water Demand Factor memo prepared by AKM Consulting Engineers and newly developed sewer return ratios; and 3) updated the sewer system inventory to include all recent improvements to the sewer system.

Existing and Ultimate (future) Capacity Deficiencies were identified as capital improvement projects within the Master Plan. The construction cost estimates are based upon the following 2019 Sewer DIF Update unit costs depending on where the project is located within the City; General City (GC/OMC) or Ontario Ranch (OR/NMC), see Unit Pipe Cost table below. Design studies will be conducted as needed to identify and evaluate project alternatives such as parallel pipes and/or diversions prior to final design. Sewer projects are budgeted annually and funded through the City's Sewer Capital Fund.

Pipe Size [inches]	GC Unit Pipe Cost [$/LF]	OR Unit Pipe Cost [$/LF]
8	$250.43	$109.20
10	$313.04	$130.00
12	$375.65	$150.00
15	$469.56	$185.00
18	$563.47	$220.00
21	$575.21	$255.45
24	$657.38	$290.40
27	$739.56	$325.35
30	$821.73	$360.30
36	$986.08	$430.20
42	$1,150.42	$500.10
48	$1,314.77	$570.00

Capital Improvement Program projects from the 2014 SSMP utilized the prioritized numbering system from the 2012 Sewer Master Plan Update, while the 2020 Draft Sewer Master Plan Update reprioritized projects based on current criteria and used overlapping numbering that did not coincided with previous versions of the CIP. In order to avoid confusion in this document, projects referenced from the 2012 Sewer Master Plan Update in the 2014 SSMP Update will include "2012." in front of the project number, while CIP projects referenced from the 2020 Sewer Master Plan Update for use in the 2021 SSMP Update will include "2020." in front of the project number, and those projects requiring reference in both sets of documents, will include the second coinciding project number reference in "[ ]".

The 2014 SSMP listed eighteen (18) CIP projects, while there eight (8) remaining in this 2021 SSMP's CIP list. Most of the removed projects were removed as a result of a CIP construction project completed since the last SSMP, or as a result of flow diversions, flow

monitoring results, reduced sewer flows from conservation efforts, and/or land use changes.

Projects Removed as a result of Flow Diversions/Flow Monitoring/Land Uses Changes:

Project No. 2012.8 (Deer Creek Loop and Laurel Tree Drive) Project No. 8 is 1,256 feet of sewer located in Deer Creek Loop and Laurel Tree Drive, from Deer Creek Loop to Riverside Drive (Manhole R20119 to Manhole R20161). The hydraulic model showed depth to diameter ratios ranging from 0.52 to 0.77 under existing peak dry weather conditions in the existing 10-inch sewer. The recommended replacement pipe size is 15-inches. The estimated cost for Project No. 8 is $996,800.

Project No. 2012.13 (Philadelphia Street, Parco Avenue to Vineyard Avenue) Project No. 13 is 3,893 feet of sewer located on Philadelphia Street from Parco Avenue to Vineyard Avenue (Manhole P16112 to Manhole P17126). The hydraulic model showed depth to diameter ratios ranging from 0.62 to 0.65 under ultimate peak dry weather conditions in the existing 36-inch sewer. The recommended replacement pipe size is 42-inches. It should be noted that further studies may be necessary to identify and evaluate alternative projects such as parallel pipes and/or diversions. The estimated cost for Project No. 13 is $7,568,700.

Project No. 2012.14 (Holt Boulevard, west of Imperial Avenue) Project No. 14 is 633 feet of 10-inch sewer located on Holt Boulevard west of Imperial Avenue (Manhole J16135 to Manhole J16133). The hydraulic model showed depth to diameter ratios of 0.78 to 0.80 under ultimate peak dry weather conditions. The recommended replacement pipe size is 15-inches. The estimated cost for Project No. 14 is $501,900.

Project No. 2012.15 (Vineyard Avenue south of Airport Drive and Easement) Project No. 15 is 1,527 feet of 15-inch and 18-inchsewer located in Vineyard Avenue south of Airport Drive (Manhole K17104 to Manhole K17108) and in an adjacent easement (Manhole K17108 to Manhole K17111). The hydraulic model showed a depth to diameter ratio ranging from 0.69 to 0.76 under ultimate peak dry weather conditions. It is recommended to replace the sewer with 294 feet of 18-inch pipe and 1,233 feet of 21-inch pipe. The estimated cost for Project No. 15 is $1,478,300.

Project No. 2012.16 (Guasti Road and Easement east of Haven Avenue) Project No.16 is 2,683 feet of 8-inch sewer located on Guasti Road and an easement east of Haven Avenue (Manhole J21115 to Manhole J21127). The hydraulic model showed depth to diameter ratios ranging from 0.71 to full under ultimate peak dry weather conditions. It is recommended to replace the sewer with 541 feet of 12-inch pipe and 2,142 feet of

15-inch pipe. The estimated cost for Project No. 16 is $2,043,100. Project No. 17 (Mills Circle north of Mall Drive)

Project No. 2012.17 is a proposed 15-inch sewer connection between existing Manhole I123100 and Manhole I123101. The project is located on Mills Circle north of Mall Drive. It would tie together an existing 10-inch and an existing 15-inch sewer in Mills Circle, diverting some of the flow to the 15- inch sewer and eliminating downstream deficiencies identified in the 10-inch sewer. The estimated cost for Project No. 17 is set at $132,300. The unit cost was not implemented in this case due to the short length of pipe.

Project No. 2012.18 (Holt Boulevard east of Vineyard Avenue) Project No. 18 is 652 feet of 12-inch sewer located Holt Boulevard east of Vineyard Avenue (Manhole J17127 to Manhole J17131). The hydraulic model showed a depth to diameter ratio of 0.76 under ultimate peak dry weather conditions. The recommended replacement pipe size is 15- inches. The estimated cost for Project No. 2012.18 is $517,400.

Project No. 2012.20 (Acacia Street, Easement to Locust Street, Locust Street, Parco Avenue) Project No. 20 is located on Acacia Street, an easement, Locust Street, and Parco Avenue (Manhole M16105 to Manhole N16119). It includes about 3,369 feet of pipe. The hydraulic model showed depth to diameter ratios ranging from 0.41 to full under ultimate peak dry weather conditions in the existing 8-inch sewer. The recommended replacement pipe size is 12-inches. The estimated cost for Project No. 20 is $2,138,300.

Project No. 2012.21 (Vineyard Avenue south of Cedar Street) Project No. 21 is 791 feet of 8-inch sewer located on Vineyard Avenue south of Cedar Street (Manhole O17121 to Manhole O17153). The hydraulic model showed a depth to diameter ratio of 0.74 under ultimate peak dry weather conditions. The recommended replacement pipe size is 12- inches. The estimated cost for Project No. 21 is $502,000.

Project No. 2012.23 (Easement south of Guasti Road) Project No. 23 is 1,780 feet of 15-inch sewer located in an easement south of Guasti Road (Manhole J19111 to Manhole K19108). The hydraulic model showed depth to diameter ratios ranging from 0.55 to 0.69 under ultimate peak dry weather conditions. The recommended replacement pipe size is 21-inches. The estimated cost for Project No. 23 is $1,730,600.

Project No. 2012.25 (Archibald Avenue, Easement from Archibald Avenue to Hellman Avenue) Project No. 25 includes 11,281 feet of 15-inch and 18-inch sewer on Archibald Avenue and an easement from Archibald Avenue to Hellman Avenue (Manhole K191002 to Manhole O18115). The hydraulic model showed depth to

diameter ratios ranging from 0.66 to full under ultimate peak dry weather conditions. It is recommended to replace the sewer with 7,858 feet of 21-inch pipe and 3,423 feet

Projects Removed as a result of Completed CIP Project Construction:

Project No. 2012.11 (Riverside Drive, Sultana Avenue to Campus Avenue) Project No. 11 is 1,214 feet of 12-inch sewer located on Riverside Drive from Sultana Avenue to Campus Avenue (Manhole R14156 to Manhole R14148). The hydraulic model showed depth to diameter ratios ranging from 0.67 to 0.76 under ultimate peak dry weather conditions. The recommended replacement pipe size is 15-inches. The estimated cost for Project No. 11 is $963,600.

Project No. 2012.12 (Plaza Serena Street, Granada Court to Vineyard Avenue) Project No. 12 is 153 feet of 8-inch sewer located on Plaza Serena Street from Granada Court to Vineyard Avenue (Manhole I17103 to Manhole I17104). The hydraulic model showed a depth to diameter ratio of 0.81 under ultimate peak dry weather conditions. The recommended replacement pipe size is 12-inches. The estimated cost for Project No. 12 is $97,400

Project No. 2012.19 (Bon View Avenue north of Francis Street) Project No. 19 includes 580 feet of 8-inch sewer on Bon View Avenue north of Francis Street (Manhole N14135 to Manhole N14151). The hydraulic model showed a depth to diameter ratio ranging from 0.70 to 0.72 under ultimate peak dry weather conditions. The recommended replacement pipe size is 12-inches. The estimated cost for Project No. 19 is $368,200.

Project No. 2012.22 (Easements and Inland Empire Boulevard) Project No. 22 is 3,445 feet of 15-inch sewer located in Inland Empire Boulevard and adjacent easements (Manhole I18109 to Manhole J19111). The hydraulic model showed depth to diameter ratios ranging from 0.49 to full under ultimate peak dry weather conditions. The recommended replacement includes 1384 feet of 18-inch sewer, and 2061 feet of 21-inch sewer. The estimated cost for Project No. 22 is $3,320,700.

Future CIP Construction Projects:

Project Location No. 2020.1 (Riverside Dr, east of Lower Deer Creek) Two reaches of sewer pipe (Manhole R19MH182 to Manhole R19MH180) in Riverside Drive east of Lower Deer Creek were identified as existing capacity deficiencies. Upon further examination of the as -built plans (S13564), it was determined that the recorded sewer inverts may not be correct and therefore the hydraulic model slopes may be incorrect as well. The recommendation for this location is to field verify the inverts of the sewers on as-built plan S13564, modify the hydraulic model as needed, and rerun the analysis.

The City will survey the sewers in this area. No cost is attributed to Project Location No. 1.

Project No. 2020.2 (Holt Blvd at Grove Ave) Project No. 2 is a project that will alleviate the existing capacity deficiency in the 10-inch sewer in Holt Boulevard west of Imperial Avenue (Manhole J16135 to Manhole J16133) that was shown to surcharge in the hydraulic model under future conditions. This project was developed and recommended after being studied as a part of the "Feasibility Study for the North Vineyard Sanitary Sewer Main Project" prepared by Stantec Consulting Services, Inc. and dated March 2020. Per the feasibility study technical memorandum, this project will require the following:

1. Verification of flow splitting at Nocta St and Virginia Ave

2. Construction of approximately 8 ft of 12-inch sewer

3. Construction of approximately 40 ft of 15-inch sewer

4. Construction of a drop manhole

5. Construction of an overflow feature in the existing Manhole J15149 to let peak flow continue to flow to

the existing 12-inch sewer on Holt Blvd

6. Approval and construction of a new connection IEUA's 36-inch sewer in Grove Ave.

Per the feasibility study, the estimated base cost for Project No. 2 is $379,920. The total cost including contingency, engineering & design, and construction management is estimated at $502,450.

Project No. 2020.3 (I St, between Elderberry Ave and Benson Ave) Project No. 3 was identified due to an existing capacity deficiency. It involves the construction of about 360 feet of 8-inch sewer in Mountain Avenue, south of I Street (Manhole H11143 to Manhole I11100). The intention is to divert sewage south in Mountain Avenue and alleviate the capacity issues in I Street west of Elderberry Avenue. Once the diversion sewer is constructed, the sewer in I street could be utilized as an overflow. The estimated cost for Project No. 3 is $119,230.

Project No. 2020.4 (Easements between Archibald Ave and Hellman Ave, Hellman Ave, Philadelphia St) Project No. 4 involves about 8,200 feet of 18-inch sewer pipe that is identified as capacity deficient when the future developments are constructed. It would be quite costly if all pipe were to be upsized or if parallel sewers were to be

constructed to address this deficiency. Instead, it is recommended that the City investigate the possibility of constructing a sewer in Archibald Avenue from Manhole O19107 to the 42" IEUA trunk sewer in Cedar Street. The City already has an approved IEUA connection at this location that is currently not being used. This potential sewer could either divert all the sewage flow to IEUA's trunk sewer or it could be designed as an overflow sewer. The existing system downstream of Manhole O19107 includes two siphons: one at the crossing of Cucamonga Creek Channel north of Cedar Street (4" and 12" barrels) and one at Philadelphia Street just north of the RP-1 Treatment Plant (8", 18", 24" barrels). Reducing sewage flow to the downstream sewers and siphons could create a maintenance issue if there is not enough flow and velocity to push debris through on a regular basis. A preliminary design study should be conducted to determine the possibility of diverting sewage flow to IEUA and how much should ultimately be diverted as well as the possibility of eliminating one or both of the siphons.

The total length of sewer to potentially be constructed between Manhole O19107 and the IEUA sewer in Cedar Street is about 800 feet. If a full diversion is designed, the recommended sewer size is a minimum of 18-inches depending on the design slope. The pipe size should be verified to meet the City's criteria during the design phase of the project.

For planning and budgeting purposes, the replacement cost of the 6,920 feet of deficient pipe is included in the CIP for Project No. 4 in the event that the recommended diversion or overflow sewer cannot be constructed. The estimated cost of $6,358,930 includes the reconstruction of the Cedar Siphon.

Project No. 2020.5 (Future Multi-Modal Mixed-Use Development) Project No. 5 Is 1,185 of 8-inch pipe (Manhole J18106 to Manhole J19111) between the I-10 Freeway and Guasti Road, west of Archibald Avenue. This area is designated as the future Multi -Modal Mixed-Use development. These sewers were shown to surcharge in the hydraulic model under future peak dry weather conditions.

It is recommended that the City monitor sewage flows as development occurs. The recommended pipe replacement pipe size is 12-inches. The estimated cost for Project No. 5 is $588,660.

Project No. 2020.6 (Old Guasti Rd, between Turner Ave and Archibald Ave) Project No. 6 is 1,647 feet of 8-inch sewer located on Old Guasti Road west of Turner Avenue (Manhole J20131 to Manhole J19MH139). The hydraulic model showed depth to diameter ratios ranging from 0.66-0.76 future peak dry weather conditions. The

recommended replacement pipe size is 12-inches. The estimated cost for Project No. 6 is $817,980.

Project No. 2020.7 (Airport Dr and Grove Ave) Project No. 7 is 751 feet of 8-inch sewer in Airport Drive and 864 feet of 21-inch sewer in Grove Avenue. This project will provide sewer service to adjacent parcels that currently do not have a sewer nearby as well as future capacity for the potential of expansion in the vicinity of the airport. The estimated cost for Project No. 7 is $3,308,790.

Project No. 2020.8 (5th St and Euclid Ave) Project No. 8 is 2,050 feet of 8-inch sewer located in 5th Street and Euclid Avenue. This project will divert flow around Chaffey High School. Currently the sewer runs beneath the buildings. The estimated cost for Project No. 8 is $678,950.

IX. Monitoring, Measurement, and Program Modification

As part of its Sewer System Management Plan, the City must maintain relevant information to be used to establish and prioritize appropriate SSMP activities. The City must monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP, and assess the success of the preventative maintenance program. Additionally, the City must update program elements, as appropriate, based on monitoring and/or performance evaluations, and identify and illustrate SSO trends, including frequency, location, and volume.

X. SSMP Program Audits

As part of its Sewer System Management Plan, the City must conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit must focus on evaluating the effectiveness of the SSMP and the City's compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

The City has developed an SSMP Audit Checklist (see Appendix L). This form will be used annually to audit the SSMP and report on its continued use, effectiveness, and any updates or changes to the program.

The City has developed an SSMP Audit Checklist (see Appendix L). This form will be used annually to audit the SSMP and report on its continued use, effectiveness, and any updates or changes to the program.

XI. Communication Program

As part of its Sewer System Management Plan, the City must communicate on a regular basis with the public regarding the development, implementation, and performance of the SSMP. This is

accomplished via the discussion and adoption of resolutions for the development and implementation of the SSMP held on an incremental basis at multiple City Council meetings, which are open to the public. Additionally, the City must create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system. This is accomplished via regular formal meetings, as well as routine informal communications, conducted by and between IEUA and its Member Agencies.

Glossary

BMP - Best Management Practice

CalEMA – California Emergency Management Agency

CCTV - Closed circuit television

Cityworks® - Software used to manage work orders and service requests

CIP - Capital improvement plan

DOC – Departmental Operations Center

EOC - Emergency Operations Center

FSE - Food service establishment

IEUA - Inland Empire Utilities Agency

GIS - Geographic Information System

gpd - Gallons per day

gpm - Gallons per minute

mgd - Million gallons per day

O&M - Operations and Maintenance

RCA - Regional Contract Agency

RWQCB – Regional Water Quality Control Board

SCADA - Supervisory Control and Data Acquisition

SSO - Sanitary Sewer Overflow

NASCO - National Association of Sewer Companies

PACP - Pipeline Assessment Certification Program

SOP - Standard Operating Procedure

City of Ontario Municipal Sewer Ordinance

CITY OF ONTARIO MUNICIPAL SEWER ORDINANCE

Sec. 6-7.512 Public access to information and confidentiality

Sec. 6-7.513 Inspection/right-of-entry

Article 6. Enforcement

Sec. 6-7.601 Purpose and scope

Sec. 6-7.602 Determination of non-compliance

Sec. 6-7.603 Non-compliance fees

Sec. 6-7.604 Notice of violation

Sec. 6-7.605 Show cause order

Sec. 6-7.606 Compliance agreement

Sec. 6-7.607 Cease and desist order

Sec. 6-7.608 Permit revocation

Sec. 6-7.609 Injunction

Sec. 6-7.610 Civil penalties

Sec. 6-7.611 Criminal penalties

Sec. 6-7.612 Appeal

Sec. 6-7.613 Additional emergency remedial measures

Sec. 6-7.614 Cumulative remedies

Sec. 6-7.615 Termination of service

Sec. 6-7.616 Public nuisance

Sec. 6-7.617 Cost

Sec. 6-7.618 Recovery of cost incurred by City

Sec. 6-7.619 Financial security

Sec. 6-7.620 Appeals to the Administrator

1. ARTICLE 1. GENERAL PROVISIONS

A) SEC. 6-7.101. AUTHORIZATION.

This chapter is enacted pursuant to authority conferred by law including, but not limited to, Cal. Health & Safety Code, §§ 5400 to 5474, Cal. Gov't Code, §§ 54725 to 54740, and 66000 to 66003, Cal. Code of Regulations, Title 22, the Federal Clean Water Act, 33 U.S.C. 1251, et seq., the Code of Federal Regulations, the Porter Cologne Act, the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6901, et seq. and the National Pollutant Discharge Elimination System Permits issued by the Regional Water Quality Control Board, Santa Ana Region, to the Inland Empire Utilities Agency (IEUA).

(§ 3, Ord. 2755, eff. April 4, 2002)

B) SEC. 6-7.102. PURPOSE AND OBJECTIVES.

(a) This chapter sets forth uniform requirements for direct and indirect contributors into the City of Ontario sewerage system and IEUA treatment system, and enables the City to comply with all applicable State and Federal laws, including the Clean Water Act of 1977 and the General Pretreatment Regulations (40 CFR, Part 403), and subsequent amendments to each.

(b) The primary objectives of this chapter are:

(1) To prevent the introduction of pollutants into the City of Ontario sewerage system, which would interfere with the operation of the collection system or treatment processes or contaminate the resulting sludge;

(2) To prevent the introduction of pollutants into the City of Ontario's sewerage collection and IEUA's treatment system which would pass through said system inadequately treated, into receiving waters or the atmosphere, or otherwise be incompatible with the system;

(3) To protect the health of the public and the City of Ontario and IEUA operations and maintenance personnel;

(4) To improve the opportunity to recycle and reclaim wastewaters and biosolids from the sewerage system;

(5) To provide for equitable distribution of the cost of the sewerage system, wastewater pretreatment programs, and all related services through the establishment of fair and equitable fees and charges.

(c) This chapter provides for the regulation of direct and indirect contributors to the City of Ontario's sewerage system through the issuance of permits to certain non-domestic sewer users, authorizes monitoring and enforcement activities; requires user reporting; assumes that existing customers' capacity will not be preempted, and provides for the setting of fees by the City of Ontario for the equitable distribution of costs resulting from the program established herein.

(§ 3, Ord. 2755, eff. April 4, 2002)

C) SEC. 6-7.103. ADMINISTRATION.

Except as otherwise provided in this chapter, the Administrator shall administer, implement, direct and cause enforcement of the provisions of this chapter. Whenever any power is granted to or a duty is imposed upon the Administrator, the power may be exercised or the duty may be performed by a user authorized by the Administrator.

(§ 3, Ord. 2755, eff. April 4, 2002)

D) SEC. 6-7.104. APPLICABILITY.

This chapter shall apply to all users of the City's sewerage facilities within the City, and to users outside the City who are, by permit, contract, or agreement with the City, users of the City's sewerage facilities.

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.105. REGIONAL PRETREATMENT AGREEMENT.

The City of Ontario adopted an agreement known as the Regional Pretreatment Agreement, entered into by and among IEUA, the City of Ontario and the cities of Chino, Chino Hills, Fontana,

Montclair, Upland, and the Cucamonga County Water District. Said agreement is hereby adopted and incorporated by reference as if fully set forth herein. Copies of the said agreement are on file with the City Clerk of the City of Ontario.

(§ 3, Ord. 2755, eff. April 4, 2002)

F) SEC 6-7.106. DEFINITIONS.

Unless the context specifically indicates otherwise, the following terms and phrases, as used in this chapter, shall have the meanings hereinafter designated. The definitions in this chapter are included for reference purposes and are not intended to narrow the scope of definitions set forth in federal or state law or regulations. Words used in this chapter in the singular may include the plural and the plural may include the singular. Use of masculine shall also mean feminine and neuter.

(a) "Act" or "the Act" means the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. 1251, et seq.

(b) "Authorized industrial representative" means:

(1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function if the user is a corporation;

(2) The manager of one (1) or more manufacturing, production, or operation facilities employing more than two hundred fifty (250) persons or having gross annual sales or expenditures exceeding $25 million, if authority to sign documents has been delegated to the manager in accordance with corporate procedures; or

(3) A general partner or proprietor if the user is a partnership or proprietorship respectively; or

(4) A duly authorized representative of the individual designated in (1), (2), or (3) above, if such representative is responsible for the overall operation of the facility discharging to the sewerage system.

(c) "Batch process" means a treatment process in which a tank or vessel is filled, the wastewater (or solution) is treated or checked to ensure that discharge standards are met and is then released to the sewerage system. A batch process is intermittent, not continuous.

(d) "Biosolids" means the non-hazardous and recyclable organic matter resulting from the treatment of wastewater.

(e) "Biochemical oxygen demand (BOD)" means a test method which measures the organic strength of the wastewater. The BOD test measures the amount of oxygen consumed by the microorganisms in the wastewater as they stabilize decomposable organic matter under aerobic conditions. The BOD test is a five (5) day test where the wastewater is kept at twenty (20) degrees centigrade and the results are expressed in milligrams per liter (mg/L).

(f) "Brine" means wastewater saturated with or containing large amounts of salt, especially of sodium chloride.

(g) "Business" means an industrial or commercial enterprise.

(h) "Bypass" means the intentional diversion of wastestreams from any portion of a user's treatment facility.

(i) "Capital facilities fee" means the prevailing unit cost per EDU fee, based on the EDU value as established in this chapter, and adjacent sewer line size.

(j) "Categorical industrial user (CIU)" means any industrial user subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N.

(k) "Categorical pretreatment standards" means national wastewater discharge pollutant limits developed by the EPA for any industry in any designated category. The pollutant effluent limits are contained in the Code of Federal Regulations.

(l) "Clean Water Act (CWA)" means the Federal Water Pollution Control Act, also known as the Clean Water Act and the regulations adopted thereto. The Clean Water Act is the primary federal law that protects our nation's waters, including lakes, rivers, aquifers and coastal areas.

(m) "Clean Water Enforcement and Pollution Prevention Act of 1999" means the California law which authorizes Regional, State Boards and POTWs to require mandatory penalties and implementation of pollution prevention plans for various types of effluent violations

(n) "Code of Federal Regulations (CFR)" means a publication of the United States Government that contains all of the proposed and finalized federal regulations, including environmental regulations.

(o) "Collection system" means the combined pipes, conduits, manholes, and other structures, usually underground, whose purpose is to convey sanitary wastewater.

(p) "Compatible pollutants" means those pollutants such as biochemical oxygen demand (BOD), total suspended solids (TSS), and ammonia that are normally removed by the POTW treatment processes.

(q) "Compliance schedule" means the time period allowed by the City for a user to comply with permit conditions or discharge requirements.

(r) "Composite sample" means a collection of individual samples taken on a time or flow interval basis, and usually combined to give an average representative sample for the sample period.

(s) "Constituent" means any chemical element, compound, or mixture that is either suspended or dissolved in the wastewater stream.

(t) "Conventional pollutants" means those pollutants which are usually found in domestic, commercial, or industrial wastewaters such as biochemical oxygen demand, suspended solids, pathogenic organisms, pH, and oil & grease.

(u) "Direct discharge" means the direct release of treated or untreated wastewaters directly to the navigable waters of the United States. Direct discharges are regulated under the NPDES.

(v) "Discharge" means sewage or wastewater which is released into or allowed to enter the public sewerage system.

(w) "Discharge limits" means the maximum concentration levels at which specific pollutants are allowed to be discharged.

(x) "Discharge permit" means formal authorization by the City, stipulating the conditions under which a user's wastewater may be released to the City's sewerage system.

(y) "Domestic wastewater" means the liquid and solid waste derived from the ordinary living processes of humans, free from industrial wastewater, and of such character as to permit satisfactory treatment and disposal by conventional sewage treatment processes.

(z) "Environmental Protection Agency (EPA)" means the federal agency charged by law with carrying out and obtaining compliance with the Clean Water Act of 1977 and other federal environmental laws and promulgating, interpreting and enforcing regulations implementing such statutes.

(aa) "Equivalent dwelling unit (EDU)" represents the wastewater flow from a single-family residential household. A typical single-family residential household has a wastewater flow of two hundred seventy (270) gallons/day, with a BOD and TSS equal to 230 mg/L and 220 mg/L, respectively.

(ab) "Existing source" means an industrial discharger that was in construction or operation prior to the EPA proposing pretreatment standards for the industrial category. The standards will be applicable to such source if the category is thereafter promulgated in accordance with Section 307 of the Act

(ac) "Fee" means any charge made to the user for the use of the sewerage system and shall include, but not be limited to, capital facilities fee, sewer assessment fee, connection and frontage fee, industrial wastewater permit fee, sampling fee, inspection fee, noncompliance fee, oversize sewer fee, monthly sewer service fee, and other user fees.

(ad) "Flammable liquid" means a liquid which by itself, or any component of it present in greater than one percent (1%) concentration, has a flashpoint below one hundred (100) degrees Fahrenheit (thirty-eight (38) degrees Centigrade).

(ae) "Frontage fee" means the prevailing unit frontage fee, based on the sewer main size as established in § 6-7.707, multiplied by the length, in feet, of the sewer frontage of a lot or parcel.

(af) "Grab sample" means a single sample collected at a particular time and place which represents the wastestream at that time and place only, and which does not exceed a fifteen-minute duration.

(ag) "Hazardous Materials Management Plan" means a document prepared by an industry which contains copies of Material Safety Data Sheets (MSDS) as well as additional information regarding the storage, handling, and disposal of all chemicals used on site by the industry.

(ah) "Hazardous substance" means any substance designated under 40 CFR Part 116 pursuant to § 311 of the Act.

(ai) "Hazardous waste" shall be as defined in 40 CFR Part 261.3 or Title 22, Cal. Code of Regulations.

(aj) "Indirect discharge" means the release or introduction of pollutants into the City's sewerage system from any non-domestic source regulated under §§ 307(b), (c) or (d) of the Act, which may include septage. These discharges are subject to the City's Municipal Code.

(ak) "Industrial cost recovery (OCR)" means a charge to all users of the sewerage system equal to the portion of the federal grant used for the construction of the Regional Sewage Treatment Plant allocable to industrial users.

(al) "Industrial user" or "user (IU)" means any user, business, or facility that discharges or causes a discharge of non-domestic waste directly or indirectly into the City sewerage system.

(am) "Industrial wastewater" or "industrial waste" means any waste or substance spilled, discharged, flowing or allowed to escape from any producing, manufacturing, processing, chemical, waste or materials storage area, institutional, governmental, or agricultural operation or from any other operation, or from the development, recovery or processing of any material resource. Industrial wastewater includes but is not limited to waste and/or wastewater resulting from equipment maintenance and cleaning, product coating, coloring, painting, plating, treating, degreasing or cleaning, heating and cooling systems, and water treatment devices. Industrial wastewater does not include domestic wastewater and unpolluted water as defined in this chapter. Any wastewater that is hauled by truck, rail or other means, and discharged into the sewerage system, shall be considered industrial wastewater, regardless of the original source.

(an) "Inland Empire Utilities Agency (IEUA)" shall be defined as the regional sewer treatment agency. IEUA is also responsible for jointly administering the provisions of this chapter.

(ao) "Inspector" means a person authorized by the Administrator to inspect any development that is

discharging or has the potential to discharge wastewater into the sewerage system.

(ap) "Instantaneous maximum allowable discharge limit" means the maximum concentration of a pollutant allowed to be discharged at any time, determined from the analysis of any discrete

or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

(aq) "Interceptor" means a treatment system designed, constructed and operated for the purpose of removing and retaining sand, oil, and grease from wastewater by differential gravity separation before discharge to the sewerage system. This term shall include both oil and grease interceptors and sand and oil interceptors.

(ar) "Interference" means a discharge that alone or in conjunction with a discharge or discharges from other sources,

(1) Inhibits or disrupts the POTW, its treatment processes or operations, or its processes, including either the use or disposal of sludge; and

(2) Is a cause or threatens to cause, a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and ordinance or permits issued hereinafter (or more stringent state or local regulations): § 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) [including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to Subtitle D of SWDA], The Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

(as) "Lower explosive limit (LEL)" means the point where the concentration of a gas-in-air is sufficiently large to result in an explosion if an ignition source (sufficient ignition energy) is present.

(at) "Mass emission rate", "mass limit" means the weight of material discharge to the sewerage system during a given time interval. Unless otherwise specified, the mass emission rate shall mean pounds per day of a particular constituent or combination of constituents.

(au) "Material Safety Data Sheets (MSDS)" means a document normally developed by a chemical manufacturer or formulator, which provides pertinent information about a chemical substance or mixture. The MSDS is required to be available to employees and inspectors when a chemical substance is used or found in the workplace.

(av) "Maximum extent practicable (MEP)" means to the maximum extent possible, taking into account equitable considerations of synergistic, additive, and competing factors, including but not limited to, gravity of the problem, fiscal feasibility, public health risks, societal concern, and social benefits.

(aw) "Milligrams per liter (mg/L)" means one (1) milligram of a pollutant in one (1) liter of water or wastewater and can also be expressed as parts per million.

(ax) "Monitoring facility" means any structure approved by the Administrator to provide a convenient access point for monitoring the quantity and quality of a user's wastewater.

(ay) "National Pretreatment Standards", "pretreatment standards", or "standards" means any regulation containing pollutant discharge limits promulgated by the EPA in accordance with §§ 307 (b), (c), or (d) of the Act and 40 CFR Chapter I, Subchapter N (Parts 403 - 471), which established prohibitions or limitations on the discharge of pollutants from point sources.

(az) "National Pollutant Discharge Elimination System (NPDES) Permit" means a permit issued by state or federal agencies pursuant to § 402 of Act (33 U.S.C. 1432).

(ba) "Noncompatible pollutants" means those pollutants that are not removed by the sewage treatment plant or compatible pollutants in excessive quantities or concentrations. These pollutants may be toxic and cause waste to pass-through or interfere with sewage treatment systems.

(bb) "Nonintegrated facility" means industrial sources that generate wastewaters from different categorical and non-categorical (ancillary) processes, but do not combine the wastestreams prior to pretreatment or discharge to the sanitary system.

(bc) Non-Reclaimable Wastewater System (NRWS). A sewerage line that is owned and operated by IEUA primarily for the disposal of non-reclaimable wastewater (brine).

(bd) "Occupant" means the tenant, renter or lessee of property who is the recipient of other utility services provided by the City and is responsible by utility application, agreement or by other means for the payment of said utility services.

(be) "Owner" means the legal owner of the parcel of real property, except when the legal owner or said real property is such due to the holding of a mortgage, note or other such security, in which case the "owner" shall be deemed to be a beneficial owner of said parcel of real property.

(bf) "Pass-through" means a discharge that passes through the POTW to the waters of the state in concentrations which, alone or in conjunction with other discharges, cause an NPDES permit violation, including an increase in the magnitude or duration of the violation.

(bg) "Permittee" means a user, business, or company who has received a permit to discharge wastewater into the City sewerage system subject to the requirements and conditions established by the City.

(bh) "Pollutant" means any substance which contributes to or causes the impairment of the beneficial recycling of water or sludge. Pollutants include but are not limited to: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, medical wastes, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, and agricultural waste, and certain characteristics of wastewater (e.g. pH, temperature, TSS, turbidity, color, COD, BOD, toxicity, or odor).

(bi) "Pollution" means the man-made or man-induced degradation of the chemical, physical, biological, and/or radiological integrity of water.

(bj) "Pretreatment" or "treatment" means the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants to a POTW. The reduction or alteration can be obtained by physical, chemical or biological processes, or process changes by other means except as prohibited by 40 CFR, § 403.6 (d).

(bk) "Pretreatment facility" means an industrial wastewater treatment plant consisting of one (1) of more treatment devices designed to remove sufficient pollutants from wastewaters to allow a user to comply with EPA, state or local effluent limitations for legal discharge to a POTW.

(bl) "Pretreatment standards" or "standards" means prohibited discharge standards, categorical pretreatment standards and local limits.

(bm) "Process wastewater" means any wastewater contaminated by human activities including but not limited to that originating from manufacturing, agriculture, processing, rinsing, washing or producing.

(bn) "Public agency" means the State of California or any city, county, district, other local authority or public body within the State of California.

(bo) "Public sewer system," "public sewer," "sewerage system," or "regional sewerage system" means any sewerage facility which is located in and maintained by the City or IEUA. The public sewer does not include the nonreclaimable waste system.

(bp) "Publicly owned treatment works (POTW)" means all sewerage facilities used for collecting, conveying, pumping, treating, and disposing of sewage, whether these facilities are operated and maintained by the City or IEUA.

(bq) "Regional sewage service contract" means the agreement between IEUA and the public sewering agencies in the Chino Basin area, to provide for the acquisition, improvement, and expansion of regional sewerage facilities for collecting, conveying, pumping, treating, and disposing of sewage from each of the public sewering agencies in the IEUA service area.

(br) "Regulatory agencies" means any or all agencies regulating the City, including, but not limited to, the Environmental Protection Agency, the State Water Resources Control Board, and the Regional Water Quality Control Board.

(bs) "Resource Conservation and Recovery Act (RCRA)" means a federal act that regulates the generation, storage, transportation and disposal of federally defined hazardous wastes from "cradle to grave".

(bt) "Serious violation" means any waste discharge that exceeds the effluent limitations for a Group II pollutant, as specified in Appendix A to 40 CFR 123.45, by twenty percent (20%) or more or for a Group I pollutant, as specified in Appendix Z to 40 CFR 123.45, by forty percent (40%) or more.

(bu) "Sewage" means the individual or community wastewater derived from residential, agricultural, commercial, or industrial sources, including domestic sewage, and industrial wastewater.

(bv) "Sewer" means sanitary sewer mains, including appurtenances such as manholes and clean-outs, but does not include residential, commercial, and industrial laterals and connections to the public sewer system.

(bw) "Sewer factor" or "SF" means a value used to calculate the sewer assessment fee based on the levels of BOD and TSS in a user's wastewater, and the estimated volume of the wastewater. If unknown, the volume of the wastewater may be estimated using the number of fixtures in the proposed building.

(bx) "Sewer frontage" means the boundary of a lot or parcel of land fronting on the sewer to which a service connection is made, except in the case of corner lots, or irregularly shaped lots, where the appropriate frontage shall be determined by the Engineering Department or the Administrator.

(by) "Sewer service connection fee" means a sewer fee consisting of a frontage connection fee, a capital facilities fee, one-time assessment fee, or a combination thereof.

(bz) "Sewerage facilities" means any and all facilities used for collecting, conveying, pumping, treating, and disposing of sewage.

(ca) "Shall" is mandatory, "may" is permissive.

(cb) "Significant industrial user (SIU)" means:

(1) All categorical industrial users; and

(2) Any noncategorical user that:

(i) Discharges twenty-five thousand (25,000) gallons per day or more of process wastewaters (excluding sanitary, noncontact cooling water, and boiler blowdown wastewaters);

(ii) Contributes a process wastestream which makes up five percent (5%) or more of the average dry weather hydraulic or organic capacity of a treatment plant; or

(iii) Has a reasonable potential, in the opinion of the Administrator, to adversely affect the POTW.

(cc) "Significant non-compliance (SNC)" means an industrial user whose violation(s) meets one (1) or more of the following criteria:

(1) Chronic violations of wastewater discharge limits to the sewer, defined here as those in which sixty-six percent (66%) or more of wastewater measurements taken during a six (6) month

period exceed the daily maximum limit or average monthly limit for the same pollutant parameter by any amount;

(2) Technical Review Criteria (TRC) violations of wastewater discharge limits to the sewer, defined here as those in which thirty-three percent (33%) or more of the wastewater measurements taken for each pollutant parameter during a six (6) month period equal or exceed the product of the daily maximum or average monthly limit multiplied by the applicable federal technical review criterion (1.4 for BOD, TSS, fats, oils & grease, and 1.2 for all other pollutants except pH);

(3) Any other discharge violation that the Administrator believes has caused, alone or in combination with other discharges, interference or pass-through at the sewage treatment plant;

(4) Any discharge to the sewer system that has caused endangerment of the public, City or IEUA personnel or the environment, or has resulted in the Administrator's exercise of emergency authority to halt or prevent such a discharge;

(5) Failure to meet, within ninety (90) days of the scheduled date, a compliance schedule milestone contained in a wastewater discharge permit or enforcement order for starting construction, completing construction, or attaining final compliance;

(6) Failure to provide within thirty (30) days after the due date, any reports required by this chapter, including BMRs, reports on compliance with Categorical Pretreatment Standard deadlines, monitoring reports, and reports on compliance with compliance schedules;

(7) Failure to accurately report noncompliance; or

(8) Any other violation, which the Administrator determines, will adversely affect the operation or implementation of the pretreatment program.

(cd) "Single-family residential" means all developed parcels with one (1) single-family detached housing unit, and/or any single-family residential unit that is served water by an individual water meter.

(ce) "Single pass non-contact cooling water" means water that has no direct contact with any raw material or product, and which is used only once for the purpose of cooling, and then is discarded or discharged.

(cf) "Single pass non-contact heating water" means water that has no direct contact with any raw material or product, and which is used only once for the purpose of heating, and then is discarded or discharged.

(cg) "Sludge" means any solid, semi-solid or liquid decant, subnate from a manufacturing process, utility service, or pretreatment facility.

(ch) "Slug load" means any pollutant release in a discharge at a flow rate and/or pollutant concentration which will cause interference or upset of the sewerage system operations.

(ci) "Spill containment" means a City approved protection system installed by the user to prevent the discharge of non-compatible pollutants into the sewer system.

(cj) "State Water Resources Control Board (SWRCB)" means the California water pollution control agency with overall pretreatment responsibility through delegation agreements with the EPA.

(ck) "Technical review criteria (TRC)" means an EPA term that defines the magnitude of a discharge limit violation. To determine whether the TRC limit has been exceeded, one must multiply the daily maximum or average limit by the applicable federal value of 1.4 for conventional pollutants (BOD, TSS, fats, oils & greases) or 1.2 for all other pollutants except pH.

(cl) "Total suspended solids (TSS)" means the total matter that is suspended in water or wastewater and is expressed in milligrams per liter (mg/L).

(cm) "Total toxic organics (TTO)" means the sum of all toxic organic compounds present in an industrial user's process discharge at concentrations greater than 0.01 mg/L and listed under 40 CFR Chapter I, Subchapter N.

(cn) "Toxic Organics Management Plan (TOMP)" or "Solvent Management Plan (SMP)" means an organized strategy for keeping track of all solvents delivered to a site, their storage, generation, use, and disposal. A TOMP or SMP addresses both the prevention of toxic organics discharge to the sewerage system or the environment and the control of spills and leaks. It also ensures against the deliberate dumping of solvents.

(co) "Toxic pollutant" means those pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis information available to the Administration of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunction (including malfunctions in reproduction) or physical deformations, in such organism or their offspring.

(cp) "Unpolluted water" means water to which no pollutant has been added either intentionally or accidentally.

(cq) "Upset" means an exceptional incident in which there is unintentional and temporary non-compliance with discharge limits as specified on the user's permit because of factors beyond the reasonable control of the user. An "upset" does not include non-compliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment devices, lack of preventative maintenance or careless or improper operation.

(cr) "User" or "discharger" means any person, industry or establishment which discharges or causes to be discharged any wastewater directly or indirectly to the sewer system and shall also mean an owner or occupant whether private, governmental, or otherwise of a unit, building, premise or lot in the City.

(cs) "Volatile" means natural (plant or animal origin) or synthetic substances that are capable of being evaporated or changed to a vapor at relatively low temperatures.

(ct) "Waste manifest" means the receipt which is retained by the generator of hazardous wastes as required by the state and/or the federal government pursuant to RCRA or the California Hazardous Materials Act, or that receipt which is retained by the generator for recyclable wastes or non-hazardous wastes as required by the City.

(cu) "Wastehauler" means any user carrying on or engaging in vehicular transport of waste.

(cv) "Wastewater" or "waste" means any discarded substance in any form (liquid, semi-solid, solid or gaseous) that has the potential of being disposed of or entering the sewer.

(cw) "Wastewater factor (WF)" means a value used to calculate the monthly sewer service charge based on the levels of BOD and TSS in a user's wastewater, and the estimated volume of the wastewater. The volume of the wastewater is estimated from the user's waste consumption using a fixed percentage.

Words used in this chapter in the singular may include the plural and the plural the singular. Use of masculine shall also mean feminine and the use of feminine shall also mean masculine.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 11, Ord. 2816, eff. December 1, 2005)

2. ARTICLE 2. PROHIBITION AND DISCHARGE LIMITS

A) SEC. 6-7.201. PROHIBITED DISCHARGES.

No user shall discharge a quantity or quality of wastewater to the sewerage system or POTW which causes, or is capable of causing, either alone or by interaction with other substances, pass-through or interference. No user shall introduce or cause to be introduced into the City of Ontario's sewerage system or the POTW the following pollutants, substances, or wastewater except as allowed by Exhibit A of this chapter or as expressly allowed in an industrial wastewater permit:

(a) Gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, or any other liquid, solid or gas which causes or is capable of causing, either alone or by interaction with other substances, a fire or explosive hazard, impairment of the effective maintenance or operation of the POTW, or in any other way, may cause danger to the life or safety of any user, damage to private properties or the sewerage facilities in the City of Ontario or the POTW. Prohibited materials include, but are not limited to, any wastestream with a closed cup flash- point of less than one hundred forty (140) degrees Fahrenheit or sixty (60) degrees Centigrade; by Federal Regulation 40 CFR 403.5 (b)(1);

(b) Any discharge which, alone or in combination with other wastes, results or may result in the presence of toxic gases, vapors or fumes within the City of Ontario sewerage system or the POTW in quantities that cause or may cause acute health and safety problems to any user;

(c) Any discharge containing toxic or poisonous solids, liquids or gases in such quantities that alone or in combination with other waste substances, may create a hazard for humans, animals or the local environment, interfere with any wastewater treatment process, cause a public nuisance, or cause any hazardous condition to occur in the sewerage system. Toxic pollutants shall include, but are not limited to, any pollutant identified pursuant to § 307(a) of the Act;

(d) Any amount of a hazardous substance or toxic pollutant;

(e) Any waste except sanitary wastes discharged directly into the City of Ontario's sewerage system with a pH less than 6.0 or greater than 12.0 units;

(f) Pollutants or wastewater that would cause a violation of any statute or rule, regulation, or ordinance of any public agency or regulatory agency having jurisdiction over the discharge of wastewater from the City of Ontario's sewerage system;

(g) Pollutants that interfere with the effluent or any other treatment process, residues, sludges or scums; or cause biosolids to be unsuitable for beneficial reuse, reclamation or disposal;

(h) Any solid or viscous materials which could cause obstruction to the flow in the sewer or cause interference with the operation of the POTW. These materials include but are not limited to grease, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, whole blood, feathers, ashes, cinders, sand, earth, gravel, plaster, concrete, straw, metal filings, metal, spent lime, stone marble dust, metal, shavings, sharps, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas tar, asphalt, residues from refining or processing of fuel, lubricating oil, mud, glass, glass grinding, polishing wastes, rags, grease, paper dishes, paper cups, milk cartons or other similar paper products either whole or ground, or garbage which does not pass through a three-eighths (3/8) inch screen;

(i) Any amounts of petroleum oil, non- biodegradable cutting oils, emulsified oil or products of mineral oil origin which form persistent water emulsions or that will cause an upset, interference or pass through at the POTW;

(j) Wastewater having a temperature that will inhibit biological activity at the POTW, resulting in interference, but in no case wastewater that causes the temperature at the introduction of the POTW to exceed one hundred four (104) degrees F (forty (40) degrees C);

(k) Pollutants, including oxygen-demanding pollutants (BOD, etc.) released in a discharge at a flow rate and/or pollutant concentration which, either singly or by interaction with other pollutants, will cause interference with the POTW;

(l) Pollutants that cause discoloration, pass-through, interference or any other condition which affects the quality of the POTW effluent in such a manner that receiving water quality requirements established by regulatory agencies cannot be met;

(m) Any quantity of pesticides, PCBs, herbicides, algaecides, or fertilizers which causes an interference, an upset, or a pass through at the POTW;

(n) Any drainage from a vehicle radiator;

(o) Any recognizable portions of the human or animal anatomy;

(p) Any wastes which cause excessive incrustations, scale, or precipitates on sewer walls; or having any corrosive or detrimental characteristics that may cause damage to the City of Ontario's sewerage system or injury to service and maintenance personnel;

(q) Any strongly odorous waste or waste tending to create odors;

(r) Any infectious waste except where prior written approval for such discharges is given by the Administrator. Such waste shall be rendered non- infectious prior to discharge if the infectious waste is deemed to pose a threat to the public health and safety, or will result in any violation of applicable waste discharge requirements;

(s) Any waste containing substances that may precipitate, solidify, gel, polymerize, or become viscous at temperatures between forty (40) degrees Fahrenheit and one hundred (100) degrees Fahrenheit;

(t) Any waste generated outside the City of Ontario unless otherwise approved by the Administrator.

(§ 3, Ord. 2755, eff. April 4, 2002)

B) SEC. 6-7.202. RAINWATER OR UNPOLLUTED WATER.

It in unlawful for any user to discharge or cause to be discharged to the sewerage system any rainwater, stormwater, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, yard fountains, ponds or lawn sprays, or any other unpolluted water. Any discharges from swimming pools, wading pools, or therapy pools in which chlorine may be present, may be permitted by the Administrator to discharge to the sewerage system. If permission is granted for the discharge of such water into the sewerage system, the user shall provide for restricted flow and pay any applicable fees.

(§ 3, Ord. 2755, eff. April 4, 2002)

C) SEC. 6-7.203. RADIOACTIVE WASTES.

It is unlawful for a user to discharge, or cause to be discharged, any radioactive waste into the sewerage system except:

(a) When the user is authorized to use radioactive materials by the State Department of Health Services or other governmental agency empowered to regulate the use of radioactive materials;

(b) When the radioactive waste is discharged in strict conformity with current California Radiation Control Regulations as set forth in Title 17 of the Cal. Code of Regulations;

(c) When the user is in compliance with all rules and regulations of all other applicable regulatory agencies; and

(d) When an industrial wastewater permit has been obtained from the City.

(§ 3, Ord. 2755, eff. April 4, 2002)

D) SEC. 6-7.204. GARBAGE GRINDERS.

The installation of any garbage grinder with a motor of one and one-half (1½) horsepower or greater shall be subject to the review and approval of the Administrator. Such grinders must shred the waste to a degree that all particles are carried freely under normal flow conditions prevailing in the sewerage system or pass through a three-eighth (3/8) inch screen.

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.205. HAULED WASTES.

No user shall discharge wastewater delivered by vehicular transport, rail car, or dedicated pipeline directly or indirectly to the sewerage system except where authorized by the Administrator. Discharge of chemical toilet wastes from airplanes and mobile recreation units into the sewer shall be permitted only at locations specified by the Administrator. Discharge of hauled wastes from septic tanks or cesspools, or any source other than chemical toilet wastes, directly or indirectly into the sewerage system, shall be prohibited. Users seeking a domestic waste hauler permit shall complete and file an application with the IEUA.

(§ 3, Ord. 2755, eff. April 4, 2002)

F) SEC. 6-7.206. WATER TREATMENT DEVICES.

It is unlawful for any person to install, replace, enlarge, or operate any device which is used for treating all or part of the water supply, if the volume of the ion-exchange resin or other similar material used for softening or treating the water supply exceeds one (1) cubic foot, and such device, in any phase of its use or servicing, discharges to the sewerage system wastewater which does not meet the City of Ontario's discharge limits. Any person installing or operating any water treatment device within the City limits shall make such device and any information regarding its operation

accessible to City personnel for inspection. The Administrator may approve a device which does not meet the above size limitation provided that the disposal of any wastewater brine generated by such device, is done by some lawful means other than being discharged to the public sewer, storm drain, or ground. For the purposes of this chapter, the combined capacity of multiple units installed to treat water at the same premises shall be considered as a single apparatus. This section shall not apply to any apparatus which is regenerated off-site by a water conditioning company.

(§ 3, Ord. 2755, eff. April 4, 2002)

G) SEC. 6-7.207. MEDICAL WASTES.

(a) No user shall discharge solid wastes from hospitals, clinics, offices of medical doctors, convalescent homes medical laboratories or other medical facilities to the sewerage system including, but not limited to, hypodermic needles, syringes, instruments, utensils or other paper and plastic items of a disposable nature except where prior written approval for such discharges is given by the Administrator.

(b) The City shall have the authority to require that any discharge of an infectious waste to the sewer be rendered non-infectious prior to discharge if the infectious waste is deemed to pose a threat to the public health and safety, or will result in any violation of applicable waste discharge requirements.

(§ 3, Ord. 2755, eff. April 4, 2002)

H) SEC. 6-7.208. SPENT SOLUTIONS AND SLUDGES.

Spent solutions, sludges, and materials of quantity or quality in violation of, or prohibited by this chapter, or any permit issued under this chapter must be disposed of in a legal manner at a legally acceptable point of disposal as defined by the City or appropriate Regulatory Agency. All waste manifests shall be retained for a minimum of three (3) years and made available to the City upon request.

(§ 3, Ord. 2755, eff. April 4, 2002)

I) SEC. 6-7.209. DILUTION.

(a) Except where authorized to do so by an applicable pretreatment standard or requirement, it is unlawful for any user to increase the use of process water or dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with a pretreatment requirement. Whenever dilution is authorized, the Administrator may impose mass limitations on the user.

(b) When a wastestream regulated by a Categorical Standard is combined prior to treatment with other wastestreams, either regulated or non-regulated, the Administrator shall apply a combined wastestream formula to calculate an alternate discharge limit.

(§ 3, Ord. 2755, eff. April 4, 2002)

J) SEC. 6-7.210. BYPASS.

(a) Bypass is prohibited unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(3) The user submitted notices as required under subsection (b) of this section.

(b) If a user knows in advance of the need for a bypass, the user shall submit prior notice to the Administrator, at least ten (10) days prior to the date of the anticipated bypass. After considering its potential adverse effects, an anticipated bypass may be approved by the Administrator if the three conditions that are listed in subsection (a) of this section, are met.

(c) In case of an unanticipated bypass that causes or may cause a violation of an industrial wastewater permit or any applicable Pretreatment Standard, the user shall notify the Administrator and IEUA pursuant to § 6-7.509.

(§ 3, Ord. 2755, eff. April 4, 2002)

K) SEC. 6-7.211. PROHIBITED DISCHARGE LOCATIONS.

(a) No user, except City of Ontario personnel involved in maintenance functions of the sewerage system, shall discharge any wastewater directly into a manhole or other opening in a sewer other than through an approved building sewer, unless approved by the Administrator upon written application by the user and payment of any applicable fees and charges established herein.

(b) No user shall circumvent or obviate the intent or purpose of this chapter by discharging, or causing to be discharged, into any storm drain, stormwater channel, stormwater drainage system facility, or natural watercourse, whether currently carrying water or not, or into any pipe, public street, or waterway leading to such drain, channel, facility, or natural watercourse, any material, waste, or wastewater, not including unpolluted water, which is prohibited or restricted as to its discharge into the public sewer system.

(c) No user shall deposit or discharge into any sump which is not impermeable or into any pit or well, or onto the ground:

(1) Acids or caustics, whether neutralized or not;

(2) Excessively saline wastes (electrical conductivity greater than 2,000 umhos/cm);

(3) Any material, waste, or wastewater, which by seeping underground or by being leached or by reacting with soil is detrimental to the surface or ground water; and

(4) Violates waste disposal requirements, waste discharge requirements, as adopted by the Regional Water Quality Control Board, Santa Ana Region, State Water Resources Control Board, the Department of Environmental Health Services, the Environmental Protection Agency, or any other Regulatory Agency with appropriate jurisdiction.

(§ 3, Ord. 2755, eff. April 4, 2002)

L) SECTION. 6-7.212. LOCAL DISCHARGE LIMITS.

(a) Except when other limits are established in the user's industrial wastewater permit, or where more restrictive limits are imposed by Federal categorical pretreatment standards, it is unlawful to discharge wastewater to the public sewer that exceeds the quantities below and/or Title 40 of the Code of Federal Regulations (the more stringent regulations apply) or which will result in the inability of the POTW effluent to meet the wastewater discharge requirements of the NPDES permit. Modifications of the local limits may be necessary to meet the requirements for discharge to the POTW or for basin groundwater recharge.

Constituents	Local Limits (mg/L)	Type of Limit
Cadmium	2.8	Daily maximum
Chromium	60.0	Daily maximum
Copper	45.0	Daily maximum
Cyanide	1.2	Daily maximum
Lead	14.0	Daily maximum
Nickel	45.0	Daily maximum
TDS	800/550*	Daily maximum
Zinc	50.0	Daily maximum
pH	Between 5.0 and 12.5	Instantaneous
* Existing user/new user		

(b) Wastewater discharged to the sewerage system by a categorical industrial user shall be limited to the stricter of the discharge limits listed under subsection (a) of this section, and/or Title 40 of the Code of Federal Regulations for applicable categorical standards.

(c) The Administrator may specify a mass limit for any pollutant in the user's industrial wastewater permit. Any mass limit shall be based on the local discharge limits or Federal

categorical pretreatment standards, whichever is stricter, and the user's average daily wastewater discharge. The average daily wastewater discharge shall be based on the previous twelve (12) months of operation or other representative data. The Administrator may revise the mass limit previously established in the user's permit at any time, based on the user's current or anticipated operating data, and the City's ability to comply with the Regional Contract and the requirements of any other regulatory agency. The excess use of water to establish an artificially high flow rate for mass emission rate determination is prohibited.

(d) In order for the POTW to remain in uninterrupted compliance with mandated changes in Federal, State or local wastewater pretreatment requirements, the City Council shall adopt any required changes to the City's wastewater discharge local limits.

(e) The Administrator may specify an Electrical Conductivity limit of 1,280 umhos/cm in lieu of the TDS limit listed under subsection (a) of this section, if there is reason to believe that there may be significant interference with the analytical procedure to determine TDS. (The term "TTO" shall mean total toxic organics, which is the summation of quantifiable values greater than 0.01 milligrams per liter for all toxic organics listed under 40 CFR Chapter I, Subchapter N).

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 2, Ord. 2913, eff. January 1, 2010)

3. ARTICLE 3. PERMITS

A) SEC. 6-7.301. INDUSTRIAL WASTEWATER PERMIT.

(a) To provide for the maximum public benefit for the use of the City sewerage system, written authorization to use said facilities is required. This written authorization shall be in the form of a discharge permit. No vested fight shall be given by issuance of permits provided for in this section. The City reserves the right to establish by Municipal Code or in wastewater discharge permits, more stringent standards or requirements on discharges to the sewerage facilities if deemed appropriate by the Administrator.

(b) Industrial waste permit types. Industrial waste permits will be issued in one (1) of four (4) forms and dependent on the type of discharger, volume, and discharge characteristics. The four (4) discharge permits types are:

(1) Class I Wastewater Discharge Permit is issued to:

(i) Any user subject to Federal Categorical Pretreatment Standards;

(ii) Any user having industrial flows greater than twenty-five thousand (25,000) gallons per day.

(iii) Any user that has a reasonable potential for adversely affecting the operation of the wastewater treatment plant or for violating any pretreatment standard or requirement.

(2) Class II Wastewater Discharge Permit is issued to:

(i) Any user discharging wastewater other than domestic waste only;

(ii) Has a reasonable potential to adversely affect the City of Ontario collection system or POTW; and

(iii) Is not required to obtain a Class II permit.

(3) Class IV Industrial Wastewater Permit for any user subject to Categorical Pretreatment Standards, does not discharge industrial waste, and only discharges domestic waste into the sewerage system.

(4) Temporary Industrial Wastewater Discharge Permit is issued to:

(i) Any user discharging wastewater temporarily from industrial operations;

(ii) Any user who has a discharge of unpolluted water whereby no alternative method of disposal is available.

(c) No user requiring a permit shall discharge wastewater without obtaining a wastewater discharge permit.

(d) All users proposing to discharge directly or indirectly into the sewerage system shall obtain a wastewater discharge permit by filing an application pursuant to § 6-7.302 and paying the applicable fees pursuant to § 6-7.704.

(e) All permits shall be expressly subject to all provisions of this chapter and all other regulations, charges for use, and fees established by the City. Wastewater discharge permit conditions shall be enforced by the City of Ontario and Inland Empire Utilities Agency in accordance with this chapter and applicable State and Federal regulations.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 12, Ord. 2816, eff. December 1, 2005)

B) SEC. 6-7.302. APPLICATIONS.

(a) Users seeking to obtain an industrial wastewater discharge permit shall complete and file with the City, prior to commencing discharge, an application and survey on the forms prescribed by the City. The applicant may be required to submit, in units and terms appropriate for evaluation and in sufficient time to allow proper and thorough evaluation, the following information:

(1) Name, address, S.I.C. number(s) and/or NAISC number(s), and a description of the manufacturing process or service activity;

(2) (Whichever is applicable) name, address of any and all principals/owners/major shareholders of company; Articles of Incorporation; most recent Report of the Secretary of State; business license;

(3) Volume of wastewater to be discharged;

(4) Name of individual who can be served with notices other than officers of corporation;

(5) Name and address of property owner, landlord and/or manager of the property;

(6) Wastewater constituents and characteristics as required by the City. These constituents and characteristics shall be determined by a certified laboratory selected by the discharger and acceptable to the City;

(7) Time and duration of discharge;

(8) Number of employees and average hours of work per employee per day;

(9) Waste minimization and water conservation practices;

(10) Production records, if applicable;

(11) Waste manifests, if applicable;

(12) Tons of cooling tower capacity, if applicable;

(13) EPA Hazardous Waste Generator Number, if applicable;

(14) Any other information as specified.

(b) Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, pretreatment equipment, and appurtenances by size, location, and elevation for evaluation.

(c) Applicants may also be required to submit information related to the applicant's business operations, processes, and potential discharge as may be requested by the City to properly evaluate the permit application.

(d) After evaluation of the data, the City and Inland Empire Utilities Agency may issue a wastewater discharge permit, subject to terms and conditions set forth in this chapter and as otherwise determined by the Administrator to be appropriate to protect the City's sewerage facilities.

(e) The permit application may be denied if the applicant fails to establish to the City's satisfaction, that adequate pretreatment equipment is included within the applicant's plans to ensure that the discharge limits will be met or if the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 13, Ord. 2816, eff. December 1, 2005)

C) SEC. 6-7.303. PERMIT CONDITIONS.

(a) All industrial wastewater discharge permits shall be subject to all provisions of this chapter, all other applicable regulations, and user charges and fees established by the City. In addition, all permits may be subject to the following:

(1) Limits on the average and maximum wastewater constituents, characteristics and mass limits. The Administrator may impose mass emission rate limitations on users where the imposition of such limitations is appropriate;

(2) Limits on the average and maximum rate and time of discharge requirements for flow regulations and equalization;

(3) Requirements for the installation, operation, and maintenance of a pretreatment system and equipment;

(4) Requirements to operate and maintain the pretreatment system using a qualified and certified operator as determined by the Administrator;

(5) Requirements for installation, operation, and maintenance of monitoring, monitoring/ surveillance facilities, pH control, and/or flow monitoring;

(6) Specifications for monitoring programs which may include sampling locations, frequency of sampling, numbers and types of samples, standards for tests and reporting schedules;

(7) Compliance time schedules;

(8) Requirements for submission of technical reports, discharge reports, production data, and/or waste manifests;

(9) Requirements for maintaining and retaining industrial records relating to wastewater discharge as specified by the City. These records shall be made available to City and IEUA personnel upon request;

(10) Requirements for notification of the City of any new introduction of wastewater constituents or any substantial change in the volume or character of the wastewater constituents being introduced into the City's sewerage system;

(11) Requirements for notification of slug discharges;

(12) Requirements to self-monitor;

(13) Requirements to maintain various discharge logs;

(14) Requirements to inventory key pretreatment system equipment;

(15) Requirements to separate all domestic wastewater from bathrooms, showers, drinking fountains, from all industrial wastewater until the industrial wastewaters have passed through any required pretreatment and monitoring facilities;

(16) Requirements to consolidate all industrial flows into one location for purposes of monitoring and determining compliance with the permit and this chapter;

(17) Requirements to notify the Administrator, up to forty-eight (48) hours prior to the commencement of any batch discharge. Notification shall include the date, time and location of proposed batch discharge;

(18) Other conditions as deemed appropriate by the Administrator to ensure compliance with this chapter.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 14, Ord. 2816, eff. December 1, 2005)

D) SEC. 6-7.304. DURATION.

An industrial wastewater permit shall be issued for a specified time period, not to exceed five (5) years. Under special circumstances, the Administrator may at his or her option extend the permit duration for an additional time period not to exceed one year. The user shall apply for renewal of the permit no more than one hundred and twenty (120) or later than sixty (60) days prior to the expiration date of the permit. After submitting an application for renewal, the permit shall automatically be extended until the Administrator makes a determination on the application for renewal. Any existing user who is discharging industrial wastewater to the public sewer without a valid industrial wastewater permit shall apply for a permit within ten (l0) working days from the date of notification of the permit requirement.

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.305. CHANGE OF PERMIT CONDITIONS.

(a) The user shall submit to the Administrator, within a reasonable time, any documents or records maintained by the user and requested by the Administrator to determine whether cause exists for rescinding, modifying, revoking, reissuing the permit, or to determine compliance with the permit requirements.

(b) The terms and conditions of an issued permit may be subject to modification and change in the determination of the City and IEUA during the life of the permit for good cause, including, but not limited to, the following reasons:

(1) Changes in the user's current or anticipated pretreatment system operating data;

(2) Changes in the City's sewerage system's and IEUA's treatment plant current or anticipated operating data;

(3) Changes in the requirements of regulatory agencies which affect the City and IEUA's treatment plant;

(4) To incorporate any new or revised federal, state, or local pretreatment standards or requirements;

(5) To address significant alterations or additions to the user's operation, processes, or wastewater volume or character since the date the wastewater discharge permit was issued;

(6) To reflect any change in the City sewerage system that requires either a temporary or permanent reduction or elimination of the authorized discharge;

(7) In response to information indicating that the permitted discharge poses a threat to the City's sewerage system, its personnel, IEUA's treatment plant, or the receiving waters;

(8) Violation of any terms or conditions of the industrial wastewater discharge permit;

(9) Misrepresentation or failure to fully disclose all relevant facts in the wastewater discharge permit application or in any required reporting;

(10) Revision of or a grant of variance from Categorical Pretreatment Standards pursuant to 40 CFR 403.13;

(11) To correct typographical or other errors in the industrial wastewater discharge permit; or

(12) To reflect a transfer of the facility ownership or operation to a new owner or operator as allowed by this chapter.

(c) The Administrator shall inform the user of any proposed changes or new conditions in his permit and shall include a reasonable period of time for compliance.

(d) The user shall have the right to file, with the Administrator, a written request to reduce monitoring and/or reporting requirements or to have other permit conditions modified or changed. Any request by the user to modify the user's industrial wastewater permit shall be processed, if approved by the Administrator, after payment of applicable fees and charges.

(e) The Administrator may deny or condition new or increased contributions of pollutants, or changes in the nature of pollutants, to the public sewer by industrial users where such contributions do not meet applicable pretreatment standards and requirements or where such contributions would cause the City to violate the Regional Contract, or the POTW to violate its NPDES permit.

(f) All permitted discharges must commence within one hundred eighty (180) days from the effective date of the permit or the permit may be deemed void.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 15, Ord. 2816, eff. December 1, 2005)

F) SEC. 6-7.306. NON-TRANSFERABILITY.

Industrial wastewater discharge permits are issued to a specific user for a specific operation at a particular location. Such permits shall not be reassigned, transferred or sold.

(§ 3, Ord. 2755, eff. April 4, 2002)

4. ARTICLE 4. FACILITIES

A) SEC. 6-7.401. DRAWING SUBMITTAL REQUIREMENTS.

Upon request by the City:

(a) Applicants or users may be required to submit three (3) copies of detailed facility plans. The submittal shall be in a form and content acceptable to the City for review of existing or proposed pretreatment facilities, spill containment facilities, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the user of the responsibility of modifying the facilities or procedures in the future, as necessary to produce an acceptable discharge and to meet the requirements of this chapter or any requirements of other Regulatory Agencies.

(b) The drawing shall depict as a minimum, the manufacturing process (waste generating sources), spill containment, monitoring or metering facilities, and pretreatment facilities.

(c) The applicant or user shall submit a schematic drawing of the pretreatment facilities, piping and instrumentation diagram, and wastewater characterization report.

(d) Users and applicants may also be required to submit for review site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, and appurtenances by size, location, and elevation for evaluation.

(e) The City may require the drawings be prepared by a California Registered Chemical, Mechanical, or Civil Engineer.

(§ 3, Ord. 2755, eff. April 4, 2002)

B) SEC. 6-7.402. PRETREATMENT FACILITIES.

(a) An industrial wastewater pretreatment facility or device may be required to restrict or prevent the discharge to the sewerage system of certain wastewater constituents, or to accomplish any pretreatment result required by the Administrator.

(b) A pretreatment facility which requires engineering design shall have plans prepared and signed by an engineer of suitable discipline licensed in the State of California. The user shall

submit to the Administrator, detailed plans showing the pretreatment facilities and operating procedures for review.

(c) The user shall establish and maintain a daily operation and maintenance log for any pretreatment system. The daily operation and maintenance log shall contain, at a minimum, the following information:

(1) The name of the user responsible for the operation of the pretreatment system, hours of work, and telephone number;

(2) Date, time and a description of all routine maintenance and calibration of the system;

(3) Date and time of any major repair and down time on the system;

(4) The emergency or backup system or program instituted while the pretreatment system was out of operation; and

(5) The estimated daily operational efficiency of the pretreatment system and any other information which may be required to assure compliance with pretreatment requirements.

(§ 3, Ord. 2755, eff. April 4, 2002)

C) SEC. 6-7.403. MONITORING FACILITIES.

(a) Each industrial user shall install and maintain a monitoring facility for each point-source to the sewerage system. The monitoring facility and its location are subject to approval by the Administrator.

(b) All proposed construction of commercial and/or industrial buildings shall include plans to install a surveillance/monitoring facility for each point-source to the sewerage system. The surveillance/monitoring facility and its location are subject to approval by the Administrator or in accordance with the City Standard Drawings.

(c) When more than one user can discharge into a common private sewer, the Administrator may require installation of a separate monitoring facility for each user. Also, when in the judgement of the Administrator, there is a significant difference in wastewater constituents and characteristics produced by different operations of a single user, the Administrator may require that a separate monitoring facility be installed for each segregated wastestream. This may include, but may not be limited to, segregation of Categorical process wastestreams from additional wastestreams not subject to categorical standards.

(d) City standard drawings establish design requirements, applicable construction standards, safety devices and specifications for surveillance/monitoring facilities. The design plans for any required or surveillance/monitoring facility shall be prepared and signed by an engineer registered in the State of California. Such plans shall be reviewed and must be approved by the Administrator prior to any construction of said facility. The approval of the design of any facility meeting the

requirements set forth in this section or any recommendation or requirements made by the Administrator, shall not relieve the user from the responsibility of meeting the requirements of this chapter, and shall not impute any liability to the City for the adequacy of such facility under the actual conditions of use.

(e) If explosive or flammable substances are stored or used on-site, and such substances have the potential of entering the sewerage system, the user may be required to install, operate and maintain a combustible gas monitoring system and facilities to divert the entire wastewater flow to a holding tank when the combustible gas level is greater than twenty percent (20%) of the lower explosive limit. These facilities will be provided and maintained at the user's own cost and expense. A user so notified shall provide detailed gas monitoring and wastewater diversion plans, including facilities and operating procedures, to the Administrator for review.

(f) If required by the City in writing, the user shall submit construction plans and/or instrumentation for approval by the City of the following:

(1) A pH-recording instrument with a strip chart to record all flows on a twenty-four (24) hour continuous basis;

(2) A conductivity meter with a strip chart to record all flows on a twenty-four (24) hour continuous basis;

(3) A flume, weir, flow meter or similar device approved by the City and suitable to measure the non-domestic flow rate and total volume on a continuous basis. The monitoring equipment shall be maintained at all times in a safe and proper operating condition by the user. All devices used to measure wastewater flow and quality shall be calibrated at a frequency determined by the Administrator to ensure their accuracy. The costs of installing and maintaining such device(s) shall be at the sole expense of the user.

(g) Construction of any monitoring facility or device shall be completed within a time period established by the Administrator.

(h) Unrestricted access to the monitoring facility shall be available to authorized personnel of the City and IEUA at all times. Unreasonable delays in allowing City or IEUA personnel access to the user's premises shall be a violation of this chapter.

(i) Any temporary or permanent obstruction to safe and easy access to the monitoring facility or surveillance/monitoring facility shall be promptly removed by the user at the written or verbal request of the Administrator and shall not be replaced. The costs of clearing such access shall be borne by the user.

(j) A monitoring facility or surveillance/ monitoring facility may be required to include a security closure that can be locked by the City during sampling or upon termination of service.

(k) A monitoring facility or surveillance/ monitoring facility shall be located so that samples can be taken immediately downstream from the pretreatment facilities, if any exist, or where no treatment is employed, immediately downstream from the user's wastestream.

(l) Any sample taken from the monitoring facility shall be considered representative of the user's discharge.

(m) Users are responsible for cleaning and maintaining the monitoring facility and equipment. Oils, solids, and other debris removed from the monitoring facility shall not be discharged to the sewer.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 16, Ord. 2816, eff. December 1, 2005)

D) SEC. 6-7.404. INTERCEPTORS.

(a) A food service establishment discharging grease wastes which, under the conditions existing in the downstream sewers, could cause or threaten to cause stoppage or grease accumulations, shall install an approved grease and oil interceptor and regularly maintain it so as to prevent excessive discharges of grease and oil into the sewerage system. The costs of installing and maintaining such device(s) shall be at the sole expense of the user. Any user who operates, owns or maintains a food service establishment shall cause all floor drains, floor sinks, sinks, waste container wash racks, dishwashers, and garbage grinder to be directed through the grease and oil interceptor, and shall keep all domestic wastewater from restrooms, showers, drinking fountains, and condensate (i.e. ice melt, air conditioning) separate from the food service wastewater until the food service wastewater has passed through all necessary pretreatment equipment, devices, or monitoring stations.

(b) Each vehicle wash, vehicle or equipment servicing, industrial transportation and/or cleaning facility shall install an appropriate sand, grease and oil interceptor of a size and design approved by the Administrator. Wastewater arising from the cleaning, servicing and repair of vehicles shall pass through this interceptor before discharge to the sewerage system.

(c) If an interceptor is not adequate under the conditions of use, one which is effective in accomplishing the intended purpose shall be constructed by the user within a time period established by the Administrator.

(d) The design plans for any required interceptor not included in the Plumbing Code or City standard drawings shall be prepared and signed by an engineer registered in the State of California and meet the drawing submittal requirements set forth in § 6-7.401. Such plans shall be reviewed and must be approved by the Administrator prior to any construction of said device.

(e) The interceptor required by this chapter shall be watertight, structurally sound, durable, properly maintained, and easily accessible for inspection and cleaning to assure that the accumulation of sand, oil or grease does not impair the efficiency of the interceptor or pass through the device.

(f) A user who is required to install and maintain an interceptor shall keep maintenance records and hauler's manifests for a minimum of three (3) years. These records shall be made available to the Administrator upon request. Each vehicle wash and food service facility shall be responsible for the costs of installing, inspecting, pumping, cleaning and maintaining its grease interceptor. Cleaning and maintenance must be performed when the total volume of captured grease and solid material displaces more than twenty percent (20%) of the total volume of the unit. All vehicle wash and food service facilities that have grease interceptors shall utilize a licensed grease hauler who has been permitted for pumping services. Pumping services shall include the initial complete removal of all contents, including floating materials, wastewater and bottom sludge and solids from the interceptor. The return of gray water back into the grease interceptor from which the wastes were removed is allowable, provided that grease and solids are not returned to the interceptor and further provided that the grease hauler has written authorization from the vehicle wash or food service facility to return the gray water. Grease interceptor cleaning shall include scraping excessive solids from the walls, floors, baffles and all pipe work. The grease hauler shall wait at least twenty (20) minutes to allow the interceptor waste to separate in the truck tank before attempting to re-introduce the gray water to the interceptor. It shall be the responsibility of each vehicle wash or food service facility to inspect its grease interceptor during the pumping procedure to ensure that the interceptor is properly cleaned out and that all fittings and fixtures inside the interceptor are in working condition and functioning properly.

(g) Each vehicle wash or food service facility shall determine the frequency at which its grease interceptor(s) shall be pumped according to the following criteria:

(1) When the floatable grease layer exceeds six inches (6") in depth as measured by an approved dipping method;

(2) When the settleable solids layer exceeds eight inches (8") in depth as measured by an approved dipping method;

(3) When the total volume of captured grease and solid material displaces more than twenty percent (20%) of the capacity of the interceptor as calculated using an approved dipping method; or

(4) When the interceptor is not retaining/capturing oils and greases; or the removal efficiency of the device, as determined through sampling and analysis, is less than eighty percent (80%).

(h) Periodic inspection of the interceptor may be performed to determine compliance with this section. The owner and/or user of the property shall be subject to enforcement actions if such user fails to maintain the interceptor and/or keep adequate records.

(i) Conditional waivers for the grease and oil interceptor or sand, grease and oil interceptor requirement shall be granted by the Administrator for food service establishments or vehicle wash, vehicle or equipment servicing, industrial transportation and/or cleaning facility determined not to have adverse effects on the City's sewerage system or the POTW. Conditional waivers may be revoked for the following reasons:

(1) Changes in menu;

(2) Falsification of information submitted;

(3) Change in operating hours;

(4) Changes in equipment used;

(5) Changes in the number of vehicles washed; or

(6) As determined by the Administrator to have adverse effects on the City's sewerage system or the POTW.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 4, Ord. 2806, eff. January 21, 2005)

E) SEC. 6-7.405. SECONDARY SPILL CONTAINMENT.

(a) Upon written notification by the Administrator, the user shall provide secondary spill containment for stored chemicals or other substances which are prohibited or regulated by this chapter and which have the potential of entering the public sewerage system. The user so notified shall submit to the Administrator detailed secondary spill containment plans, including the facility's location, dimensions, and type and volume of material or waste stored.

(b) Drawings shall be submitted in accordance with § 6-7.401.

(c) The containment system shall be designed and operated as follows:

(1) The base shall be free of cracks or gaps, and shall be sufficiently impervious to contain leaks, spills, or precipitation until the collected material is detected and removed;

(2) The base shall be sloped or the containment system shall be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids and precipitation;

(3) The containment system shall have sufficient capacity to contain precipitation from, at least a twenty-four (24) hour, twenty-five (25) year storm plus ten percent (10%) of the aggregate volume of all containers or the volume of the largest container, whichever is greater plus a freeboard of at least three (3) inches. Containers that are not used to store chemicals in a liquid form need not be considered in this determination;

(4) Stormwater runoff from adjacent areas shall be prevented from flowing into the containment system;

(5) Spilled or leaked waste and accumulated precipitation shall be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection

system. Unless otherwise approved by the Administrator, all chemicals or wastes discharged within the collection area shall be disposed of appropriately and not discharged to the sewerage system or the ground.

(d) The user shall submit to the Administrator a written statement, signed by a professional civil engineer registered in California, indicating that the containment system is suitably designed to achieve the requirements of this section.

(e) Construction shall be completed within a time period established in a compliance schedule.

(§ 3, Ord. 2755, eff. April 4, 2002)

5. ARTICLE 5. MONITORING, REPORTING, NOTIFICATION AND INSPECTION REQUIREMENTS

A) SEC. 6-7.501. MONITORING.

(a) Periodic measurements of flow rates, flow volumes, and wastewater characteristics for compliance with any limitations or requirements specified in the industrial wastewater permit or this chapter shall be performed using appropriate procedures set forth in 40 CFR Part 136 and §§ 403.12(e), 403.12 (g), 403.12(h) and 122.45(c). Analyses of the constituents and characteristics shall be by a laboratory acceptable to the City, and at the sole expense of the permittee.

(b) A user with large fluctuations in quantity or quality of wastewater may be required to provide continuous monitoring for some of the wastewater characteristics.

(c) Routine monitoring and sampling shall be conducted at the City-approved monitoring facility, and during a period of normal business operations and wastewater flows of the user.

(d) Grab and/or composite samples of the industrial wastewater shall be properly obtained, preserved, and analyzed for the specified wastewater constituents by a state-certified laboratory.

(e) When requested by the Administrator or the user, a split sample will be provided to the other party to verify the levels of constituents in the wastewater.

(f) It shall be unlawful, and the user shall be held financially responsible for any damage to, breakage of, or tampering with, any laboratory or City monitoring equipment while it is in use either in, on, or next to the monitoring facility of the user.

(g) The City or IEUA may inspect and sample the wastewater generating and disposal facilities of any user to ascertain whether the intent of this chapter is being met and the user is complying with all requirements. Where a user has security measures in force, the user shall make necessary arrangements so that, upon presentation of suitable identification, personnel from the City, IEUA or laboratory will be permitted to enter without delay for the purpose of performing their specific responsibilities.

(h) The City or IEUA shall have the right to set up on the user's property or other locations as determined by the City, such devices as are necessary to conduct sampling or metering operations.

(i) Results from all samples taken from the designated monitoring point shall be reported to the City.

(j) If sampling by a user indicates a violation, the user shall notify the City within twenty-four (24) hours of becoming aware of the violation.

(k) If a user monitors any pollutant more frequently than required by the City, the results of the monitoring shall be included in the periodic reports on continued compliance.

(l) All laboratory reports shall be accompanied by the corresponding chain-of-custody log. The chain-of-custody shall contain the following information: sample source; date, time and method of sampling and sample preservation; type of container used, sampler identification, results of any field measurement or observation, and any other information related to sample handling.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 17, Ord. 2816, eff. December 1, 2005)

B) SEC. 6-7.502. PLANS AND REPORTING.

The City may require reports for self-monitoring of wastewater constituents and characteristics of the discharger needed for determining compliance with any limitation, or requirements as specified in the user's permit, Federal regulations, or this chapter. These reports include:

(a) Solvent Management Plans;

(b) Baseline Monitoring Reports (BMRs);

(c) Ninety (90) Day Compliance Reports;

(d) Compliance Schedules;

(e) Progress Reports;

(f) Slug Discharge Control Plans;

(g) Periodic Reports on continued compliance;

(h) Notification of the Discharge of Hazardous Waste;

(i) Bypass notification;

(j) Other reports as required by the City or IEUA.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 18, Ord. 2816, eff. December 1, 2005)

C) SEC. 6-7.503. SOLVENT MANAGEMENT PLAN (SMP).

(a) Except where other alternative categorical monitoring requirements apply, a user who is required to monitor for TTO may submit the following written and signed certification in lieu of monitoring for such toxic organics:

"Based on my inquiry of the user or users directly responsible for managing compliance with the permit limitation (or pretreatment standard) for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no discharge of toxic organics into the public sewer has occurred since filing of the last semi-annual compliance status report. I further certify that this facility is implementing the Solvent Management Plan (SMP) submitted to the City of Ontario."

The SMP shall specify, to the satisfaction of the Administrator, toxic organic compounds used on- site, the method of their disposal, and the measures taken to ensure that those compounds do not spill, leak, or in any other way enter into the sewerage system.

(b) An updated SMP shall be submitted by the user with the first monitoring report of the year. The SMP certification statement shall be submitted by the user with each monitoring report during the year.

(c) The user requesting the certification alternative shall monitor for only those toxic organic compounds, which would reasonably be expected to be discharged to the public sewer.

(d) The SMP is subject to approval in writing by the Administrator.

(e) Any user with an approved SMP shall still be monitored for compliance with the TTO standard by the City.

(§ 3, Ord. 2755, eff. April 4, 2002)

D) SEC. 6-7.504. BASELINE MONITORING REPORTS (BMRS).

Baseline Monitoring Reports (BMRs) are required of significant industrial users when the EPA issues new categorical standards that apply to the discharger and must contain information as stipulated in 40 CFR 403.12(b).

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.505. NINETY (90) DAY COMPLIANCE REPORTS.

Ninety (90) Day Compliance Reports are required of significant industrial users following the date for final compliance with an applicable categorical standard or for new sources, following commencement of wastewater discharge. Ninety (90) Day Compliance Reports must contain information stipulated in 40 CFR 403.12(b)(4-6).

(§ 3, Ord. 2755, eff. April 4, 2002)

F) SEC 6-7.506. SLUG DISCHARGE CONTROL PLAN.

Upon written notification by the Administrator, the user shall submit a Slug Discharge Control Plan. The plan shall be updated every two (2) years and shall contain at a minimum, the following:

(a) A description of discharge practices, including non-routine batch discharges;

(b) A description of stored chemicals;

(c) Procedures for immediately notifying the City of any accidental or slug discharge, as required by § 6-7.509; and

(d) Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to; inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants, including solvents, and/or measures and equipment or emergency response.

(§ 3, Ord. 2755, eff. April 4, 2002)

G) SEC 6-7.507. PERIODIC REPORTS ON CONTINUED COMPLIANCE.

The City of Ontario may require reports for self- monitoring of wastewater constituents and characteristics of the discharger needed for determining compliance with any limitation, or requirements as specified in the user's permit, Federal regulations, or this chapter. Monitoring reports of the analyses of wastewater constituents and characteristics shall be in a manner and form approved by the City and shall be submitted upon request of the City. When applicable, the self-monitoring requirements and frequency of reporting shall be set forth in the user's permit. All sample analyses must follow the requirements set forth in 40 CFR 136. The analyses of wastewater constituents and characteristics and the preparation of the monitoring report shall be at the sole expense of the user. Failure by the user to perform any required monitoring and/or submit monitoring reports required by the City shall be a violation of this chapter, may result in a determination that the user is in significant non-compliance, and be cause for the City to initiate all necessary tasks and analyses to determine the wastewater constituents and characteristics for any limitations and requirements specified in the user's permit or in this chapter. The user shall be responsible for any and all expenses of the City in undertaking such monitoring analyses and preparation of reports.

(§ 3, Ord. 2755, eff. April 4, 2002)

H) SEC. 6-7.508. POLLUTION PREVENTION PLAN.

A user may be required, pursuant to Cal. Water Code § 13263.3, to implement a pollution prevention plan if any of the following apply:

(a) A user is determined to be a chronic violator or the State Board, Regional Board, or the City determines that pollution prevention could assist in achieving compliance;

(b) A user significantly contributes, or has the potential to significantly contribute, to the creation of a toxic hot spot as defined in Cal. Water Code § 13391.5;

(c) The State Board, a Regional Board, or a POTW determines pollution prevention is necessary to achieve a water quality objective.

(d) A Pollution Prevention Plan shall include all of the following:

(1) An analysis of one (1) or more of the pollutants, as directed by the State Board, a Regional Board, the City, or IEUA, that the user discharges into the sewerage system, a description of the sources of the pollutants, and a comprehensive review of the processes used by the user that result in the generation and discharge of the pollutants;

(2) An analysis of the potential for pollution prevention to reduce the generation of the pollutants, including the application of innovative and alternative technologies and any adverse environmental impacts resulting from the use of those methods;

(3) A detailed description of the tasks and time schedules required to investigate and implement various elements of pollution prevention techniques;

(4) A statement of the user's pollution prevention goals and strategies, including priorities for short-term and long-term action;

(5) A description of the user's existing pollution prevention methods;

(6) A statement that the user's existing and planned pollution prevention strategies do not constitute media pollution transfers unless clear environmental benefits of such an approach are identified to the satisfaction of the State Board, the Regional Board, the City, or IEUA and information that supports that statement;

(7) Proof of compliance with the Hazardous Waste Source Reduction and Management Review Act of 1989 (Article 11.9 (commencing with § 258244.12 of Chapter 6.5 of Division 20 of the Cal. Health & Safety Code) if the user is also subject to that Act;

(8) An analysis, to the extent feasible, of the relative costs and benefits of the possible pollution prevention activities;

(9) A specification of, and rationale for, the technically feasible and economically practicable pollution prevention measures selected by the discharger for implementation.

(e) The State Board, a Regional Board, the City or IEUA may require the user subject to a pollution prevention plan to comply with the pollution prevention plan developed by the user after providing the opportunity for comment at a public proceeding with regard to that plan and also to

comply with other requirements of the Clean Water Enforcement and Pollution Prevention Act of 1999.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 19, Ord. 2816, eff. December 1, 2005)

I) SEC. 6-7.509. NOTIFICATIONS.

(a) Accidental discharge.

(1) In the event the user is unable to comply with any of the permit conditions due to a breakdown of equipment, accidents caused by human error or acts of God, or the discharge will exceed the discharge limitations in the permit, the user shall notify the City and IEUA by immediately telephoning as soon as the user has knowledge of the incident:

City of Ontario: Utilities (909)395-2678 Monday-Friday 8:00 a.m. to 5:00 p.m.

Fire (909) 983-5911 All other hours.

Inland Empire Utilities Agency: POTW (909) 947-4131 Anytime.

(2) The user shall confirm the notification in writing as soon as possible, but no later than five (5) working days from the telephone notification. Written notification shall state the date of the incident, reasons for the discharge or spill, steps that were taken to immediately correct the problem, and steps being taken to prevent the problem from recurring.

(3) Such notification shall not relieve the user of any expense, loss, damage or other liability which may be incurred as a result of damage or loss to the IEUA and/or the City or any other damage or loss to user or property; nor shall such notification relieve the user of any fees or other liability which may be imposed by this chapter or other applicable law.

(4) A notice shall be permanently posted on the user's employee bulletin board or other prominent place advising employees whom to call in the event of an accidental discharge, spill or slug loading. Users shall ensure that all employees who may cause such a discharge to occur are advised of the emergency notification procedure.

(b) Change to discharge. All users shall notify the City before making substantial changes to their process wastewater discharges. Substantial changes include:

(1) Operational flows, changes of + 20%;

(2) Pollutant loadings, changes of + 20%;

(3) Changes in the characteristics of their process flows;

(4) On-site plumbing; or

(5) Pretreatment procedures and/or facilities. All users shall notify the City a minimum of thirty (30) days prior to any planned changes. Upon notification, the Administrator may require that a new application be filed and a new permit obtained before discharging any waste involving the changed characteristics.

(c) Discontinued discharge.

(1) The user shall notify the Administrator at least ten (10) days prior to discontinuing its industrial wastewater discharge for more than thirty (30) days unless the user can demonstrate to the Administrator that it could not have known of the discontinued discharge.

(2) Within thirty (30) days of the discontinued discharge, the user shall remove the contents of all on-site sewers, sumps, floor drains, wastewater storage tanks, and/or pretreatment facilities in accordance with all applicable regulations. The contents shall not be discharged to the public sewer without prior written approval from the Administrator.

(3) If the user fails to clean up and remove the contents of its facilities to the satisfaction of the Administrator, such activities and the costs thereof shall also become the responsibility of the owner of the building and/or land.

(4) Failure of the user or the owner to promptly and satisfactorily clean up and remove the contents of all on-site sewers, sumps, floor drains, wastewater storage tanks, and/or pretreatment facilities shall subject the user and the owner of the building and/or land to any enforcement action authorized in this chapter.

(d) Hazardous waste discharge.

(1) The user shall notify the Administrator, the IEUA, the EPA Regional Waste Management Division Director, and State Hazardous Waste authorities in writing of any discharge into the sewerage system of a substance, which, if otherwise disposed of, would be a hazardous waste under 40 CFR part 261.

(2) Such notification must include the name of the hazardous waste as set forth in 40 CFR part 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other).

(3) If the user discharges more than one hundred (100) kilograms of such waste per calendar month to the sewerage system, the notification shall also contain the following information to the extent such information is known and readily available to the user: an identification of the hazardous constituents contained in the wastes, an estimation of the mass and concentration of such constituents in the wastestream discharged during that calendar month, and an estimation of the mass of constituents in the wastestream expected to be discharged during the following twelve (12) months.

(4) Any notification under this chapter must be submitted only once for each hazardous waste discharged. Discharges are exempt from the requirements of subsection (a) of this section during a calendar month in which the discharge is no more than fifteen (15) kilograms of hazardous

wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e). Discharges of more than fifteen (15) kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e), requires a one-time notification. Subsequent months during which the user discharges more than such quantities of any hazardous waste do not require additional notification.

(5) In the case of any new regulations under § 3001 of RCRA identifying additional characteristics of hazardous waste or listing any additional substance as hazardous waste, the user must notify the Administrator, the IEUA, the EPA Regional Waste Management Division Director, and State Hazardous Waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations.

(6) In the case of any notification made under this chapter, the user shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes.

(7) The notification requirement in this section does not apply to pollutants already reported under the self-monitoring requirements of 40 CFR 403.12(b), (d), and (e).

(e) Bypass. Bypass of industrial wastewater to the City sewerage system is prohibited. The City may take enforcement action against a user, unless the permittee submitted notices as required by § 6-7.509 or met conditions as specified in § 6-7.210.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 19, Ord. 2816, eff. December 1, 2005)

J) SEC. 6-7.510. SIGNATORY REQUIREMENTS.

All permit applications and reports required by this chapter under § 6-7.302 and Article 5 or 40 CFR 403.12 (1)(1-4) shall be signed by an authorized representative of the user. Any user signing such documents shall make the following certification in writing.

"I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that this information was obtained in accordance with Federal Pretreatment Requirements. Moreover, based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

(§ 3, Ord. 2755, eff. April 4, 2002)

K) SEC. 6-7.511. RECORD-KEEPING REQUIREMENTS.

(a) Each user subject to the Federal Pretreatment Requirements, or the provisions of this chapter, shall retain records on-site for all waste and wastewater generated, operation and maintenance logs for pretreatment systems, and industrial wastewater monitoring results for a minimum period of five (5) years. Said records shall be made available for inspection and copying by the Administrator at any time. During the course of litigation regarding the user, the City of

Ontario, or IEUA, the period of retention shall be extended until the subject of litigation is resolved.

(b) Information resulting from monitoring activities (including self-monitoring) required by said regulations shall include the following:

(1) Detailed description of the sample location;

(2) Dates and times during which the sample was taken;

(3) Method of sampling used, i.e. grab or composite;

(4) Name of the person who collected the sample;

(5) Date of the analysis;

(6) Identity and address of the laboratory who performed the analysis;

(7) Analytical method used and its detection limit;

(8) Quality control and quality assurance data associated with the batch of samples tested for the parameters analyzed;

(9) Results of the analysis; and

(10) Chain-of-custody form.

(c) Hauling records for waste and wastewater generated on-site shall include, at a minimum, the following information:

(1) Volume and a description of the waste hauled;

(2) Date the waste was hauled;

(3) Name and address of the hauler;

(4) Name and address of the facility receiving the waste or wastewater; and

(5) Manifest number.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 20, Ord. 2816, eff. December 1, 2005)

L) SEC. 6-7.512. PUBLIC ACCESS TO INFORMATION AND CONFIDENTIALITY.

(a) The Administrator shall maintain a data filing system in compliance with public information and confidentiality records and provide for the proper handling and filing of records and reports for the general administration of the pretreatment program.

(b) Any information in a user's file, which includes, but is not limited to, permits, permit applications, questionnaires, inspection reports and monitoring reports shall be available to the public or other governmental agency without restriction.

(c) Any request for public access to a user's file shall be in writing and shall include:

(1) Date of the review;

(2) Name and title of the reviewer;

(3) Reviewer's business name, address and telephone number;

(4) List of files to be reviewed; and

(5) Reason for review.

A copy of the written request to review a user's file may be sent by the Administrator to such a user. The Administrator may require an observer to be present while any file is being reviewed. The Administrator may also require that the reviewer furnish his or her own copying devices and/or supplies.

(d) If the disclosure of the user's file or a portion thereof would divulge trade secrets or secret processes, the user shall have the right to request that such information be kept confidential. Any such claim must be made at the time of submittal of the information by marking the submittal "confidential business information" on each page containing such information. The Administrator shall not consider any wastewater constituents and characteristics to be confidential information.

(e) Information which is demonstrated to be confidential shall not be transmitted to anyone other than a governmental agency bound by the confidentiality requirements of 40 CFR Part 2, for uses related to this chapter, the IEUA NPDES permit, State disposal system permit and/or the pretreatment program, and for use by the State or Federal agency in judicial review or enforcement proceedings involving the user.

(§ 3, Ord. 2755, eff. April 4, 2002)

M) SEC. 6-7.513. INSPECTION/RIGHT-OF-ENTRY.

Users or occupants of a premises where wastewater is created, conveyed, treated, or discharged shall allow the Administrator, or his or her representatives, having presented proper credentials, reasonable access to all parts of the wastewater generating and disposal facilities for the purposes

of inspection, sampling, monitoring, reviewing or copying records, photographing, videotaping, or recording during all times that the discharger's facility is open, operating, or any other reasonable time. No user shall interfere with, delay, resist or refuse entrance to authorized City or IEUA personnel attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the City's sewerage system.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 21, Ord. 2816, eff. December 1, 2005)

6. ARTICLE 6. ENFORCEMENT

A) SEC. 6-7.601. PURPOSE AND SCOPE.

(a) Any user who has violated or continues to violate federal pretreatment standards or requirements, this chapter, an industrial wastewater permit, or any prohibition, limitation, or requirement contained herein, is subject to enforcement actions administratively or judicially by the City, EPA, State of California Regional Water Quality Control Board, or the County of San Bernardino District Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to: the Clean Water Act, the Resource Conservation and Recovery Act, the California Porter-Cologne Water Quality Act, and the California Hazardous Waste Control Law.

(b) The Council finds that in order for the City to comply with such laws, and regulations, and to ensure that the City's facilities and the POTW are protected and are able to operate with the highest degree of efficiency, and to protect public health and the environment, specific enforcement provisions must be adopted to govern the discharges of wastewater into the sewerage system.

(c) The City and IEUA, at its discretion, may utilize anyone, combination or all enforcement remedies provided in Article 6 in response to any permit or violation of this chapter.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 22, Ord. 2816, eff. December 1, 2005)

B) SEC. 6-7.602. DETERMINATION OF NON-COMPLIANCE.

(a) Sampling procedures.

(1) Sampling of all permittees shall be conducted in the time, place, manner, and frequency determined at the discretion of the City.

(2) Non-compliance with mass emission rate limits, concentration limits, permit discharge conditions, or any discharge provision of this chapter may be determined by an analysis of a grab or composite sample of the effluent of a user. Non- compliance with mass emission rate limits shall be determined by an analysis of a composite sample of the user's effluent. A grab sample may be used to determine compliance with mass emission rate limits when the discharge is from a closed (batch) treatment system in which there is: no wastewater flow into the system when the discharge is occurring, the volume of wastewater contained in the batch system is known, the time

interval of discharge is known, and the grab sample is homogeneous and representative of the discharge.

(3) Any sample taken from a sample point is considered to be representative of the discharge to the sewerage system.

(b) Permit, agreements, and administrative orders provisions.

(1) Non-compliance with a permit condition, Compliance Agreement, or Cease and Desist Order compliance deadline shall be determined by whether the user or permittee has submitted the required information, or completed the required action (such as installing and operating a pretreatment system that is discharging effluent and meeting the permitted discharge limits) by the date and/or time specified.

(2) The user or permittee may request in writing by certified mail, an extension to a deadline to meet a compliance deadline. At a minimum, the request shall specify the reasons for not meeting the deadline, what actions are now being taken to accomplish the requirement, and the new date by which the user will complete the requirement.

(3) It the discretion of the Administrator, the request may be granted and the user notified in writing of the new compliance deadline. If the Administrator does not provide notification by the original compliance date in the permit, Compliance Agreement, or Cease and Desist Order, then the original date shall stand as the compliance date.

(c) Fees, surcharges, or penalties. A user shall be in non-compliance with the chapter and their permit, if connection fees, sewer surcharge fees, penalties, non-compliance fees, administrative fees, bond guaranty or other monies owed to the City for sewer services are not paid within the time specified on the bill or in the permit, Compliance Agreement, or other enforcement agreement.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 22, Ord. 2816, eff. December 1, 2005)

C) SEC. 6-7.603. NON-COMPLIANCE FEES.

(a) Non-compliance with discharge requirements of this chapter or the user's industrial wastewater permit [may] be determined by an analysis or a grab or composite sample of the user's discharge to the sewerage system. Sampling of a user's wastewater shall be conducted in the time, manner, and frequency determined at the discretion of the Administrator.

(b) A user is in violation of a separate offense for every day during which any violation of any provision of this chapter is committed, continued, or permitted by the user.

(c) Such user may be subject to administrative and/or legal actions, and shall pay to the City non-compliance fees as established by this section, to recover all costs incurred by the City and IEUA in performing inspections, sampling, and analysis of the user's wastewater, processing

Notices of Violation, and conducting enforcement actions. For a discharge violation, non-compliance fees shall continue to accumulate for each day sampled.

(1) The user shall pay a minimum of One Hundred Dollars ($100.00) for the first confirmed occurrence of a violation within one (1) year.

(2) The user shall pay a minimum of Two Hundred Dollars ($200.00) for the second occurrence of the same violation within one (1) year.

(3) After the second occurrence of the same violation within one (1) year, the user shall pay a minimum of Five Hundred Dollars ($500.00) for each additional occurrence of such violation.

(4) The user shall pay a minimum of One Thousand Dollars ($1,000) for any violation or a Show Cause Order, Compliance Agreement, or a Cease and Desist Order.

(d) Any user shall be assessed a mandatory minimum penalty of Three Thousand Dollars ($3,000) pursuant to Cal. Water Code § 13362 for each violation if any of the following applies:

(1) There is a serious violation within any six (6) month period;

(2) A user commits two (2) or more serious violations in any six (6) month period; or

(3) A user does any of the following four (4) or more times in any six (6) month period:

(i) Exceeds a waste discharge effluent limitation;

(ii) Fails to file a report pursuant to Cal. Water Code § 13260;

(iii) Files an incomplete report pursuant to Cal. Water Code § 13260; or

(iv) Exceeds a toxicity discharge limitation where the waste discharge requirements do not contain pollutant-specific effluent limitations for toxic pollutants.

(e) The user shall pay a minimum of Fifty Dollars ($50.00) per calendar day for non-compliance with the submittal date for a compliance schedule, progress report, or any monitoring or technical report as established in this chapter, the user's industrial wastewater permit, or in a written request by the Administrator. The Administrator shall allow a reasonable amount of time for the user to submit any required monitoring or technical reports.

(f) The payment of non-compliance fees shall not limit the City, IEUA or any other regulatory agency, from undertaking any administrative and/or legal action.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 22, Ord. 2816, eff. December 1, 2005)

D) SEC. 6-7.604. NOTICE OF VIOLATION.

(a) Whenever the Administrator finds that a user has violated Federal pretreatment standards or requirements of this chapter, an industrial wastewater permit, an order issued hereunder, or any prohibition, limitation, or requirement contained herein, the Administrator shall serve upon said user a written notice stating the nature of the violation and the penalties for continued non-compliance.

(b) Whenever the user receives a Notice of Violation, such user shall submit to the Administrator, within ten (10) days from the date of the notice, a written explanation of the cause of the violation and the corrective actions which have been taken to prevent recurrence of such violation. In the case of a violation of a discharge limit, the user shall repeat the sampling weekly, test for each constituent in violation, and submit the test results to the Administrator within thirty (30) days from the date of the notice until such time that the discharge shows compliance with the discharge limit.

(c) If the user fails to correct a violation within forty-five (45) days from the date of the notice, requires additional time to correct all conditions to bring the discharge violation into compliance, or a discharge violation has occurred more than once within a one (1) year period, the user shall submit a compliance schedule within sixty (60) days of the initial violation.

(d) Unless otherwise provided herein, any notice under this chapter shall be in writing and served on the user or by certified mail. Notice shall be deemed to have been given at the time of deposit, postage prepaid, in a facility regularly serviced by the United States Postal Service. Any time limit provided in any written notice or in any provision of this chapter shall be extended only by a written direction of the Administrator.

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.605. SHOW CAUSE ORDER.

(a) The Administrator may issue a Show Cause Order requiring the user who causes or contributes to a violation of this chapter, or any order, agreement, or permit issued hereunder, to appear at the City's offices at the date and time specified in the Order to Show Cause to the Administrator as to why more severe enforcement actions and/or criminal and/or civil actions should not be taken.

(b) The order shall be served on the user and shall specify the proposed enforcement action, the reasons for such action, and a request that the user show cause why this proposed enforcement action should not be taken. The notice of the meeting shall be served personally or by registered or certified mail (return receipt requested) at least 10 (ten) days prior to the hearing. Such notice may be served on any principal executive, general partner or corporate officer. Whether or not a duly notified user appears as noticed, immediate enforcement action may be pursued.

(§ 3, Ord. 2755, eff. April 4, 2002)

F) SEC. 6-7.606. COMPLIANCE AGREEMENT.

(a) Upon finding that a user will need to install pretreatment equipment to bring the discharge into compliance with this section or industrial discharge permit limits, need additional Operation and Maintenance personnel and/or procedures to meet a categorical standard, or need to construct facilities to meet the City's pretreatment requirements or to correct a recurring violation of any local discharge limitation, the Administrator may require that a Compliance Schedule, agreed upon in advance by the user and the City, be issued to the user.

(b) The Compliance Agreement may contain terms and conditions including, but not limited to, installation of pretreatment equipment and facilities, submittal of drawings, technical reports and/or progress reports, payment of fees, posting of a performance bond, limits on the rate and time of discharge, additional self-monitoring requirements, a compliance schedule, or other provisions to ensure compliance with this chapter. The schedule shall contain milestones of progress in the form of dates for the commencement and completion of major events leading to design, construction, and operation of the pretreatment facility of similar structure. Each increment in the Compliance Schedule is subject to review and approval by the Administrator. No Compliance Schedule increment shall exceed nine (9) months.

(c) The user shall submit a progress report to the Administrator following each milestone in the schedule. Each report shall be submitted no later than fourteen (14) days following each milestone in the Compliance Schedule. The report shall include whether or not the user achieved the milestones on their date and, if not, the date on which the user expects to complete the milestone, the reason for delay, and the steps taken by the user to meet the established schedule.

(d) The Administrator may extend the Compliance Schedule for an additional period of time, provided that the user shows good cause, including, but not limited to, reasonable progress under the terms of the Compliance Schedule. A Compliance Schedule shall not extend beyond any applicable Federal deadlines.

(§ 3, Ord. 2755, eff. April 4, 2002)

G) SEC. 6-7.607. CEASE AND DESIST ORDER.

(a) A Cease and Desist Order shall direct a user to cease and desist all discharge violations, to comply immediately with all discharge requirements and to take such appropriate remedial or preventative action as may be needed to properly address a continuing or threatened discharge violation, including halting operations and/or terminating the discharge.

(b) The user shall pay a minimum of One Thousand Dollars ($1,000) for any violation of a Cease and Desist Order.

(§ 3, Ord. 2755, eff. April 4, 2002)

H) SEC. 6-7.608. PERMIT REVOCATION.

The Administrator may issue a permit revocation order, whereby the user must comply with all directives, conditions and requirements therein within the time prescribed. The revocation order shall contain terms and conditions to ensure compliance with this chapter.

(a) Grounds. The Administrator may revoke an industrial wastewater permit when it is determined that a user:

(1) Fails to comply with the terms and conditions of an industrial wastewater permit, any provision of this chapter, an Administrative Order, or a Compliance Agreement;

(2) Knowingly provides a false statement, representation, record, report, or document to the City;

(3) Falsifies, tampers with, or knowingly renders inaccurate any monitoring and/or sampling device;

(4) Fails to report changes in operations which result in significant changes in quantity or quality of the user's wastewater;

(5) Fails to submit oral notice or a written report of bypass occurrence;

(6) Discharges wastewater that causes an upset, interference, or a pass through at the POTW or with the City's collection system;

(7) Discharges to the sewerage system in violation of a Cease and Desist Order;

(8) Refuses reasonable access to the user's premises for the purpose of inspection and monitoring;

(9) Does not make timely payment of all amounts owed to the City for user charges, non-compliance fees, or any other fees;

(10) Discharges a slug load to the sewerage system; or

(11) Refuses to provide records, drawings, reports, or other documents required by the City to determine permit terms and conditions, or limits, discharge compliance, or compliance with this chapter.

(b) Notice of hearing. When the Administrator has reason to believe that grounds exist for permit revocation, he or she shall give written notice thereof by personal delivery or by certified mail to the user setting forth a statement of the facts and grounds deemed to exist, together with the time and place where the charges shall be heard by the Administrator's designee. The hearing date shall not be less than fifteen (15) calendar days or more than forty-five (45) calendar days after mailing of such notice.

(1) At the revocation hearing, the user shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The revocation hearing shall be conducted in accordance with procedures established by the Department of Public Works (DPW) and approved by the City Council.

(2) After the conclusion of the hearing, the Administrator's designee shall make his or her determination and submit a written report to the DPW setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation. Upon receipt of the written report, the Administrator shall make his or her determination and should he or she find that grounds exist for permanent revocation of the permit, he or she shall issue his or her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing by his or her designee. The written decision and order of the Administrator shall be sent by certified mail to the permittee or its legal counsel/representative at the permittee's business address.

(3) In the event the Administrator determines to not revoke the permit, he or she may order other enforcement actions, including, but not limited to, a temporary suspension of the permit, under terms and conditions that he or she deems appropriate.

(c) Effect.

(1) Upon an order of revocation by the Administrator's designee becoming final, the user shall have no right to discharge any non-domestic wastewater or sanitary wastes (whichever applies) directly or indirectly to the City sewerage system for the duration of the revocation. All costs for physically terminating and reinstating service shall be paid by the user.

(2) Any owner or responsible management employee of the user shall be bound by the order of revocation. An order of permit revocation issued by the Administrator shall be deemed final in all respects upon delivery to the applicant or user unless a request for hearing is filed with the City Council pursuant to § 1-4.01 of Chapter 4 of Title 1 of the Ontario Municipal Code.

(3) Any future application for a permit at any location within the City by any user subject to an order of revocation will be considered by the Administrator after fully reviewing the records of the revoked permit. Such records may be the basis for denial of a new permit.

(§ 3, Ord. 2755, eff. April 4, 2002)

I) SEC. 6-7.609. INJUNCTION.

Whenever a user has engaged in, is engaged in, or is about to engage in any acts or practices which constitute or will constitute a violation of this chapter, the user's industrial wastewater permit, or any pretreatment regulation, the City or IEUA may petition the Superior Court for the issuance of a preliminary or permanent injunction, restraining order, or other appropriate order may be granted upon a showing that the user(s) engaged in, is engaged in, or is about to engage in the challenged acts or practices.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 23, Ord. 2816, eff. December 1, 2005)

J) SEC. 6-7.610. CIVIL PENALTIES.

(a) Authority. All users of the City of Ontario sewerage system are subject to enforcement actions administratively or judicially by the City of Ontario, IEUA, U.S. EPA, the State of California Regional Water Quality Control Board, or the City Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to:

(1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. 1251 et seq.); California Porter-Cologne Water Quality Act (Cal. Water Code §§ 13000 et seq.);

(2) California Hazardous Waste Control Law (Cal. Health & Safety Code §§ 25100 to 25250); and

(3) Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 et seq.).

(b) Recovery of fines or penalties. In the event the City of Ontario is subject to the payment of fines or penalties pursuant to the legal authority and actions of other regulatory or enforcement agencies based on a violation of law or regulation or its permits or IEUA's permits, and said violation can be established by the City as caused by or contributed to by the discharge of any user of the City sewerage system which is in violation of any provision of this chapter or the user's permit, the City shall be entitled to recover from the user all costs and expenses, including, but not limited to, the full amount of said fines, penalties, and damages to which it has been subjected.

(c) Penalties for violations.

(1) Administrative complaints and penalties. In addition to any other remedy or proceeding available under this chapter, or any other law, pursuant to Cal. Gov't Code §§ 54739 and 54740.5, the Administrator may issue an administrative complaint to any user who violates this chapter, any permit condition, prohibition or effluent limitation, or any suspension or revocation order. The administrative complaint shall allege the act or failure to act that constitutes the violation, the proposed civil penalty, and the authority under which it is imposed.

(2) The administrative complaint, served on the alleged violator by personal delivery or by certified mail, shall inform the user served that a hearing before the Administrator shall be conducted within sixty (60) days of the service of the complaint. The right to a hearing may be waived by the user who issued the administrative complaint.

(3) After the conclusion of the hearing, the Administrator shall make his or her determination and shall issue his decision and order within thirty (30) calendar days of the hearing. The written decision and order of the Administrator shall be sent by personal delivery or by certified mail to the user.

(4) The order of the Administrator shall be final in all aspects fourteen (14) days after it is mailed to the user unless a request for hearing is filed with the City Council pursuant to § 1-4.01 of Chapter 4 of Title 1 of the Ontario Municipal Code. If after the hearing it is found that the user violated reporting or discharge requirements, the Administrator may assess a civil penalty. Unless appealed, an order imposing administrative civil penalties shall become effective upon issuance, and payment shall become due within thirty (30) days of issuance of an invoice by the City of Ontario.

(5) Civil penalties may be assessed as follows:

(i) In an amount which shall not exceed Two Thousand Dollars ($2,000) for each day for failing or refusing to furnish technical or monitoring reports;

(ii) In an amount which shall not exceed Three Thousand Dollars ($3,000) for each day for failing or refusing to timely comply with any compliance schedule established by the City;

(iii) In an amount which shall not exceed Five Thousand Dollars ($5,000) per violation for each day of discharge in violation of any discharge limitation, permit condition, or requirement issued, reissued or adopted by the City;

(vi) In an amount which shall not exceed Ten Dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued or adopted by the City. In determining the amount of the penalty, the City shall take into consideration all relevant circumstances including, but not limited to, the extent of harm caused by the violation, the economic benefit derived by non- compliance, the nature and persistence of the violation, the length of time over which the violation occurs, and corrective action, if any, taken by the user. Each day, or any portion thereof, during which a violation occurs or continues is a separate violation for which the maximum daily penalty may be assessed.

(6) Copies of the administrative order setting civil penalties shall be sent to the user either by personal delivery or by certified mail.

(7) Any user aggrieved by a final order issued by the City Council pursuant to this section, may obtain a review of the order in the Superior Court by filing a petition for writ of mandate within thirty (30) days following the service of a copy of such order.

(8) Unless appealed, payment on any administrative order setting civil penalties shall be made within thirty (30) days of the date the order becomes final.

(9) All monies collected under this section shall be deposited in a special account of the City, and shall be made available for monitoring and control of discharges into the public sewer and for other enforcement and mitigation measures.

(10) Any fines or charges imposed on the City by a regulatory agency as a result of a user's violation of any provisions of this chapter shall be an additional sewer charge to that user.

(§ 3, Ord. 2755, eff. April 4, 2002)

K) SEC. 6-7.611. CRIMINAL PENALTIES.

Any user who willfully violates any provision of this chapter, administrative order, or industrial wastewater permit condition, is guilty of a misdemeanor, which upon conviction is punishable by a fine of not less than One Thousand Dollars ($1,000) or by imprisonment in the County Jail for not more than six (6) months or by both. Each day a violation occurs shall constitute a new and separate violation of this chapter and shall be subject to the penalties contained herein.

(§ 3, Ord. 2755, eff. April 4, 2002)

L) SEC. 6-7.612. APPEAL.

(a) Pursuant to § 1-4.01 of Chapter 4 of Title 1 of the Ontario Municipal Code, any user, affected by any decision, action or determination made by Administrator, may appeal in writing to the City Council by filing with the City Clerk a written notice of such appeal, setting forth grounds thereof. The appellant shall file such notice within fourteen (14) days after receipt of the notice of the administrative decision concerned.

(b) The order of the City Council shall be deemed final upon its adoption.

(c) If the user fails to appeal to the City Council, or the City Council fails to reverse or modify the administrative decision, the Administrator's administrative decision shall be deemed final.

(§ 3, Ord. 2755, eff. April 4, 2002)

M) SEC. 6-7.613 ADDITIONAL EMERGENCY REMEDIAL MEASURES.

The Administrator shall have full power and authority to take any necessary precautions including, but not limited to; decontamination, sewer closure, packaging, diking, and transportation of materials, in order to protect life, protect property, or prevent further damage resulting from a condition that is likely to result in a discharge which presents an imminent hazard to the public's health, safety or welfare; or which either individually or by interaction with other discharges, is an imminent hazard to the City's sewerage facilities; or which places the regional treatment plant in violation of its NPDES permit. In the pursuit of such an operation, City personnel, any party contracting with the City, or duly authorized representative of another government agency shall have immediate access to the premises. The Administrator may prohibit approach to the scene of such emergency by any user, vehicle, vessel or thing, and all users not actually employed in the extinguishing of the condition or the preservation of lives and property in the vicinity thereof.

(§ 3, Ord. 2755, eff. April 4, 2002)

N) SEC. 6-7.614. CUMULATIVE REMEDIES.

The remedies provided by this chapter are cumulative, and shall not be construed as restricting any remedy, provisional or otherwise, provided by law for the benefit of the City, and no remedy under this chapter shall preclude the City from obtaining additional relief based upon the same facts.

(§ 3, Ord. 2755, eff. April 4, 2002)

O) SEC. 6-7.615. TERMINATION OF SERVICE.

The City, by order of the Director of Public Works, may physically terminate sewerage service to any property as follows:

(a) Upon any order of emergency suspension or revocation of a permit; or

(b) Upon the failure of a user not holding a valid discharge permit to immediately cease discharge, whether direct or indirect, to the City's sewerage facilities.

(§ 3, Ord. 2755, eff. April 4, 2002)

P) SEC. 6-7.616. PUBLIC NUISANCE.

Discharge of wastewater in any manner in violation of this chapter or of any order issued by the Director of Public Works, as authorized by this chapter, is hereby declared a public nuisance and shall be corrected or abated as directed by the Director of Public Works. Any user creating a public nuisance is guilty of a misdemeanor.

(§ 3, Ord. 2755, eff. April 4, 2002)

Q) SEC. 6-7.617. COST.

In the event permittee fails to comply with any of the terms and conditions of the this chapter, a Compliance Agreement, a permit revocation, or a permit issued hereunder, the City and IEUA shall be entitled to reasonable attorney's fees and costs which may be incurred in order to enforce any of said terms and conditions, with or without filing proceedings in court.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 24, Ord. 2816, eff. December 1, 2005)

R) SEC. 6-7.618. RECOVERY OF COST INCURRED BY CITY.

Any user who, by discharging wastewater, non-stormwater or by any other means, damages monitoring equipment, adversely affects wastewater treatment processes, significantly increases POTW operation costs, causes blockage, damage, upset, interference, or pass through at the POTW, or causes blockage shall be liable to the City for said damages and additional costs, including any fines or penalties, occasioned thereby. An administrative fee, which shall be fixed by the City Manager based on the City's current overhead cost allocation percentage and approved

by the City Council, shall be added to these charges and shall be payable within thirty (30) days of invoicing by the City.

(§ 3, Ord. 2755, eff. April 4, 2002)

S) SEC. 6-7.619. FINANCIAL SECURITY.

(a) Compliance deposit. Permittees that have been subject to enforcement and/or collection proceedings may be required to deposit with the City an amount determined by the Administrator as necessary to guarantee payment to the District of all charges, fees, penalties, costs and expenses that may be incurred in the future, or as a condition to ensure compliance provisions of a Compliance Agreement, permit issuance after revocation, before permission is granted for further discharge to the sewer.

(b) Delinquent accounts. The City may require an amendment to the permit of any permittee who fails to make payment in full of all fees and charges assessed by the City, including reconciliation amounts, delinquency penalties, and other costs or fees incurred by the user.

(c) Bankruptcy. Every user filing any legal action in any court of competent jurisdiction, including the United States Bankruptcy Court, for purposes of discharging its financial debts or obligations or seeking court-ordered protection from its creditors, shall, within ten (10) days of filing such action, apply for and obtain the issuance of an amendment to its permit.

(d) Permit amendments. The City shall review and examine the user's account to determine whether previously incurred fees and charges have been paid in accordance with time requirements prescribed by this chapter. The City and IEUA may thereafter issue an amendment to the user's permit in accordance with the provisions of Article 3 and subsection (e) of this section.

(e) Security. An amendment to a waste discharge permit issued pursuant to subsections (c) and (d) of this section may be conditioned upon the user depositing financial security in an amount equal to said user's average total fees and charges for the two (2) prior calendar quarters. Said deposit shall be used to guarantee payment of all fees and charges incurred for future services and facilities furnished by City and shall not be used by the City to recover outstanding fees and charges incurred prior to the user filing and receiving protection from creditors in the United States Bankruptcy Court.

(f) Return of security. In the event the user makes payment in full within the time prescribed by this chapter of all fees and charges said user incurred over a period of two (2) years following the issuance of an amendment to the permit pursuant to subsections (c), (d) and (e) of this section, the City shall either return the security deposit posted by the user or credit their account.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 25, Ord. 2816, eff. December 1, 2005)

T) SEC. 6-7.620. APPEALS TO THE ADMINISTRATOR.

(a) General. Any user permit applicant or permittee affected by any decision, action or determination made by the Administrator may file with the Administrator a written request for an appeal hearing. The request must be received by the City within fifteen (15) days of mailing of notice of the decision, action, or determination of the City to the appellant. The request for hearing shall set forth in detail all facts supporting the appellant's request.

(b) Notice. The Administrator shall, within fifteen (15) days of receiving the request for appeal, designate the Utilities Director or other representative to hear the appeal and provide written notice to the appellant of the hearing date, time and place. The hearing date shall not be more than thirty (30) days from the mailing of such notice by certified mail to the appellant unless a later date is agreed to by the appellant. If the hearing is not held within said time due to actions or in actions of the appellant, then the staff decision shall be deemed final.

(c) Hearing. At the hearing, the appellant shall have the opportunity to present information supporting its position concerning the Administrator's decision, action or determination. The hearing shall be conducted in accordance with procedures established by the Administrator and approved by the City Counsel.

(d) Written determination. After the conclusion of the hearing, the Utilities Director (or other designee) shall submit a written report to the Director of Public Works setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and recommendations whether to uphold, modify or reverse the Administrator's original decision, action or determination. Upon receipt of the written report, the Administrator shall make his or her determination and shall issue his or her decision and order within thirty (30) calendar days of the hearing by his or her designee. The written decision and order of the Administrator shall be sent by certified mail to the appellant or its legal counsel/representative at the appellant's business address.

(e) The order of the Administrator shall be final in all respects on the sixteenth (16th) day after it is mailed to the appellant unless a request for hearing is filed with the City pursuant to § 1-4.01 of Chapter 4 of Title 1 of the Ontario Municipal Code, no later than 5:00 p.m. on the fifteenth (15th) day following such mailing.

(f) Pursuant to § 1-4.01 of Chapter 4 of Title 1 of the Ontario Municipal Code, any user, affected by any decision, action or determination made by Administrator, may appeal in writing to the City Council by filing with the City Clerk a written notice of such appeal, setting forth grounds thereof The appellant shall file such notice within fourteen (14) days after receipt of the notice of the administrative decision concerned.

(g) The order of the City Council shall be deemed final upon its adoption.

(h) If the user fails to appeal to the City Council, or the City Council fails to reverse or modify the administrative decision, the Administrator's administrative decision shall be deemed final.

(§ 3, Ord. 2755, eff. April 4, 2002)

U) SEC. 6-7.621. JUDICIAL REVIEW.

(a) Purpose and effect. Pursuant to Cal. Code of Civil Procedure § 1094.6, the City hereby enacts this part to limit to ninety (90) days following final decisions in adjudicatory administrative hearings the time within which an action can be brought to review such decisions by means of administrative mandamus.

(b) Definitions. As used in this section, the following terms and words shall have the following meanings:

(1) "Complete record" shall mean and include the transcript, if any existing, of the proceedings, all pleadings, all notices and orders, any proposed decision by the Director of Public Works, the final decision, all admitted exhibits, all rejected exhibits in the possession of the City or its offices or agents, all written evidence, and any other papers in the case.

(2) "Decision" shall mean and include adjudicatory administrative decisions that are made after hearing, or after revoking, suspending, or denying an application for a permit or a license.

(3) "Party" shall mean a user whose permit has been denied, suspended, or revoked.

(c) Time limit for judicial review. Judicial review of any decision of the City or its officer or agent may be made pursuant to Cal. Code of Civil Procedure § 1094.5 only if the petition for writ or mandate is filed not later than the ninetieth (90th) day following the date in which the decision becomes final. If there is not provision for reconsideration in the procedures governing the proceedings or if the date is not otherwise specified, the decision if final on the date it is made. If there is provision for reconsideration, the decision is final upon the expiration of the period during which such reconsideration can be sought; provided that if reconsideration is sought pursuant to such provision to decision is final for the purposes of this section on the date that reconsideration is rejected.

(d) Preparation of the record. The complete record of the proceedings shall be prepared by the City officer or agent who made the decision and shall be delivered to the petitioner within ninety (90) days after he or she has filed written request therefor. The City may recover from the petitioner its actual cost for transcribing or otherwise preparing the record.

(e) Extension. If the petitioner files a request for the record within ten (10) days after the date the decision becomes final, the time within which a petition, pursuant to Cal. Code of Civil Procedure § 1094.5, may be filed shall be extended to not later than the thirtieth (30th) day following the date on which the record is either usually delivered or mailed to the petitioner or the petitioner's attorney of record, if appropriate.

(f) Notice. In making a final decision, the City shall provide notice to the party that the time within which judicial review must be sought is governed by Cal. Code of Civil Procedure § 1094.6.

(g) Administrative civil penalties. Not with- standing the foregoing, and pursuant to Cal. Gov't Code § 54740.6, judicial review of an order of the Steering Committee imposing administrative civil penalties may be made only if the petition for writ of mandate is filed not later than the thirtieth (30th) day following the day on which the order of the Steering Committee becomes final.

(§ 3, Ord. 2755, eff. April 4, 2002)

V) SEC. 6-7.622. AFFIRMATIVE DEFENSE.

Each user shall have an affirmative defense in any action brought upon him or her alleging a violation of §§ 6-7.208, 6-7.209, or 6-7.211 where the user can demonstrate that:

(a) The user did not know or have reason to know that his or her discharge, alone or in conjunction with a discharge or discharges from other sources, would cause pass through or interference and;

(b) The user was in compliance with each local discharge limit directly prior to and during the pass through or interference; or

(c) If a local limit of the pollutant causing the violation has not been established by the City and the user's discharge directly prior to and during the pass through or interference did not change substantially in quantity or quality from the user's prior discharge activity when the POTW was regularly in compliance with its NPDES permit requirements, sewage sludge use and disposal requirements.

(§ 3, Ord. 2755, eff. April 4, 2002)

7. ARTICLE 7. SCHEDULE OF FEES AND CHANGES

A) SEC. 6-7.701. REVENUES.

(a) Every person whose premises in the City are served by a connection to the public sewer system whereby the sewage and/or industrial wastes are disposed of by the City through the regional sewage system, or otherwise, shall pay a sewer operation charge and any surcharge as established by § 6-7.703 of this chapter.

(b) The charges provided for in § 6-7.703 shall be applicable only on premises to which a public sewer system main is connected.

(c) The charges provided for in § 6-7.703 for any promise or property shall be collected with the charges and rates for water services furnished by the City to such premises. Such charges shall be billed upon the same bill as prepared for charges for water services and shall be due and payable monthly at the same time such charges for water services are due and payable. The total amount due for the charges herein fixed and for charges for water shall be paid as a unit.

(d) The City Council may, from time to time in its discretion by ordinance or resolution, alter, change, amend, or revise the charges and rates for services and facilities in connection with the public sewer and stormwater drainage systems.

(e) It shall be the duty of the Revenue Department of the City to collect all charges provided for in this chapter.

(f) The City Council shall have the right to require any person liable to pay any stormwater pollution abatement charges, sewer operation charges and applicable surcharges to make a reasonable deposit to insure the collection of such charge.

(g) If any person fails to pay any applicable charges when the same become due, the City may, in addition to any other remedies it has, cut off any of the services and facilities provided for in this chapter and shall not resume the same until all delinquent charges, together with any charges necessitated by the resumption of such services and facilities, have been fully paid.

(h) All funds and monies received from the collection of sewer operation charges and applicable surcharges as herein established, shall be deposited and maintain in a separate fund and account to be known as the Sewer Operation Fund. The moneys deposited in such fund shall be used as permitted by Cal. Health & Safety Code § 5471.

(i) Adequate funds shall be transferred from Sewer Service Revenues to the Sewer Revolving Fund for sewer capital facilities repairs and replacement. The amount of this transfer shall be reviewed and adjusted in conjunction with rate studies to meet the needs of the sewer capital improvement program.

(j) If a developed parcel does not have a utility account with the City on the effective date of this section, a new account shall be established for that parcel and billed to the owner of said parcel as shown on the latest County Assessor's property tax rolls as an existing utility account. When an undeveloped parcel is developed, a new account shall be established and billed to the owner of that parcel as shown on the latest County Assessor's property tax rolls. The developed property owner shall maintain responsibility for payment until such time as other City utility services are provided to said parcel and a primary utility account is established for payment responsibility with the occupier of said property.

(§ 3, Ord. 2755, eff. April 4, 2002)

B) SEC. 6-7.702. EQUIVALENT DWELLING UNITS (EDU).

(a) Residential customers: The wastewater flow from a single-family residential unit is defined as one (1) EDU. On the average, this flow is two hundred seventy (270) gallons per day, and the levels of biological oxygen demand (BOD) and suspended solids (SS) are equal to two hundred thirty (230) mg/l and two hundred twenty (220) mg/l, respectively. The average flow from a multiple family residential or mobile home unit is one hundred eighty-nine (189) gallons per day with the same levels of BOD and SS. By definition, this is equal to seven-tenths (.7) of one (1) EDU.

(b) Schools. The number of EDUs for a school is determined annually based on the school's October Average Daily Attendance (ADA). One (1) EDU is equivalent to fifty-four (54) Kindergarten through high school students, or twenty-seven (27) college students.

(c) Commercial customers. Commercial customers are grouped in different sewer categories as shown below. Each category is assigned a wastewater factor (WF) based on the percentage of water consumption returned to the sewer, and the wastewater levels of BOD and SS according to the following formula:

WF = Flow %

((0.37 + (0.31 BOD/230) + (0.32 SS/220)) / 10.98

The number of EDUs is calculated using the monthly water consumption in hundred cubic feet (HCF) as follows:

EDUs — HCF x WF COMMERCIAL CATEGORIES AND WASTEWATER FACTORS FOR DETERMINING MONTHLY SEWER CHARGES				
Category	Type of Commercial	BOD/SS	Flow %	Wastewater Factor
1	Office	230/220	80	0.0729
	Day Care Center			
	Market w/o grinder			
	Public Facility w/o dining			
	Bar/Tavern w/o food			
	Retail/Service			
	Recreation/Amusement w/o dining			
2	Mortuary	250/350	95	0.1052
3	Hotel w/dining	300/400	85	0.1050
	Motel w/dining			
	Bar/Tavern w/dining			

	Recreation/Amusement w/dining			
	Public Facility w/dining			
	Hospital - full service			
	Convalescent facility			
4	Laundromat	100/150	95	0.0626
	Car Wash			
5	Laundry Commercial/Industrial	350/550	85	0.1215
	Dry Cleaner			
6	Motel w/o dining	300/100	80	0.0670
	Health Spa			
	Church/Workshop			
7	Outpatient Facility	225/100	90	0.0671
	Doctor Office			
	Dental Office			
8	Restaurant full service	400/300	85	0.1042
	Restaurant fast food			
	Market w/grinder			
	Bakery			
9	School Public/Private	230/220		Fixed EDU

	K through 12		5 gpd/s	October ADA/54
	College		10 gpd/s	October ADA/27

(d) Industrial customers. Industrial customers shall consist of any industrial user identified in the NAICS/SIC Code US Manual, 1997, as amended and supplemented, under the category Division D - Manufacturing, and any other user of significant waste products as determined by the City. The number of EDUs of industrial customers shall be the sum of domestic and non-domestic wastewater EDUs as follows:

(1) The number of domestic wastewater EDUs is calculated using a wastewater factor equal to 0.0729 (category 1 - commercial customers) as described in subsection (c) of this section.

(2) The number of non-domestic wastewater EDUs is calculated based on the average daily flow (gallons per day) and strength (BOD & SS in mg/l) of the non-domestic wastewater flow according to the following formula:

EDUs-Non-Domestic Flow

((0.37 + (0.31 BOD/230) + (0.32 SS/220)) / 270

(e) If required by the City, any non-residential user may be required to submit on a yearly basis (on or before the first of July of every year), a twenty- four (24) hour composite wastewater sample analysis performed by a certified laboratory. Said analysis shall be for BOD, SS and/or any other parameters, as may be required by the City. The customer shall pay all monitoring costs. The results of the analysis may be used to adjust the customer's wastewater factor and billing records. The frequency of wastewater analysis samples submitted may vary depending on the type of industrial discharge as determined by the City.

(f) In the event a customer believes the parameters used to establish the customer's wastewater factor is no longer applicable, said customer may submit the results of laboratory analyses and any other documents for review by the City. An adjustment in the wastewater factor and billing records may be made if deemed appropriate and consistent with the intent of this section. Any adjustment shall not be retroactive and shall be effective on the first day of the current billing cycle.

(g) If a wastewater pretreatment device and/or in-plant modification is instituted which involves a change in the quality and/or quantity of wastewater being discharged, the customer shall immediately notify the City. The user shall be required to submit flow 71 measurements and laboratory analysis for BOD, SS and any other parameters as described in subsection (e) of this section.

(h) The specific wastewater rate calculation criteria, including the assignment of sewer factors to specific customers, shall be determined by the City for all customers not specifically mentioned under the classifications set forth in this section, in accordance with the provisions of this section.

(i) If a commercial or industrial customer's water meter is used for both domestic and landscape irrigation, forty-five percent (45%) of the metered water consumption shall be assigned to landscape irrigation. If the user can show that landscape irrigation constitutes more than forty-five percent (45%) of the total, the City shall adjust this value provided that installation of a separate irrigation meter is not feasible. The adjustment shall be made after review, verification and approval of a water-use audit report prepared and submitted by the customer. Water meters that are used for landscape irrigation only, and other water meters that do not contribute to sewer flow shall not be included in the EDU calculations, and shall be exempt from sewer charges.

(§ 3, Ord. 2755, eff. April 4, 2002)

C) SEC. 6-7.703. SEWER REVENUE CHARGE RATES.

In addition to other fees, assessments, or charges provided by the Municipal Code or adopted by the City Council, the owner or occupant of any parcel of property for which no other sewer service charge is provided, and which parcel of property is connected to the sewer system of the City, shall pay monthly sewer service charges as established from time to time by an ordinance of the City Council.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 7, Ord. 2785, eff. November 16, 2003,§§ 26 and 27, Ord. 2816, eff. December 1, 2005, § 3, Ord. 2880, eff. February 4, 2008, § 3, Ord. 2913, eff. January 1, 2010)

D) SEC. 6-7.704. INDUSTRIAL WASTEWATER PERMIT FEES.

Industrial wastewater permit fees for non- residential customers shall be included in the monthly sewer charges as established in § 6-7.703 of this chapter.

(§ 3, Ord. 2755, eff. April 4, 2002)

E) SEC. 6-7.705. INDUSTRIAL WASTEWATER NON-COMPLIANCE FEES.

Any user who has violated or continues to violate this chapter, an industrial wastewater permit, an order issued hereunder, or any prohibition, limitation, or requirement contained herein, shall pay non- compliance fees to the City as established in § 6-7.603 of this chapter, to recover all costs incurred by the City in performing inspections, sampling and analysis of the user's wastewater, and administrative costs associated with processing notices of violation, and conducting enforcement actions.

(§ 3, Ord. 2755, eff. April 4, 2002)

F) SEC. 6-7.706. CAPITAL CAPACITY REIMBURSEMENT ACCOUNT (CCRA) FEE.

(a) The City must comply with the provisions of Cal. Gov't Code §§ 66000 to 66008 relating to developer fees.

(b) The process requires the Engineer to determine that certain defined relationships exist between a development project or class of development projects and the public improvement for which the developer fee is charged, and to segregate and account for the money separate from general fund moneys.

(c) The City is a party to the Regional Sewerage Service Contract, the obligations of which include the collection of developer fees to finance capital expansion of the regional sewage facilities serving the City. These regional sewage facilities are operated by the Inland Empire Utilities Agency (IEUA).

(d) IEUA has prepared a Ten (10) Year Capital Improvement Program which includes a study of the impact of anticipated development within the jurisdiction of each of the contracting agencies, including the City of Ontario, upon the need for and cost of sufficient wastewater interceptor and treatment capacity.

(e) Purpose and findings.

(1) The purpose of the CCRA fee is to finance construction of a wastewater interceptor, treatment and disposal facilities necessary to mitigate the impact of new development in the City upon such facilities, as supplemented by available ad valorem taxes.

(2) In order to implement the goals and objectives of the City of Ontario's General Plan and the Chino Basin Regional Sewage Service Contract, a Ten (10) Year Capital improvement Program is prepared annually by IEUA, for those expansions of the regional sewerage facilities to be needed by the contracting agencies to mitigate sewage impacts caused by new development in the City of Ontario and within the spheres of each of the contracting agencies.

(3) The Ten (10) Year Capital Improvement Program, which is hereby incorporated by reference, establishes that certain public sewage treatment facilities must be or had to be constructed to provide adequate treatment capacity to service anticipated new development within the jurisdiction of each of the contracting agencies. The cities and agencies contracting for sewage treatment with the IEUA are Cucamonga County Water District, Fontana, Montclair, Ontario, Chino, Upland and Chino Hills.

(4) The contracting agencies and IEUA have determined that a development impact fee is needed in order to completely finance these public improvements and to pay for the development's fair share of the construction costs of these improvements. In establishing the fees contained herein, the City Council has found the CCRA fee to be consistent with its General Plan and, pursuant to Cal. Gov't Code § 65913.2, has considered the effects of the fee with respect to the City's housing needs as established in the Housing Element of the General Plan.

(5) IEUA's Ten (10) Year Capital Improvement Program identifies the need for new regional wastewater interceptor, treatment and disposal facilities and sets forth the relationship between new development, needed facilities and estimated costs of the facilities. This report is annually updated by IEUA. The report utilizes the contracting agencies forecasted growth and an analysis of IEUA's financial projection of being able to provide capacity. Those

projections have been examined and have been found to be reasonable estimates of the projected growth within the City and the regional service area of the IEUA.

(6) The Capital Capacity Reimbursement Account (CCRA) fees collected pursuant to this section shall be used to finance only the debts identified in the IEUA Ten (10) Year Capital Improvement Program in accordance with the terms of the Regional Contract.

(7) The Engineer finds that new development within the City of Ontario will generate additional need for sewage treatment capacity within the regional service area and will contribute to the degradation of treatment facility capacity within the regional service area of the IEUA.

(8) The facts and evidence presented in IEUA's Ten (10) Year Capital Improvement Program establish that:

(i) There is a reasonable relationship between the need for the wastewater interceptor, treatment and disposal facilities and the types of development considered in the forecasts submitted by the contracting agencies, including the City of Ontario, for which a CCRA fee is hereby imposed;

(ii) There is a reasonable relationship between the use of such fee and each type of development project upon which the fee is imposed;

(iii) There is a reasonable relationship between the IEUA amount of the fee and the cost of the facilities to be built to service new development projects for which the fee is imposed; and

(iv) The procedures used to determine these relationships are described in more detail in the "Agreement Amending and Supplementing Chino Basin Regional Sewage Service Contract" and the Ten (10) Year Capital Improvement Program.

(9) There is a need in this City for sewage treatment capacity which has not now been constructed or has been constructed in anticipation of new development which has not contributed its fair share towards these facility costs and said facilities have been called for in or are consistent with the City's General Plan.

(10) The cost estimates set forth in IEUA's Ten (10) Year Capital Improvement Program are reasonable cost estimates for constructing wastewater interceptor, treatment and disposal facilities necessitated by projected new development, and the development fees collected by the City from any affected development project will not exceed the total of these costs attributable to the increased capacity necessary to serve that project.

(f) "Equivalent Dwelling Unit (EDU)" is a numerical value designation where one EDU represents the sewage flow from a single-family residential household. Every developer constructing any new residential, commercial, or industrial structure which will be connected to the City's public sewer shall pay to the City a CCRA fee of Three Thousand Nine Hundred Five

Dollars ($3,905.00) per EDU. Additionally, this fee will automatically be adjusted each year on July 1 to the amount adopted by the Inland Empire Utility Agency (IEUA) Board of Directors.

(g) For the purposes of computing uniform financial obligations for each Contracting Agency using the Regional Sewerage System, the following computations shall be used to determine EDUs for residential, commercial, and industrial units:

(1) Residential is a structure or part of a structure which is designed for the purpose of providing permanent housing for one family or tenant shall be one EDU. This includes, but is not limited to, a single family detached residence, an apartment, a townhouse, a condominium, or mobile home space within a mobile home park.

(2) Commercial is a structure which is designed for the purpose of providing permanent housing for enterprises engaged in exchange of goods and services. This shall include, but is not limited to, all private business and service establishments, schools, churches, and public facilities. EDUs shall be determined by multiplying the fixture units, as defined by the Uniform Plumbing Code, shown on the approved building plans by the appropriate sewage factor. Total EDUs for commercial centers with various use categories will be the sum of the EDUs computed for each category use as follows:

COMMERCIAL USE CATEGORIES LISTING				
No.	Type of Commercial	Gallons Per Fixture	BOD/TSS	Sewage Factor
I	Motel/Hotel	12	230/220	0.0444
	Recreation/Amusement			
	Restaurant (fast food)			
	Office			
	Retail Store			
	Market (without butcher shop)			
	Bar/Tavern			
II	Market (with butcher shop)	24	250/350	0.1081
	Bakery			

	Mortuary			
III	Convalescent Home	42	250/300	0.178
	Hospital			
	Health Spa (with pool)			
	Restaurant (full service)			
IV	Laundromat	43	350/500	0.2499
	Laundry			
	Dry Cleaner (processor)			
V	Car Wash (Coin Operated)	102	150/500	0.491
VI	Church	17	230/220	0.063
	School			
	Public Facility			
VII	Health Spa (without pool)	42	230/220	0.1555

(3) Industrial is a structure which is designed for the purpose of providing permanent housing for enterprises engaged in the production, manufacturing, or processing of material. EDUs for industrial users shall be determined as follows:

(i) For domestic type wastewater, multiply the fixture units, as defined by the Uniform Plumbing Code, as shown on the approved building plans by a sewer factor of 0.0741 based on a twenty (20) gallons per fixture unit flow per day.

(ii) For industrial wastewater, compute the number of EDUs from information contained on the industrial waste permit, as set forth in § 6-7.702 of this chapter.

(iii) Combine the resultant EDUs derived from (i) and (ii) above.

(4) The Sewage Factor formula used for Commercial and Industrial Categories is as follows:

Sewage Factor = Gallons per Fixture

((0.37 + (0.31 BOD/230) + (0.32 SS/220)) / 270

(h) Exempt from the CCRA fee shall be the following:

(1) Any residential, commercial or industrial structure which is or will be connected exclusively to another agency's sewer system or to a private sewage disposal system; and

(2) That portion of a newly constructed commercial and/or industrial development's waste which is discharged into the Non-reclaimable Waste System.

(i) For residential structures with a building permit issued prior to July 1, 1979, no CCRA fees will be levied at the time of connection to the regional system. If the original permit was issued after July 1, 1979, then the CCRA fees established at the time of permit issuance will apply.

(j) The CCRA fees will apply to all commercial and industrial development regardless of when the structure was constructed. When a non-residential user requests to connect to the regional system or to modify its use, if already connected, the CCRA fee shall be based on the current fee in effect at the time the connection or modified use is made.

(k) Additional CCRA fees shall be levied on existing commercial and industrial users who expand or revise use. The additional CCRA fee shall be based on the additional number of EDUs according to the following criteria:

(1) CCRA fees will only be levied on the fixture unit (FU) count difference between existing FUs and new FUs.

(2) The CCRA fee will be determined based on the fee in effect at the time of building or sewer permit issuance for the expanding development.

(3) A change in use, placing a commercial development in a different commercial category, will not result in the recalculation of CCRA obligation for the existing FUs. Only the CCRA fees for the new added FUs will be levied based on the commercial category which best defines the proposed use.

(l) All sewer use rights and capacity shall remain with the existing building and shall be sold to building owners rather than tenants. In cases where an existing building is completely demolished, the transfer of capacity rights can be permitted provided that:

(1) Proof of building demolition can be documented;

(2) Payment for original system capacity can be documented;

(3) The demolition occurs simultaneously with the transfer; and

(4) The transfer occurs within the contracting agency who originally sold the capacity.

(5) The capacity rights shall be determined based on number of EDUs of the demolished structure.

(m) CCRA fees shall be paid at the time of the application for building permits.

(n) CCRA fees collected shall be deposited in the City of Ontario's Sanitary Sewerage Collection and Treatment Fund and used to finance construction of wastewater interceptor, treatment and disposal facilities.

(o) At the discretion of the City Council, the CCRA fee may be adjusted annually by ordinance in order to remain current. The basis for said adjustment shall be the Engineering Construction Cost Index for Sewage Facilities in the Los Angeles area.

(§ 3, Ord. 2755, eff. April 4, 2002, as amended by § 1, Ord. 2756, eff. June 16, 2002, § 1, Ord. 2773, eff. July 6, 2003, § 1, Ord. 2801, eff. July 1, 2004)

G) SEC. 6-7.707. SANITARY SEWER INSTALLATION POLICY AND THE SETTING OF SEWER CONNECTION FEES.

(Repealed by § 5 of Ord. 2779, eff. August 1, 2003)

H) SEC. 6-7.708. INTERAGENCY WASTEWATER CONNECTION REQUIREMENTS AND AGREEMENT.

(a) The sewer discharge from a public sewering agency to the City must be approved by all involved agencies by written agreement.

(b) The public sewering agency desiring a sewer connection to the City, or source agency, must submit to the Engineer, a written request for an Interagency Connection Point which shall include: a plot map of the area to be served including the distance to the proposed connection point; the current zoning and acreage of each of the zoned regions of the area; the percentage of existing development in each zoned region; the current average and peak flow and wastewater quality from the total proposed area; and the projected maximum peak and average flows from the total area at build-out.

(c) The City shall have the right to deny the request for any reason.

(d) The contract agreement must be written by the source agency but reviewed and approved by the City and must include, but not be limited to the following:

(1) A statement of agreement to construct, at no expense to the City, all sewer facilities necessary to convey the sewage from the source agency area to the City's public sewer system;

(2) All construction plans must be approved by the Engineer and all construction done in the City including a monitoring manhole at the connection point must be inspected and built to the City standards, also as-built plans must be submitted to the City upon completion of the work all at no cost to the City;

(3) The source agency shall agree, at their own expense, to submit to the City no later than forty-five (45) days from the date the connection point becomes active, a twenty-four (24) hour flow weighted composite analysis on the effluent entering the City at the connection point for all the parameters and constituents listed in the Inland Empire Utilities Agency Regional Contract, Exhibit H, and shall agree to submit to the City, a similar analysis every six (6) months starting from the submittal date of the first analysis;

(4) The water laboratory used by the source agency for the monitoring and analysis work must be approved by the City on an annual basis, and a copy of all the intercity connection point monitoring must be sent to the City directly from the laboratory;

(5) If the connection point is to be eliminated, the source agency shall abandon the intercity connection to current City standards, on the source agency's side of the City's boundary line at no expense to the City;

(6) The requesting agency shall collect all sewer fees as established by the City and transfer this money once per six (6) months to the City;

(7) The requesting agency shall be responsible to notify the City of any growth in this sewered area, and agree to allow the City to enforce their Pretreatment Program in the source agency's sewered area, 40 CFR 403.8(f)(2)(i);

(8) The City agrees to accept and deliver to the regional sewage treatment plant, or to an approved regional sewage system collection point, all sewage discharged through this connection point providing all predetermined flow and water quality criteria are being met;

(9) The City shall have the right to stop the sewer flow or eliminate the intercity connection point if any of the above criteria are violated, but must notify in writing, the source agency of the City's intent and establish a date and time the connection point may be abolished; and

(10) The source agency shall be responsible for submitting an executed copy of the interagency agreement to the IEUA.

(11) All existing source agencies that are discharging to the City's Public Sewer System when this chapter becomes effective, shall comply with all of the requirements of this section providing the requirements have not already been regulated in an executed agreement between the source agency and the City; all existing source agencies shall be given one year from the effective date of this chapter to comply with the additional requirements or the source agency may be subject to cancellation of their interagency connection.

(§ 3, Ord. 2755, eff. April 4, 2002)

Appendix C - Mutual Aid Telephone Roster

Last Updated: 06/17/19

Mutual Aid Contact and Resources List						
IEUA						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Deputy Manager of Maintenance Collection Supervisor	Ken Monfore Daniel Dyer	(909)993-1938 (909)993-1720	(909)548-9142 (909)292-6314	kmonfore@ieua.org ddyer@ieua.org	2 GAPVac Trucks, Camera Van, Water Truck, 4" Trash Pump	(951)675-1131
Cucamonga Valley Water District						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Construction & Maintenance Superintendent	Robert Koczko	(909)987-2591	(909)912-9718	robertk@cvwdwater.com	SSO Bypass Reel/Hose/Pump, SRECO Sewer Easement Machine, 6" Pump, SRECO Continuous Sewer Rodder	(909)987-2591
Waste Water Collection's Supervisor	Shawn Spromberg	(909)483-7413	(909)912-4099	shawns@cvwdwater.com		
Water Utility	James Bryan	(909)207-1450	(909)990-5558	jamesb@cvwdwater.com		
City of Chino						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Environmental Coordinator	Ruben Valdez	(909)334-3423	(909)993-2386	rvaldez@cityofchino.org	Sewer Vactor Jet Truck, Water Truck, 10 Yd^3 Dump Truck, Backhoe, 4" Water Pump	(909)628-1234 Police
City of Chino Hills						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Operations Supervisor	Olson Childress	(909)364-2829	(909)573-4359	ochildress@chonohills.org	Vactor Truck, Camera Van, 6" Trash Pump, Backhoe, Jetter truck , 10 Ton Dump Truck, Skip Loader.	(909)364-2860
Water and Sewer Manager	Mark Wiley	(909)364-2854	(909)364-2860	mwiley@chinohills.org		
City of Fontana						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Utilities Supervisor	Todd Heagstedt	(909)350-6764	(909)821-8244	theagstedt@fontana.org	Vactor Truck, Camera Van, Sewer Rodder, Multi Trash Pump, Large Dump Truck, Backhoe & Bobcat & Loader Tractor	(909)350-7700 Police
Public Works Manager	Keith Kramer	(909)350-6644	(909)697-7861	kkramer@fontana.org		
City of Montclair						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Field Supervisor	Xavier Mendez	(909)625-9467	(909)721-1755	mendez@cityofmontclair.or	Sewer Jetter Truck, Camera Van, Water Truck, Backhoe, 5 Yd^3 Dump Truck, 4" Trash Pump, Confined Space Trailer	(909)621-4711 Police
Pretreatment Coordinator	Nicole deMoet	(909)625-9446	(909)721-1776	demoet@cityofmontclair.or		
City of Ontario						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Utilities Operations Manager	Andy Marquez	(909)395-2683	(909)721-8931	amarquez@ontarioca.gov	Vactor/Water Truck, Camera Van, Water Truck, 5 Yd^3 Dump Truck, Backhoe, (2,4,6,8) inch Trash Pump	(909)721-7246
City of Upland						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Environmental Quality Manager Utilities Field Supervisor	Harrison Nguyen Jeremy Gendreau	(909)291-2970 (909)291-2984	 (909)376-1197	hnguyen@ci.upland.ca.us jgendreau@ci.upland.ca.us	810 Vactor Truck, SRECO Flush Truck, Trash Pump	(909)946-7624 Police
Jurupa Community Services District						
Position	Name	Work #	Cell #	Email	Equipment available	On Call #
Sewer Operations Manager	Dan Ducasse	(951)727-8001	(951)660-6973	dducasse@jcsd.us	(2) Vactor Combo Trucks, (1) Straight Jetter, (1) CCTV Van, SSO Bypass Trailer Hose Reel W/ 4" & 6"Hose lengths with 6" HH trash Pump	(951)685-7434
Sewer Systems Supervisor	Jim Payfer	(951)685-7434	(951)675-8692	jpayfer@jcsd.us		

Appendix D – Mutual Aid Agreement

MUTUAL AID AGREEMENT

THIS AGREEMENT is by and between Inland Empire Utilities Agency and the Regional Contracting Agencies consisting of Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District.

RECITALS

Whereas, Inland Empire Utilities Agency and the Regional Contracting Agencies are public agencies and each has certain equipment and personnel under its management and control; and

Whereas, the equipment and personnel may be available to assist each agency in the event of a disruption which would affect the water service, sewer service or sewage treatment service provided by each agency to its customers; and

Whereas, neither party should be placed in a position of depleting unreasonably its own resources, facilities, or services in providing such mutual aid; and

Whereas, Inland Empire Utilities Agency and the Regional Contracting Agencies desire to cooperate in providing and sharing available equipment upon request of the other agency under the terms of this Agreement.

NOW, THEREFORE, the undersigned parties hereto agree as follows:

1.

a. In the event of any disruption or damage to the ability of either the Inland Empire Utilities Agency or the Regional Contracting Agencies to continue to serve the public or its customers with water service, sewage service or sewage treatment service, the other party will cooperate to a maximum extent possible, as determined in its discretion, to provide mutual aid assistance as requested.

b. Each party's obligation hereunder shall be expressly contingent upon its manpower and equipment availability, as determined by the responding party in its sole and absolute discretion. Each party's response within the jurisdictional limits of the other party may not interfere with the responding party's responsibility or ability to respond to emergencies or other calls within its own jurisdictional area. Each party shall endeavor to notify the other party in advance when it knows that its equipment or manpower will not be available to respond within the jurisdictional limits of the other party.

2. In the context of this Agreement, "natural or man-made disaster" shall mean a situation or set of circumstances in which property damage or personal injury has occurred or is likely

to occur, the occurrence of which will disrupt the services provided by the Inland Empire Utilities Agency and the Regional Contracting Agencies.

3.

a. Each party to this Agreement shall provide the name(s), address(es), telephone number(s), and title(s) of the responsible employee(s) authorized to request or respond to requests for mutual aid assistance on or before thirty (30) days have elapsed from the date of approval of this Agreement by the last party to approve this Agreement. Only employees of each respective party are eligible. No contract workers shall be assigned.

b. The requesting party agrees to pay as allowed by applicable law, all direct, indirect, administrative and contracted costs of assisting the requesting party incurred by the responding party as a result of providing assistance pursuant to this Agreement, based upon responding party's internal rates or charges for material, equipment, and personnel. Payment shall be made within sixty (60) days after receipt of a detailed invoice. The detailed invoice shall include personnel assigned, classification, dates and hours worked, hourly billing rate and equipment used. The requesting party shall not assume any liability for the direct payment of any salary or wages to any officer or employee of the responding party. The rates, charges and costs referenced herein shall be set forth in exhibits 1 through 8 attached hereto and incorporated herein. Said exhibits may be updated from time to time as needed. If the changes in the exhibits are greater than 10 percent of the previously stated rates, the said changes need to be agreed to by the parties.

c. The party requesting assistance shall specify the type and duration of assistance required.

d. The party responding to the request shall designate the person responsible for the direction and supervision of the personnel and equipment provided to the requesting party, and the requesting party shall direct the disposition and utilization of personnel, equipment and materials furnished in response to such request only through the person so designated.

e. The personnel, equipment, and materials furnished in response to the request for mutual aid shall be released by the requesting party when no longer needed or when the responding party requires return or as required by law.

4. The responsible managing employees of each of the parties to this Agreement shall consult with each other at least one (1) time each calendar year to update the equipment and personnel list, and revise any procedures for requesting and obtaining mutual aid assistance. The equipment and personnel list for each party shall be attached to this agreement as Exhibits 1 through 8.

5. It is agreed by the parties hereto that protection, maintenance, and repair of their own systems and facilities will receive priority in responding to any request for mutual aid assistance.

    a. Each party to this Agreement shall maintain in full force and effect workers compensation insurance without cost to the other party which covers the personnel involved in a response to provide mutual assistance, and therefore each party to this Agreement waives all claims against the other for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this Agreement to the extent that such liability is caused by the other party or its employees, directors commissioners, officials, officers, agents, and volunteers. Failure to provide adequate workers compensation insurance by a party shall obligate that party for any and all liabilities that may arise. Each party shall defend, indemnify and hold harmless, pursuant to Section 6 (b) below, the other party with respect to workers' compensation claims filed by their own employees.

    b. The requesting party shall hold harmless, indemnify, and defend the responding party, its elected officials, officers, agents employees, contractors, volunteers and agencies, against all liability, claims, losses, demands or actions for injury to, or death of, a person or persons, or damages to property arising out of, or alleged to arise out of or in consequence of, this Agreement, except to the extent that such liability is caused by the negligence or willful misconduct of the responding party, its elected officials, officers, agents, employees, contractors or volunteers.

    c. The requesting party will pay for any damage to the equipment and material provided by the responding party that occurs during the requested assistance period.

6. No provision of this Agreement and no action taken or personnel, equipment or material furnished pursuant to any such provision shall be construed to make the officer, employee, or agent of either party to this Agreement, the officer, employee or agent of the other party to this Agreement. Furthermore, the parties shall pay all wages, salaries, and other amounts due to their own personnel in connection with any and all services under the Agreement, as well as that which may be required by law. Each party shall be responsible for all reports and obligations respecting their own personnel, including, but not limited to, social security taxes, income tax withholding, unemployment insurance, benefits and workers' compensation insurance. Employees or agents of one party shall not be deemed employees of the other for any purpose.

7. This Agreement shall be effective as of the date all parties have executed the Agreement and shall continue to be in force with respect to all parties signing hereunder, unless terminated by consent of all the parties. Notwithstanding the foregoing, any party may terminate its participation in this agreement upon sixty (60) days written notice of termination to the remaining parties. Termination by any party or parties shall not affect the rights and obligations of any of the remaining parties under this agreement.

8. All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose:

INLAND EMPIRE UTILITIES AGENCY
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91709
Attn: Richard Atwater, CEO/General Manager

CITY OF CHINO
City of Chino
P. O. Box 667
Chino, CA 91708-0667
Attn: Jim Hill, Assistant Director of Public Works/Assistant City Engineer

CITY OF CHINO HILLS
City of Chino Hills
2001 Grand Avenue
Chino Hills, CA 91709
Attn: Mike Maestas, Water and Sewer Manager

CITY OF FONTANA
City of Fontana
16489 Orange Way
Fontana, CA 92335
Attn: Curtis Aaron, Director of Public Services

CITY OF MONTCLAIR
City of Montclair
5111 Benito Street
Montclair, CA 91763
Attn: Marilyn Staats, Director of Redevelopment / Public Works

CITY OF ONTARIO
City of Ontario
1425 South Bon View Avenue
Ontario, California 91761
Attn: Kenneth L. Jeske, Director of Public Works

CITY OF UPLAND
City of Upland
460 North Euclid Avenue
Upland, CA 91786
Attn: Rob Turner, Public Works Director

CUCAMONGA VALLEY WATER DISTRICT
Cucamonga Valley Water District
10440 Ashford Street
Rancho Cucamonga, CA 91730
Attn: Martin E. Zvirbulis, Assistant General Manager / COO

Any notice required to be given hereunder to either party shall be given by personal delivery or by depositing such notice in the US Mail to the address listed with first class postage pre-paid. Such notice shall be deemed made when personally delivered or when mailed. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

9. Inland Empire Utilities Agency and the Regional Contracting Agencies agree that the provisions of this Agreement are not intended to create or clarify any rights in third parties not a party to this Agreement. In addition, no third party shall have the right of action hereunder. This Agreement shall not be enforceable by any parties other than Inland Empire Utilities Agency and the Regional Contracting Agencies.

10. All privileges and immunities of Inland Empire Utilities Agency and the Regional Contracting Agencies provided by state or federal law shall remain in full force and effect.

11. If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party in such litigation shall be entitled to have and recover from the losing party reasonable attorney's fees and all other costs of such action.

12. This Agreement contains the entire Agreement of the parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements. This Agreement may only be modified by a writing signed by both parties.

13. This Agreement shall be governed by the laws of the State of California. Venue shall be in San Bernardino County.

14. This Agreement shall be binding on the successors and assigns of the parties, and shall not be assigned by either party without the prior written consent of the other.

15. This Agreement may be executed in counterparts, each of which shall constitute an original.

16. In the event that any provision or portion of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable for any reason, such provision or portion shall be severable from this Agreement. Such invalidity, legality or unenforceability shall not be construed to have any effect on the validity, legality or enforceability of the remaining provisions or portions of this Agreement.

WHEREFORE, the parties hereto have caused this Agreement to be executed in counterpart as the dates indicated.

INLAND EMPIRE UTILITIES AGENCY

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the Inland Empire Utilities Agency Board of Directors, at a regular meeting thereof held on the 21st day of, April 2004.

John L. Anderson — April 21, 2004
John Anderson — Date
President, Board of Directors

ATTEST:

Richard C. Atwater — April 21, 2004
Richard Atwater — Date
CEO / General Manager

CITY OF CHINO HILLS

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Chino Hills, at a regular meeting thereof held on the 27th day of, January 2004.

Douglas N. LaBelle
City Manager

1/27/04
Date

ATTEST:

Mary McDuffee
City Clerk

02/10/04
Date

CITY OF CHINO

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Chino, at a regular meeting thereof held on the 17th day of, February 2004.

Glen Rojas
City Manager

2-23-04
Date

APPROVED AS TO CONTENT:

Patrick J. Glover, P.E.
Director of Public Works/City Engineer

2.10.04
Date

APPROVED AS TO FORM:

Jimmy L. Gutierrez
City Attorney

Date

ATTEST:

Lenna J. Tanner
City Clerk

2-23-04
Date

CITY OF FONTANA

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Fontana, at a regular meeting thereof held on the _____day of, _____2004.

9A _____ _____
Kenneth R. Hunt
City Manager

Date 3/16/04

ATTEST:

_____ _____
Beatrice Watson
City Clerk

Date

CITY OF MONTCLAIR

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Montclair, at a regular meeting thereof held on the 20th day of, January 2004.

Lee C. McDougal
City Manager

1/26/04
Date

ATTEST:

Donna Jackson
City Clerk

1/26/04
Date

CITY OF ONTARIO

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Ontario, at a regular meeting thereof held on the 3rd day of, February 2004.

Gregory C. Devereaux
City Manager

2/3/04
Date

ATTEST:

City Clerk

2/3/04
Date

CITY OF UPLAND

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Upland, at a regular meeting thereof held on the 12th day of, January 2004.

John V. Pomierski — 1/14/04

John V. Pomierski
Mayor

Date

ATTEST:

Stephanie A. Mendenhall — 1/14/04

Stephanie A. Mendenhall
City Clerk

Date

CUCAMONGA VALLEY WATER DISTRICT

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the Board of Directors of the Cucamonga Valley Water District, at a regular meeting thereof held on the 10th day of, February 2004.

Henry L. Stoy
President, Board of Directors

FEBRUARY 10, 2004
Date

ATTEST:

Robert A. DeLoach
Secretary / General Manager

February 10, 2004
Date

EXHIBIT 1: INLAND EMPIRE UTILITIES AGENCY

TABLE 1: Equipment Rate with Operator Charges

Equipment	Quantity	Hourly Rate
Sterling Vactor / Combination Truck	1	$ 111.62
Ford Vactor/Combination Truck	1	$ 101.62
Camera Van	1	$ 91.62
Water Truck	1	$ 81.62
Truck (1 ton Super Duty)	1	$ 61.62

TABLE 2: Equipment @ Operator Only Charges

Equipment	Quantity	Hourly Rate
Trash Pump, 4"	1	NA
Trailer Mounted Arrow Board	1	NA
Trailer Mounted Pressure Washer	1	NA

Department / Title	Hourly Rate
Environmental Compliance	
Industrial Waste Inspection Supervisor	$ 48.40
Industrial Waste Inspector	$ 44.34
Industrial Waste Technician	$ 34.72
Energy Conservation & Maintenance	
Energy Conservation Administrator	$ 67.02
Senior Plant Maintenance Technician	$ 40.21
Plant Maintenance Technician II	$ 34.75
Plant Maintenance Technician I	$ 26.14

EXHIBIT 2: CITY OF CHINO

Equipment Description *
Pool Car
1/2 Ton Pickup Truck
3/4 Ton Service Truck
1 Ton Pickup Truck
2/3 Yard Dump Truck
5 Yard Dump Truck
10 Yard Dump Truck
2000 Gallon Water Truck
Sewer Vactor Jet Truck
Sewer Jetter Truck
Backhoe
Backhoe Trailer
Hot Patch Asphalt Truck
Case Loader
Asphalt Roller
Plate Compactor
Street Sweeper
Tailored Water Pump
Compressor
Light Tower
Concrete Saw
Arrow Board
Asphalt Paver
Paver Trailer
Sandbagger Machine

Title	Hourly Rate
Maintenance Supervisor	
Grounds Supervisor	$70.20
Streets Supervisor	$78.52
Water Utility Supervisor	$59.83
Maintenance Leadworker	$53.65
Maintenance Worker	$45.13
Environmental Coordinator	$54.53
Environmental Technician	$46.13

* No hourly rate figures for equipment. All equipment costs are factored into the position average hourly rate, and includes salary, benefits and basic operating expenses (which includes all vehicles/equipment associated with each classification) related to that classification.

EXHIBIT 3: CITY OF CHINO HILLS

DESCRIPTION	HOURLY RATE
98 3/4 TON PICK UP	$5.403
00 3/4 TON PICK UP	$5.603
90 DODGE VAN	$4.403
90 FORD HEAVY LEAK TRUCK	$10.714
89 FORD RANGER PICK UP	$3.762
91 CHEVROLET 3/4 TON PICK UP	$5.603
90 CHEVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 3/4 TON SERVICE - 4WD	$5.603
91 CHEVROLET S-10 PICK UP	$4.742
91 CHEVROLET S-10 PICK UP	$4.742
91 CHEVROLET S-10 PICK UP	$4.742
91 CHEVROLET S-10 PICK UP	$4.742
91 CHEVROLET S-10 PICK UP	$4.742
91 FORD EXPLORER - 4WD	$7.551
91 FORD EXPLORER - 4WD	$7.551
92 CHEVROLET BLAZER - 4WD	$7.551
91 CHEVROLET S-10 PICK UP	$4.742
92 GMC 3/4 TON PICK UP	$5.603
76 AMC JEEP - 4WD	$7.321
87 CHEVROLET S-10 BLAZER - 4WD	$7.551
89 CHEVROLET 1 TON SERVICE TRUCK LWB	$5.940
89 CHEVROLET 1 TON SERVICE TRUCK W/LIFT	$5.940
87 FORD RANDER MINI - 4WD	$3.400
87 FORD 1/2 TON PICK UP	$4.742
89 CHEVROLET 3/4 TON SERVICE	$4.573
89 CHEVROLET 3/4 TON SERVICE	$4.573
89 CHEVROLET 3/4 TON SERVICE	$4.842
89 CHEVROLET 3/4 TON SERVICE	$4.842
89 CHEVROLET 1 TON SERVICE BED SWB	$5.940

EXHIBIT 3: CITY OF CHINO HILLS

DESCRIPTION	HOURLY RATE
86 DODGE 50 MINI PICK UP	$4.742
89 CHEVROLET 1 TON STAKE DUMP TRUCK	$4.088
90 CHEVROLET 3/4 TON PICK UP	$4.842
90 CHEVROLET 1/2 TON PICK UP - 4WD	$3.762
89 FORD BRONCO - 4WD	$4.654
89 FORD BRONCO - 4WD	$4.654
86 FORD 1 TON FLATBED W/CRANE	$6.053
86 CEHVROLET 1/2 TON PICK UP	$4.742
90 CHEVROLET 3/4 TON SERVICE TRUCK	$4.842
90 CHEVROLET SERVICE TRUCK	$4.842
88 CHEVROLET 1 TON PICK UP	$5.524
88 CHEVROLET 1 TON PICK UP	$5.524
90 FORD BRONCO - 4WD	$7.551
82 CHEVROLET 3/4 TON PICK UP	$4.842
83 CHEVROLET S-10 PICK UP	$4.742
86 CHEVROLET 1 TON DUMP TRUCK	$4.088
89 CHEVROLET STEP SIDE VAN	$6.871
91 DODGE CARAVAN	$2.991
91 DODGE CARAVAN	$2.991
90 DODGE PASSENGER VAN	$4.403
90 DODGE PASSENGER VAN	$4.403
86 AMZ TRAILER	
NEW VACTOR	$33.948
85 FORD VACTOR	$33.948
88 CHEVROLET TV VAN	$9.661
89 FORD 2 TON BRUSH TRUCK	$9.661
88 GMC 5 YARD DUMP TRUCK	$9.661
91 GMC DUMP TRUCK	$9.661
92 GMC DUMP TRUCK	$9.661
89 LONG PORTA POTTY TRAILER	$1.260
90 ZIEMAN 1150 EQUIPMENT TRAILER	$3.677
90 ZIEMAN 1150 EQUIPMENT TRAILER	$3.677
87 LELAN ELECTRIC EEL WITH TRAILER	

EXHIBIT 3: CITY OF CHINO HILLS

DESCRIPTION	HOURLY RATE
ZIEMAN EQUIPMENT TRAILER	$9.925
ZIEMAN EQUIPMENT TRAILER	$9.925
EMERGENCY WATER TRAILER	$15.019
EMERGENCY WATER TRAILER	$15.019
COMPRESSOR - DIESEL	$9.661
EMERGENCY LIGHT TRAILER - LT155	$6.059
90 LONG PORTA POTTY TRAILER	$1.260
MILLER WELDER	$10.633
91 CASE TRACTOR	$21.743
INTERNATIONAL HARVESTER	$30.366
88 CASE BACKHOE 580K	$31.385
79 CASE BACKHOE 580C	$31.385
NEW HOLLAND LOADER/SWEEPER	$14.776
90 CASE BACKHOE 580K - 4WD	$31.385
6" TRASH PUMP	$6.059
COMPRESSOR - DIESEL	$9.661
GENERATOR	$28.628
GENERATOR	$28.628
CHAMP FORKLIFT	$35.278
EMERGENCY LIGHT TRAILER - LT150	$6.059
ARROW BOARD - 8210	$6.059
ARROW BOARD - 8207	$6.059
90 CANOGA CEMENT MIXER	
KUBOTA TRACTOR	$14.642
BRUSH CHIPPER - DIESEL	$9.989

EXHIBIT 3: CITY OF CHINO HILLS

Department / Title	Regular Hourly Rate	Overtime Hourly Rate
Maintenance & Operations Manager	$54.42	$81.63
Water and Sewer Manager	$54.42	$81.63
Customer Service Supervisor	$37.41	$56.11
Facilities Maintenance Supervisor	$37.41	$56.11
Landscape Contract Supervisor	$38.68	$58.02
Parks and Open Space Supervisor	$38.68	$58.02
Roads Maintenance Supervisor	$37.41	$56.11
Sanitation Supervisor	$37.41	$56.11
Water Distribution Supervisor	$37.41	$56.11
Water Production Supervisor	$37.41	$56.11
Administrative Analyst II	$37.36	$56.04
Administrative Secretary	$29.14	$43.71
Senior Maintenance Worker	$28.71	$43.06
Senior Administrative Clerk	$25.26	$37.89
Secretary	$25.40	$38.10
Maintenance Worker II	$26.29	$39.44
Water Quality Technician	$31.25	$46.88
Maintenance Worker I	$24.10	$36.15

EXHIBIT 4: CITY OF FONTANA

INSERT THE PDF DOCUMENT FOR THE CITY OF FONTANA

EXHIBIT 5: CITY OF MONTCLAIR

Equipment Description	Quantity	Hourly Rate
Sewer Jetter Truck	1	$ 45.00
TV Inspection Truck	1	$ 20.00
Water Truck	1	$15.00
Backhoe	1	$23.00
5-Yard Dump Truck	1	$29.00
¾ ton Pickup Truck	1	$10.00
Confined Space Trailer (includes blower, generator, tripod air system, communication, etc.)	1	$35.00
Trailer Mounted Arrow Board	2	$3.00
Miscellaneous Equipment		
4" Trash Pump w/375 ft. hose	1	$27.00
Concrete Saw	1	$14.00
Welding Trailer	1	$5.00

Department / Title	Persons Available	Billable Hourly Rate	Overtime Billable Hourly Rate
Public Works Superintendent	1	$38.79	$58.19
Assistant Public Works Superintendent	1	$27.48	$41.22
Environmental Control Specialist	2	$22.74	$34.11
NPDES Coordinator	1	$22.34	$33.51
Maintenance Lead Worker	3	$20.15	$30.23
Maintenance Worker	12	$17.49	$26.24
Street Sweeper Operator	2	$18.89	$28.36
Equipment Supervisor	1	$28.12	$42.18
Equipment Mechanic	2	$20.06	$30.09

EXHIBIT 6: CITY OF ONTARIO

Department/Titles	Persons Available	Treatment Grade	Actual Billable Hourly Rate
INSPECTION/INDUSTRIAL WASTE/CROSS-CONNECTION			
Environmental Programs Manager	1	2	$65.96
Water Quality Specialist	2	2	$52.16
Water/Wastewater Tech	1	2	$44.24
Environmental Technician	1	2	$34.42
PRODUCTION DEPARTMENT			
Water Production Specialist	1	3	$52.16
Water Production Operator	3	2	$43.59
OPERATIONS DEPARTMENT		**Distribution Grade**	
Utilities Operations Manager	2	4	$69.81
Utilities Systems Specialist	3	2	$53.59
Tech II	4	2	$43.89
Tech I	8	2	$39.72
Utilities Maintenance Worker II	10	2	$33.97
Utilities Maintenance Worker I	3		$27.08
Number of Employees with welding experience	2		

EXHIBIT 6: CITY OF ONTARIO

Equipment Description	Quantity	Hourly Rate
Backhoe	2	20.02
Crane	1	15.97
Light Tower Trailer	2	2.73
Service Truck (water)	3	12.49
TV Video Van	1	46.28
Vactor / Water Truck (2000 gals)	1	67.28
Valve Exercising Machine Truck Mounted w/ Arrow Board & Vacuum	1	11.15
2" Trash Pump	4	3.03
6" Trash Pump	1	12.91
Miscellaneous Equipment		
Manhole Blowers	3	"
Concrete Saw	2	"
Pipe Locator	5	"

EXHIBIT 8: CUCAMONGA VALLEY WATER DISTRICT

Equipment Description	Quantity	Hourly Rate*
Loader	1	$ 27.66
Crane	1	$15.97
Backhoe	3	$ 20.02
Skiploader	1	$ 13.10
Dump Truck (5cu. Yd.)	2	$ 35.51
Water Truck (2,000 gal)	1	$ 24.52
Crew Truck (multi-purpose)	1	$ 12.49
TV Video Van	1	$ 46.28
Vactor (sewer)	2	$ 67.28
Vactor (water)	1	$ 67.28
Emergency Sewer Van	1	$ 15.53
Air Compressor (trailer mount)	3	$ 7.78
Arc Welder (trailer mount)	1	$ 2.39
Arc Welder (truck mount)	2	$ 4.34
Backhoe Trailer	1	$ 12.04
Light Tower Trailer	1	$ 2.73
Arrow boards (trailer mount)	2	$ 2.86
Valve Exercising Machine (truck mount)	2	$ 12.49
Valve Can Cleanout Trailer	1	$ 11.15
2" Trash Pump	4	$ 3.03
3" Trash Pump	2	$ 5.94
4" Trash Pump	2	$ 11.09
6" Trash Pump (trailer mount w/3000' hose reel)	1	$ 12.91
Miscellaneous Equipment		
Jack Hammers	3	No Charge
Leak Detectors	2	"
Manhole Blowers	1	"
Hot Tap Machine	2	"
Asphalt Tamper	3	"
Pipe Threading Machine	1	"
Portable Pressure Washer	1	"
Pipe Locator	5	"
Hydraulic Pipe Cutter	1	"

* Does not include operator (where applicable)

EXHIBIT 7: CITY OF UPLAND

Equipment Description	Quantity	Hourly Rate
¾ Ton Truck with Utility	1	$ 6.87
Trash Pump	1	$ 1.58
810 Vactor Truck	1	$ 22.57
SRECO Flush Truck	1	$ 18.34

Department / Title	Hourly Rate
Sewer Utility Personnel	$41.71

EXHIBIT 8: CUCAMONGA VALLEY WATER DISTRICT

Department/Titles	Persons Available	Treatment Grade	Actual Billable Hourly Rate	Abated Billable Hourly Rate
INSPECTION/INDUSTRIAL WASTE/CROSS-CONNECTION				
Inspection Superintendent	1			$ 41.88
Construction Inspectors	3			$ 30.86
Industrial Waste Inspectors	3			$ 39.90
Cross-Connection Inspectors	2			$ 31.16
TREATMENT DEPARTMENT				
Water Treatment Plant Superintendent	1	5	3	$ 48.27
Water Treatment Plant Operator	1	4	3	$ 31.03
Water Treatment Plant Operator	8	3	3	$ 31.03
Water Quality Specialist	1	3	3	$ 30.86
PRODUCTION DEPARTMENT				
Water Production Superintendent	1	2	2	$ 39.13
Pump Operators	5	2	2	$ 35.23
Instrumentation Technician	1	2	2	$ 29.37
MAINTENANCE DEPARTMENT				
Construction & Maintenance Superintendent	1	4	3	$ 48.61
Water Maintenance Foreman	1	*	*	$ 35.26
Sewer Maintenance Foreman	1	*	*	$ 25.32
Water / Sewer Maintenance Worker	14	*	*	$ 27.86
Fleet & Equipment Mechanic	2			
Number of Employees with Class A license	11			
Number of Employees with Class A license	15			
Number of Employees with welding experience	5			

* Have Treatment & Distribution Grades ranging from 1 to 3

AMENDMENT ONE TO MUTUAL AID AGREEMENT

THIS AGREEMENT AMENDMENT ONE is by and between Inland Empire Utilities Agency, the Regional Contracting Agencies consisting of Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, Cucamonga Valley Water District, and Jurupa Community Services District, henceforth referred to as "party" or "parties "

RECITALS

Whereas, Inland Empire Utilities Agency, the Regional Contracting Agencies, and Jurupa Community Services District (JCSD) are public agencies and each has certain equipment and personnel under its management and control, and

Whereas, the equipment and personnel may be available to assist each agency and JCSD in the event of a disruption which would affect the water service, sewer service or sewage treatment service provided by each agency and JCSD to its customers, and

Whereas, no party should be placed in a position of depleting unreasonably its own resources, facilities, or services in providing such mutual aid; and

Whereas, Inland Empire Utilities Agency, the Regional Contracting Agencies, and JCSD desire to cooperate in providing and sharing available equipment upon request of the other party under the terms of this Agreement

NOW, THEREFORE, the undersigned parties hereto agree as follows

1

a In the event of any disruption or damage to the ability of either the Inland Empire Utilities Agency, the Regional Contracting Agencies, or JCSD to continue to serve the public or its customers with water service, sewage service or sewage treatment service, the other parties will cooperate to a maximum extent possible, as determined in its discretion, to provide mutual aid assistance as requested.

b Each party's obligation hereunder shall be expressly contingent upon its manpower and equipment availability, as determined by the responding party in its sole and absolute discretion Each party's response within the jurisdictional limits of the other party may not interfere with the responding party's responsibility or ability to respond to emergencies or other calls within its own jurisdictional area
Each party shall endeavor to notify the other party in advance when it knows that its equipment or manpower will not be available to respond within the jurisdictional limits of the other party

2 In the context of this Agreement, "natural or man-made disaster" shall mean a situation or set of circumstances in which property damage or personal injury has occurred or is likely to occur, the occurrence of which will disrupt the services provided by the Inland Empire Utilities Agency, the Regional Contracting Agencies, and JCSD

1

3

a Each party to this Agreement shall provide the name(s), address(es), telephone number(s), and title(s) of the responsible employee(s) authorized to request or respond to requests for mutual aid assistance on or before thirty (30) days have elapsed from the date of approval of this Agreement by the last party to approve this Agreement Only employees of each respective party are eligible No contract workers shall be assigned

b The requesting party agrees to pay as allowed by applicable law, all direct, indirect, administrative and contracted costs of assisting the requesting party incurred by the responding party as a result of providing assistance pursuant to this Agreement, based upon responding party's internal rates or charges for material, equipment, and personnel Payment shall be made within sixty (60) days after receipt of a detailed invoice The detailed invoice shall include personnel assigned, classification, dates and hours worked, hourly billing rate and equipment used
The requesting party shall not assume any liability for the direct payment of any salary or wages to any officer or employee of the responding party

c. The party requesting assistance shall specify the type and duration of assistance required.

d. The party responding to the request shall designate the person responsible for the direction and supervision of the personnel and equipment provided to the requesting party, and the requesting party shall direct the disposition and utilization of personnel, equipment and materials furnished in response to such request only through the person so designated

e The personnel, equipment, and materials furnished in response to the request for mutual aid shall be released by the requesting party when no longer needed or when the responding party requires return or as required by law

4 Should the responsible managing employees change from those listed in Section 3 above, the respective agency shall update the personnel list and provide a copy to each party hereto.

5. It is agreed by the parties hereto that protection, maintenance, and repair of their own systems and facilities will receive priority in responding to any request for mutual aid assistance

a Each party to this Agreement shall maintain in full force and effect workers compensation insurance without cost to the other party which covers the personnel involved in a response to provide mutual assistance, and therefore each party to this Agreement waives all claims against the other for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this Agreement to the extent that such liability is caused by the other party or its employees, directors commissioners, officials, officers, agents, and volunteers. Failure to provide adequate workers compensation insurance by a party shall obligate that party for any and all liabilities that may arise Each party shall defend, indemnify and hold harmless, pursuant to Section 5 (b) below, the other party with respect to workers' compensation claims filed by their own employees

2

b The requesting party shall hold harmless, indemnify, and defend the responding party, its elected officials, officers, agents employees, contractors, volunteers and agencies, against all liability, claims, losses, demands or actions for injury to, or death of, a person or persons, or damages to property arising out of, or alleged to arise out of or in consequence of, this Agreement, except to the extent that such liability is caused by the negligence or willful misconduct of the responding party, its elected officials, officers, agents, employees, contractors or volunteers

c The requesting party will pay for any damage to the equipment and material provided by the responding party that occurs during the requested assistance period, unless such damage is caused by the sole negligence of the responding party

6 No provision of this Agreement and no action taken or personnel, equipment or material furnished pursuant to any such provision shall be construed to make the officer, employee, or agent of either party to this Agreement, the officer, employee or agent of the other party to this Agreement Furthermore, the parties shall pay all wages, salaries, and other amounts due to their own personnel in connection with any and all services under the Agreement, as well as that which may be required by law Each party shall be responsible for all reports and obligations respecting their own personnel, including, but not limited to, social security taxes, income tax withholding, unemployment insurance, benefits and workers' compensation insurance Employees or agents of one party shall not be deemed employees of the other for any purpose

7 This Agreement shall be effective as of the date all parties have executed the Agreement and shall continue to be in force with respect to all parties signing hereunder, unless terminated by consent of all the parties Notwithstanding the foregoing, any party may terminate its participation in this agreement upon sixty (60) days written notice of termination to the remaining parties Termination by any party or parties shall not affect the rights and obligations of any of the remaining parties under this agreement

8 All notices permitted or required under this Agreement shall be given to the respective parties at the following address, or at such other address as the respective parties may provide in writing for this purpose

INLAND EMPIRE UTILITIES AGENCY
Inland Empire Utilities Agency
6075 Kimball Avenue
Chino, CA 91708
Attn· P Joseph Grindstaff, General Manager

CITY OF CHINO
City of Chino
P O Box 667
Chino, CA 91708-0667
Attn Jose Alire, Assistant City Manager/Public Works

CITY OF CHINO HILLS
City of Chino Hills
2001 Grand Avenue
Chino Hills, CA 91709
Attn Nadeem Majaj, Public Works Director

CITY OF FONTANA
City of Fontana
16489 Orange Way
Fontana, CA 92335
Attn. Chuck Hays Director of Public Works

CITY OF MONTCLAIR
City of Montclair
5111 Benito Street
Montclair, CA 91763
Attn Mike Hudson, Public Works Director

CITY OF ONTARIO
City of Ontario
1425 South Bon View Avenue
Ontario, California 91761
Attn Scott Burton, Utilities General Manager

CITY OF UPLAND
City of Upland
460 North Euclid Avenue
Upland, CA 91786
Attn Rosemary Hoerning, Public Works Director

CUCAMONGA VALLEY WATER DISTRICT
Cucamonga Valley Water District
10440 Ashford Street
Rancho Cucamonga, CA 91730
Attn. Martin E Zvirbulis, Board Secretary / General Manager / CEO

JURUPA COMMUNITY SERVICES DISTRICT
Jurupa Community Services District
1201 Harrel Street
Jurupa Valley, CA 91752
Attn: Robert O Tock, Director of Engineering & Operations

Any notice required to be given hereunder to either party shall be given by personal delivery or by depositing such notice in the US Mail to the address listed with first class postage pre-paid Such notice shall be deemed made when personally delivered or when mailed Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service

4

9 Inland Empire Utilities Agency and the Regional Contracting Agencies agree that the provisions of this Agreement are not intended to create or clarify any rights in third parties not a party to this Agreement In addition, no third party shall have the right of action hereunder. This Agreement shall not be enforceable by any parties other than Inland Empire Utilities Agency, the Regional Contracting Agencies, and JCSD

10 All privileges and immunities of Inland Empire Utilities Agency, the Regional Contracting Agencies, and JCSD provided by state or federal law shall remain in full force and effect

11 If a party or parties commences an action against the other party or parties, either legal, administrative or otherwise, arising out of or in connection with this Agreement, the prevailing party or parties in such litigation shall be entitled to have and recover from the losing party or parties reasonable attorney's fees and all other costs of such action

12 This Agreement contains the entire Agreement of the parties with respect to the subject matter hereof, and supersedes all prior negotiations, understandings or agreements This Agreement may only be modified by a writing signed by all parties.

13 This Agreement shall be governed by the laws of the State of California Venue shall be in San Bernardino County

14 This Agreement shall be binding on the successors and assigns of the parties, and shall not be assigned by either party without the prior written consent of the other

15 This Agreement may be executed in counterparts, each of which shall constitute an original

16 In the event that any provision or portion of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal or unenforceable for any reason, such provision or portion shall be severable from this Agreement Such invalidity, legality or unenforceability shall not be construed to have any effect on the validity, legality or enforceability of the remaining provisions or portions of this Agreement

[Balance Of This Page Intentionally Left Blank]

WHEREFORE, the parties hereto have caused this Agreement to be executed in counterpart as the dates indicated

INLAND EMPIRE UTILITIES AGENCY

I HEREBY CERTIFY that the foregoing agreement amendment was duly executed pursuant to authorization by the Inland Empire Utilities Agency Board of Directors, at a regular meeting thereof held on the 15th day of January, 2014

Terry Catlin
President, Board of Directors

01/15/2014
Date

ATTEST:

April Woodruff
Board Secretary/Office Manager

1.15.14
Date

CITY OF CHINO

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Chino, at a regular meeting thereof held on the

17th day of December, 2013

Matthew Ballantyne
City Manager

3.24.14
Date

APPROVED AS TO CONTENT:

Jose Alire
Assistant City Manager/Public Works

3.20.2014
Date

APPROVED AS TO FORM

for Jimmy L Gutierrez
City Attorney

03/19/14
Date

ATTEST:

Angela Robles
City Clerk

3.24.14
Date

CITY OF CHINO HILLS

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by City Council of the City of Chino Hills, at a regular meeting thereof held on the

22nd day of October, 2013

Peter J. Rogers
Mayor

October 22, 2013
Date

ATTEST:

Mary McDuffee
City Clerk

October 22, 2013
Date

CITY OF FONTANA

I **HEREBY CERTIFY** that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Fontana, at a regular meeting thereof held on

the 14th day of January, 2014.

Kenneth R. Hunt
City Manager

Date 1/21/14

ATTEST:

Tonia Lewis
City Clerk

Date 1/21/14

CITY OF MONTCLAIR

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by City Council of the City of Montclair, at a regular meeting thereof held on the

_____ day of _____, _____.

Edward C. Starr
City Manager

2/6/14
Date

ATTEST:

Yvonne Smith
Deputy City Clerk

2.10.14
Date

CITY OF ONTARIO

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Ontario, at a regular meeting thereof held on the 3rd day of December, 2013

Chris Hughes
City Manager

December 3, 2013
Date

ATTEST

Mary E. Wirtes
City Clerk

December 3, 2013
Date

CITY OF UPLAND

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Upland, at a regular meeting thereof held on the

11th day of November, 2013

Ray Musser
Mayor

November 13, 2013
Date

ATTEST.

Stephanie A. Mendenhall
City Clerk

November 13, 2013
Date

CUCAMONGA VALLEY WATER DISTRICT

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the Board of Directors of the Cucamonga Valley Water District. at a regular meeting thereof

held on the 28th day of January, 2014.

Oscar Gonzalez
President, Board of Directors

01-28-14
Date

ATTEST:

Martin E. Zvirbulis
Board Secretary / General Manager / CEO

01-28-14
Date

JURUPA COMMUNITY SERVICES DISTRICT

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the Board of Directors of the Jurupa Community Services District, at a regular meeting thereof held on the 15th day of October, 2013

Robert Craig
Board President

October 15, 2013
Date

ATTEST.

Julie B. Saba
Board Secretary

October 15, 2013
Date

APPROVED AS TO FORM:

Mike Riddell
District Legal Counsel, Best Best & Krieger

10/15/13
Date

CITY OF ONTARIO

I HEREBY CERTIFY that the foregoing agreement was duly executed pursuant to authorization by the City Council of the City of Ontario, at a regular meeting thereof held on the 3rd day of December, 2013.

Chris Hughes
City Manager

December 3, 2013
Date

ATTEST:

for Mary E. Wirtes
City Clerk

Asst. City Clerk December 3, 2013
Date

Appendix E – SSO Field Report Form

SSO Field Report Form

Name _____ Date _____ Work Order #_____ Reviewer's Initials_____

I. **SSO Classifications**

A. Category 1 SSO: Discharges of sewage of any volume that reach surface water and/or reach a drainage channel tributary to a surface water that is not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly.

B. Category 2 SSO: Discharges of sewage greater than 1,000 gallons that does not reach surface water and or drainage channel. If the discharge reaches the storm drain it must be fully recovered and disposed of properly.

C. Category 3 SSO: All other discharges of sewage resulting from a sewer system failure or flow condition.

C. Private Lateral Discharges: Discharges caused by blockages or other problems within a privately owned lateral.

II. **SSO Reporting Requirements**

A. Category 1 Spills of 1,000 gallons or more:

Call Cal OES (800.852.7550) **within 2 hours of knowledge of the spill**. If office is closed, leave detailed message with return phone number. Be prepared to provide the following:

Estimated volume discharged (gallons)
Estimated discharge rate if still going (gpm)
Incident description:
- Brief narrative:
- On-scene point of contact (name & number)
- Start date and time of SSO
- Name of City
- Cause of SSO

Has SSO been contained?
Has surface water been impacted?
SSO location (address, city, state, zip)

B. Category I & 2:

1. Email RWQCB (ktheisen@waterboards.ca.gov) **within 24 hours of knowing of the SSO**, to notify that OES has been notified.
2. Submit Draft Report online in CIWQS **within 3 business days of knowing of the SSO**.
3. Send a written report with photos via regular mail or email to RWQCB **within 5 business days of knowing of the SSO**.
4. Final Report must be certified online in CIWQS **within 15 calendar days of clean-up**.

If Discharge Enters Flood Control Channel Contact S.B. County Flood Control District:
During Office Hours: 909.899.4366. After Hours: 909.356.3805.

C. Category 3: Information on the following pages must be reported online in CIWQS **within 30 days of the last day of the month in which the SSO occurred.**

Physical Location Details: **Page 2 of 4**

Spill Location Name: _____

Latitude of Spill Location: _____

Longitude of Spill Location: _____

Street Number: _____ Street Direction: (N,E,S,W) _____

Street Name: _____

Cross Street: _____

City: Ontario State: CA Zip Code: _____

County: San Bernardino

Spill Location Description: _____

Regional Water Quality Control Board: Region 8 - Santa Ana

Spill Details:

Spill Appearance Point: (Mark all that apply)

☐ Building or Structure ☐ Force Main or Pressure Sewer ☐ Other Sewer System Structure

☐ Gravity Sewer ☐ Manhole ☐ Pump Station ☐ Other (Specify Below)

Spill Appearance Point Explanation: _____

Did the spill discharge to a drainage channel and/or surface water? ☐ Yes ☐ No

Did the spill reach a storm drainpipe? ☐ Yes ☐ No

If spill reached a storm drainpipe, was all of the wastewater fully captured and returned to the sanitary sewer system? ☐ Yes ☐ No ☐ N/A

Private Lateral Spill ☐ Yes ☐ No

Name of Responsible Party (for private lateral spills only, if known): _____

Final Spill Destination (check one): ☐ Basin ☐ Building or Structure

☐ Other Paved Surface ☐ Storm Drain ☐ Street/Curb and Gutter

☐ Surface Water ☐ Unpaved Surface ☐ Other (specify below)

Explanation of Final Spill Destination (if spill destination is "other"): _____

Estimated Spill Volume: _____ Estimated Volume of Spill Recovered: _____

Estimated Current Spill Rate (if applicable): _____

Estimated Spill Start Date/Time: _____

Date and Time Sanitary Sewer System Agency was Notified of or Discovered Spill: _____

Estimated Operator Arrival Date/Time: _____

Estimated Spill End Date/Time: _____

Spill Cause: **Page 3 of 4**

☐ Debris-General ☐ Debris-Rags ☐ Flow exceeded capacity
☐ Grease Deposition (FOG) ☐ Operator Error ☐ Pipe Structural Problem/Failure
☐ Pump Station Failure ☐ Rainfall Exceeded Design ☐ Root Intrusion
☐ Vandalism ☐ Other (specify below)

Spill Cause Explanation (if "Spill Cause" is "Other"): _____

Where did failure occur? (Choose One): ☐ Upper Lateral ☐ Main ☐ Lower Lateral ☐ Other

Explanation of Where Failure Occurred (if "Where did Failure occur" is "Other"): _____

If Spill Caused by Wet Weather, size of storm: _____

Diameter of Sewer Pipe at Point of Blockage or Spill Cause (if applicable): _____

Material of Sewer Pipe at Point of Blockage or Spill Cause (if applicable): _____

Estimated Age of Sewer Pipe at Point of Blockage or Spill Cause (if applicable): _____

Description of Terrain Surrounding Point of Blockage or Spill Cause (if applicable):

☐ Flat ☐ Mixed ☐ Steep

Spill Response Activities (choose all that apply):

☐ Cleaned-up (Mitigated effects of spill) ☐ Inspected sewer using CCTV to determine cause
☐ Contained all or portion of spill ☐ Restored flow
☐ Returned all or portion of spill to sanitary sewer system ☐ Other (specify below)

Explanation of Spill Response Activities: _____

_____

_____

Spill response completion Date and Time: _____

Visual Inspection Results from Impacted Receiving Water: _____

Health Warnings Posted? ☐ Yes ☐ No

Name if impacted surface water(s) (enter NA if not applicable): _____

Is there an ongoing investigation? ☐ Yes ☐ No

Water Quality Samples Analyzed for: (Choose all that apply): **Page 4 of 4**

☐ Dissolved oxygen ☐ Other chemical indicators (specify below)

☐ Biological indicators (specify below) ☐ No water quality samples taken

☐ Not applicable to this spill ☐ Other (specify below)

Explanation of water quality samples analyzed for (if "Water Quality Samples Analyzed for" is "Other chemical indicators", "Biological indicators", or "Other") : _____

Water Quality Samples Reported To (choose all that apply):

☐ County Health Agency ☐ Regional Water Quality Control Board ☐ None of the above

☐ No Water quality samples taken ☐ Not applicable to this spill ☐ Others

Explanation of water quality samples results reported to (if "Water quality samples results reported to" is "others":

_____

Spill Corrective Action Taken (choose all that apply):

☐ Added to preventive maintenance program ☐ Adjusted schedule/method of preventive maintenance

☐ Enforcement action against FOG source ☐ Plan rehabilitation or replacement of sewer

☐ Repaired sewer ☐ Other (specify below)

Explanation of Spill corrective action Taken: _____

_____

_____

Overall Spill Description: _____

_____

_____

Notification Details

Cal OES Control Number: _____

Cal OES Call Time/Date (Required for Category 1 Spill Report): _____

Appendix F - Sewer Pipeline Construction Specifications

BASIC SPECIFICATIONS

SEWER PIPELINE CONSTRUCTION SPECIFICATIONS
(In addition to Green Book Standards)

1.1 Earthwork

1.1.1 General
(Green Book)

1.1.2 Clearing and Grubbing
(Green Book)

1.1.3 Grading Along Pipeline
(Green Book)

1.1.4 Trench Excavation

General
(Green Book)

Limit of Excavation
(Green Book).

Tunneling
Tunneling will be permitted only where native earth is of such firmness that it will remain in its original position, without sloughing off, throughout the work of excavation and backfilling; if sloughing occurs, the roof of the tunnel shall be broken down and the trench excavated as an open trench as herein specified.

Trench Width
The maximum allowable trench width, at the top of the pipe, is the outside diameter of the barrel plus ten (10) inches on either side of the exterior of the pipe barrel. Where the trench width at the top of the pipe is wider than ten (10) inches on either side of the exterior of the pipe barrel, the pipe shall be backfilled from the bottom of the trench to a level one-fourth (1/4) of the diameter above the center of the pipe with Class "B" concrete to form a cradle for the pipe, or with -crushed rock as directed by the City.

1.1.5 Trench and Excavation Shoring
(Green Book)

1.1.6 Pipe Bedding

General
All pipe bedding shall be of the type indicated on the plans and shall be in accordance with the pipe bedding Standard Drawings.

Unstable Material
(Green Book)

Rock
Where rock is encountered, it shall be removed below grade, and the trench backfilled with suitable material to provide a compacted earth cushion with a thickness under the pipe of not less than 1/2 inch per inch of nominal diameter of the pipe to be installed, with a minimum allowable thickness of 6 inches.

1.1.7 Special Crushed Rock Bedding

When groundwater is encountered in the excavation, or when soft, spongy and unstable material is encountered in the bottom of the trench, and when approved by the City, the material in the bottom of the trench shall be removed to a depth directed by the City and replaced with 3/4 inch maximum crushed rock bedding. The crushed rock bedding shall be installed and compacted as shown on the Standard Drawing within these Specifications. The 3/4 inch maximum crushed rock material shall be approved by the City before use. In addition, two (2) slurry cofferdams shall be placed between each manhole as approved by the City.

Crushed rock shall be the product of crushing rock or gravel. Fifty percent of the particles by weight retained on a 3/8-inch sieve shall have their entire surface area composed of faces resulting from fracture due to mechanical crushing. Not over 5% shall be particles that show no faces resulting from crushing. Less than 10% of the particles that pass the 3/8-inch sieve and are retained on the No. 4 sieve shall be waterworn particles. Gravel shall not be added to crushed rock. Crushed rock shall have the following gradation:

Sieve Sizes	Clay Pipe Institute ASTM D 448-67 % Passing
1"	100
3/4"	90-100
3/8"	20-55
No. 4	0-10
No. 8	0-5

1.1.8 Trench Backfill and Compaction Requirements

Pipe Zone
(Green Book)

Procedure Above Pipe Zone
(Green Book)

Compaction Above Pipe Zone
(Green Book)

Compaction Tests
Compaction tests shall be made at intervals not greater than 250', and in addition at least 20% of all service laterals shall be tested. The tests shall be in accordance with the Section herein entitled "Geotechnical Testing" and shall be made at varying depths at each test interval. All trench backfill shall be compacted to City Standards.

It shall be the Contractor's responsibility to advise the City two working days prior to performing compaction tests.

Excess Excavated Material
(Green Book)

Imported Backfill Material
(Green Book)

1.1.9 Geotechnical Testing

The Developer or Contractor shall engage the services of a geotechnical engineering firm or individual licensed in the State of California to monitor soil conditions during earthwork, trenching, bedding, backfill and compaction operations. Sampling and testing procedures shall be performed in accordance with the Reference Standards and as follows:

A. The soils technician shall be present at the site during all backfill and compaction operations. Failure to have the soils technician present will subject such operations to rejection.
B. Density and optimum moisture content of soil shall be determined by the use of the sand cone method, ASTM D 1556, or nuclear density gauge method, ASTM D 2922 & D 3012. Since the composition of the pipe and the walls of the trench have an effect on the nuclear density gauge output, a minimum of 25% of the density and optimum moisture tests shall be made using the sand cone method.
C. Determine laboratory moisture-density relations of existing soil by ASTM D 1557, Method C and/or D (formerly ASTM D 4253 and ASTM D 4254).
D. Determine the relative density of cohesionless soils by ASTM D 1557, Method C and/or D (formerly ASTM D 4253 and ASTM D 4254).
E. Sample backfill material by ASTM D 75.
F. Express "relative compaction" as a percentage of the ratio of the in-place dry density to the laboratory maximum dry density.

A report of all soils tests performed shall be stamped and signed by the soils firm or individual and shall be submitted by the Contractor prior to the filing of the Notice of Completion or acceptance by the City. The report shall document the sampling and testing of materials, the location and results of all tests performed, and shall certify that materials and work are in compliance with this specification.

1.2 Sewer Pipe Installation

1.2.1 General

The Contractor shall furnish and install all sewer pipeline material required for the construction of the sewer and appurtenances as herein specified and shown on the Drawings. All pipeline material shall be installed per manufacturer's published recommendations and per the applicable published standards for the particular material being installed unless otherwise modified herein. In case of any conflict, the most stringent and highest requirement shall govern, and the Contractor shall adhere to said requirement.

1.2.2 Installation of Pipelines

Pipe laying shall proceed up-grade with the spigot ends of bell-and-spigot pipe pointing in the direction of the flow. Each pipe shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe, following manufacturer's instructions for the specific jointing method being used. Any pipe which is not in true alignment or shows any undue settlement after laying shall be taken up and relaid.

Notwithstanding prior factory or yard inspection, the City shall have the right to reject any damaged or defective pipe found on the job which in his opinion will affect the durability of the installation, and the City may order its removal from the work. Pipe shall be accurately laid to alignment and grade shown on the drawings or established by the City. Grade stakes are to be provided to establish the proper pipeline grade, pipe shall be laid to grade within a tolerance of 0.02', or 0.05' cumulative deviation from elevations set at 100' stations.

Standing water or sags will not be allowed and will require reconstruction. It shall be the Contractor's responsibility to prove to the City's satisfaction that sags do not exceed the limit stated. Lines must be replaced if visual measurements and documentation cannot be provided.

Due to unacceptably high operation and maintenance costs and poor system reliability, pipelines with sag depths exceeding ½-inch will be rejected. Reconstruction of the entire length of standing water plus 20 feet on each side of the standing water will be required. Damaged pipe must be removed and not reused

At all times when the work of installing sewer pipeline is not in progress, all openings into the pipe and the ends of the pipe in the trench shall be kept tightly closed to prevent entrance of animals and foreign materials. The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source. The Contractor shall assume full responsibility for any damage due to any cause and shall restore and replace the pipe to its specified condition and grade if it is damaged during construction.

Where sewer lines are placed crossing above existing waterlines, ductile iron pipe with hot dip bituminous coating shall be used 10 feet on each side of the waterline (or suitable concrete encasement in accordance with State Health Department requirements).

1.2.3 Sewer Constructed on Radius

Whenever portions of the proposed sewer construction are to be installed on the radius of a curve, the minimum radius and installation of the pipe shall be in accordance with the manufacturer's recommendations.

1.2.4 Cleaning

Before final acceptance of sewer facilities or prior to putting any sewer into service, all sewer facilities shall be visually checked and all foreign objects, materials or obstructions removed from the facilities. The City shall require that the facilities be cleaned by flushing, balling, rodding or other means so that the materials may be removed from the system.

1.3 Manholes

1.3.1 General

The manholes shall be constructed in accordance with the Standard Drawing, and at the locations shown on the plans. All concrete used in the manholes shall be Class "A" Concrete, unless otherwise indicated herein. (Class A concrete is 4,000 psi.)

1.3.2 Precast Concrete Sections

Precast manhole sections shall conform to the size, shape, form and details shown on the Standard Drawing. The precast cylinder units and precast eccentric top sections shall meet the strength requirements for "Precast Reinforced Concrete Manhole Risers and Tops", ASTM C 478. Each manhole section shall be set in a bed of grout to make a watertight joint and shall be neatly pointed on the inside and shall be set perfectly plumb. Sections of various heights shall be used in order to bring the top of the manhole ring and cover to the elevation shown on the plans.

Precast concrete rings are to be joined with a minimum thickness of one-half inch (1/2") of Portland cement mortar. Mortar for joining ring section shall be composed of not less than one (1) part portland cement to two (2) parts of clean, well-graded sand of such size that all will pass a No. 8 sieve. Mortar sand shall conform to the strength requirements specified for mortar strength under ASTM C-82.

1.3.3 Manhole Bases

Manhole bases shall be constructed of Class "A" concrete poured against native undisturbed material and to the form and dimensions shown on the Standard Drawing. The manhole base shall be poured as one monolithic pour. If the Contractor overexcavates beyond the vertical dimensions shown on the Standard Drawing, the depth of concrete below the invert of the pipe shall be increased to greater than the 9-inch minimum as required to meet undisturbed material.

The manhole stubs and sewer main shall be set before the concrete is placed and shall be rechecked for alignment and grade before the concrete has set. Invert elevations of connecting sewers may vary depending upon sizes. The crown elevation of all pipes shall be the same as the crown elevation of the largest pipe unless otherwise indicated on the plans.

The invert of the manhole base shall be formed so as to provide smooth channels conforming in size and shape to the lower portions of the inlet and outlet pipes. The channel shall vary uniformly in size and shape from inlet to outlet and a shelf shall be constructed higher than the pipe as indicated on the Standard drawing. Concrete shall be poured to a level ring-section seating surface, with the base centered over the sewer intersection unless otherwise specified. A metal forming ring shall be used to form a level joint groove in the manhole base. The groove will receive the first precast section to form a watertight joint.

The manhole base shall set a minimum of 24 hours before the installation of the Precast manhole sections unless otherwise approved by the City. Precast manhole bases will not be allowed.

1.3.4 Manhole Frames and Covers
(Green Book)

1.3.5 Testing of Manholes

Ground Water Conditions – Infiltration Test
(Green Book)

Dry Conditions – Exfiltration Test
(Green Book)

Allowable Leakage
(Green Book)

1.4 Sewer Laterals

1.4.1 General

The sewer laterals shall be constructed as shown on the Standard Drawing. Sewer laterals of the size called for on the plans shall be installed at approximately the locations shown on the plans. The exact location will be determined in the field by the City or private developer. The Contractor shall field reference each lateral connection with a surface marker.

1.4.2 Materials

All sewer laterals shall be constructed of the same material as the sewer main to which it shall be connected; and shall meet the requirements of the section of these specifications entitled "Basic Pipeline Materials Specifications."

1.4.3 Wyes

Wyes shall be of the same material as the sewer main and the longitudinal barrel of the wye shall be of the same size as the sewer main. Wyes of the size called for on the plans shall be installed at approximately the locations shown on the plans. The exact

location will be determined in the field by the City or private developer. A suitable plug shall be provided and installed prior to backfilling operations to ensure a watertight joint.

1.4.4 Construction

All sewer laterals shall be installed per the Standard Drawing. In no case shall any lateral be constructed at less than two percent (2%) slope unless shown on plans. The sewer lateral shall be constructed a minimum distance of five (5) feet horizontally from existing water services.

Unless otherwise approved by the City, any required saddle connections to existing mains shall be made with an approved sewer tapping machine. The Contractor shall submit to the City his proposed method for tapping, including manufacturer's tapping equipment descriptions, etc.

1.5 Tests for Leakage in Sewer

1.5.1 General

The Contractor shall, at his own expense, furnish all materials for making the tests required under the direction of the City.

1.5.2 Air Testing

The Contractor shall test all sewers twice by means of the air test specified in the Green book, unless otherwise directed by the City. A first air test shall occur at the completion of the construction of the sewer lines (backfilled and compacted) and prior to the construction other facilities (water, storm drain, gas, etc.). A second air test will occur after all utilities are completed and prior to paving.

1.5.3 Water Infiltration Test
(Green Book)

1.5.4 Force Main Pressure Test
(Green Book)

1.6 Concrete Work

1.6.1 General

1.6.2 Portland Cement Concrete Classification
(Green Book)

1.7 Connections to Existing Manholes

The Contractor shall make connections to existing manholes at the location and elevation shown on the plans and as verified in the field by the Contractor. Where new flow-through channels have to be cut in the existing manhole base, they shall be cut so that the resulting section is smooth and conforms to the intended shape. Deviation from form and grade shall not be greater than 1/4 inch. The channel surface shall be

smoothed with epoxy mortar. The new V.C.P. sewer shall be firmly embedded in epoxy grout where it joins the existing manhole.

1.8 Temporary Handling of Sewage

Certain work in connection with tying into existing sewers and manholes, may require the temporary handling of sewage either by temporary bypass lines, pumping, bulkheading at low flows, or other means, to be approved by the City. Sewage so diverted shall be handled in a manner such that all sewage shall be contained and properly disposed of so as not to create a public nuisance or health hazard.

Should the Contractor's operation result in fine(s) from other agency jurisdictions or result in the City's need for cleanup assistance, the payment of such fines and City assistance shall be the responsibility of the Contractor.

1.9 Steel Casing
(Green Book)

1.10 Jacked Steel Casing
(Green Book)

1.11 Video Inspection

CCTV inspections on newly constructed sewer mains shall be conducted after all utilities have been installed, backfill compaction has been certified and successful completion of the final leakage test for the sewer, but prior to paving.

The contractor shall notify the City that the pipeline system is ready for video inspection. Said notification shall be made at least three working days in advance of the actual video inspection date. The video inspection will be made by a video inspection company approved by the City and shall be made in the presence of the City Inspector. Prior to the video inspection, the contractor shall be responsible to provide the following items:

A. Clean sewer pipelines free of all dirt, rock, debris, etc.
B. Water source with an adequate amount water, pipe, hose, etc. to place enough water in the pipelines to evaluate pipeline alignment "SAGS".
C. Driveable truck access to each manhole within the system to be videoed.
D. Provide all traffic control methods required.

Should any of the aforementioned items not be in compliance by the time the video inspection is to occur, the contractor shall be subject to compensating the City for all costs incurred.

Upon completion of the video taping of the subject sewerlines, the video inspection company will provide the City with the color DVD data disk and a written report detailing the condition of the interior of the mainline and joints. Subsequent to review of the video and report by the City, the City will notify the Contractor within 7 days that they may then proceed with completion of the project; or the City will provide a list of corrective measures that must occur prior to acceptance.

Should remedial activities be necessary, the reconstruction methodology shall be approved by the City prior to commencement of the work. Upon completion of the remedial construction, the contractor shall once again notify the City that the sewerlines are ready for a video inspection. The City reserves the right to re-video any portions of the sewer system they determine may have been affected by the reconstruction work activities. Further, all related costs including but not limited to reconstruction materials, labor, equipment, video inspection, District and other agency inspection, and administrative costs shall be borne by the contractor.

VIDEO INSPECTION COMPANY REQUIREMENTS
(Closed Circuit Television Inspection - CCTV)

1. Rotating lens camera with articulating head.
2. Scanning capabilities of 360°.
3. Operative in 100% humidity conditions.
4. Lighting for the camera shall minimize reflective glare.
5. Lighting and camera quality shall be suitable to provide clear, in focus picture of the entire periphery of the pipe for all conditions.
6. Camera focal distance shall be adjustable through a range from 6" to infinity.
7. Remote reading distance (footage) counter shall be accurate to one percent (1%) over the length of the particular section being inspected.
8. The camera, television monitor, and other components of the color video system shall be capable of producing a minimum of 350 line resolution.
9. Documentation consisting of a DVD data disk and a written report detailing the condition of the mainline and joints shall be submitted to the City inspector immediately following the video inspection.

Appendix G - Water and Sewer Design Development Guidelines and Specifications

Table of Contents

1.0 Water System Design Criteria

1.1 General

Water system improvements proposed for inclusion into the City shall be designed in accordance with the criteria set forth herein, unless otherwise approved in writing by the City.

The design shall take into consideration physical conditions known to exist at the time and place of each installation and the probable operating requirements. Where such conditions render sections of these Specifications inapplicable, alternate methods of design may be submitted to the City, and upon approval thereof, may be incorporated in the plan.

1.2 General Layout

The system shall be designed as a circulating grid with at least three (3) main line valves at each four way intersection. Tee's shall be designed with at least two (2) main line valves.

Each line shall be valved so that any segment not exceeding one block (1000 + feet) or two fire hydrants of the system may be isolated from service.

Permanent dead ends over 300 feet in length, at the option of the City, shall have circulating ties on twenty feet easements through side lot lines.

Dead end mains shall be provided with means of flushing with a blow-off or fire hydrant.

Pipelines 8-inches and smaller shall be installed with a minimum of 42-inches of cover between the top of the pipe and the finished grade. Pipelines 12-inches or greater shall be installed with a minimum of 48-inches from the top of the pipe to the finished grade.

1.3 System Demand Criteria

System demand criteria shall be in accordance with the City of Ontario Public Works Agency Report "POTABLE AND RECYCLED WATER GUIDELINES FOR THE PREPARATION AND REVIEW OF HYDRAULIC ANALYSIS FOR NEW DEVELOPMENTS IN THE CITY OF ONTARIO UPDATED DECEMBER 1, 2005".

1.4 Pipe Sizing Criteria

The standard water mainlines sizes allowed in the City shall be 8-inch, 12-inch, 16-inch, 18-inch, 24-inch, 30-inch, 36-inch and 42-inch in diameter.

Pipeline velocities shall not exceed 10 feet per second during peak hourly domestic flow. Use a "C" value of 120 in the Hazen-Williams formula for flow computations utilizing CML/CMC or DI pipe. A "C" value of 150 shall be used for PVC pipe.

The City reserves the right to require 12-inch diameter minimum size pipelines in residential areas, with no incremental pipeline diameter upsizing cost to the City, when necessary, as determined by the City.

Whenever possible, pipelines shall be looped to provide dual direction supply and system flexibility.

In commercial and industrial areas, the standard minimum pipe size shall be 12-inch diameter.

The City may require pipe sizing in excess of the minimum size as determined by the design criteria herein when the facilities being constructed will serve, or may be extended to serve, additional lands.

Services and meters shall be sized in accordance with the provisions of Section 1009 of the Uniform Plumbing code, using minimum pressure expected in the system. Minimum service pipe diameter and meter size shall be: 1" line and 5/8" x 3/4" meter.

1.5 Pipeline Materials

Per the Water Pipeline Material Specification and Approved Material List.

1.6 Potable Pipeline Location

Potable water lines shall be located on south side or east side of the street and out of the main traveled lanes of the road where possible. Locate 8 feet from curb face or berm. Location is not to interfere with other existing utilities.

Installation of potable water lines adjacent to existing or proposed sewer lines, recycle water lines, and storm drain lines shall be in accordance with Department of Health Services regulations, or City requirements; whichever is greater. Generally, always cross above sewer lines and recycle water lines, preferably with a minimum clearance of 1 foot, and parallel at least 10 feet (O.D. to O.D.) away from sewer lines.

When minimum cover cannot be provided, concrete encasement or protective slab construction over the pipeline may be substituted. Consult with City staff as it would require special approval.

City will require pipeline looping whenever possible. Dead end mains are undesirable.

1.7 Valves

Small mains (12-inch and less). Full line size gate valves 12-inches and less in diameter shall be resilient seat gate valves. All gate valves shall be ductile-iron, epoxy coated and lined in accordance with AWWA C509.

Large mains (16-inch and greater). Full line size butterfly valves 16-inches in diameter and larger shall be epoxy lined and coated ductile-iron flanged butterfly valves. All butterfly valves shall be Class 150B in accordance with AWWA C504.

Valves shall be located on discharge side of pipe connections; minimum 3 at crosses, 2 at tees and always at beginning of dead end mains. City may require additional valving on critical sections or where proposed valving requires closing more than 3 valves to isolate a section of pipeline. Maximum spacing for mainline valves shall not exceed 1000 feet or as directed by the City.

Isolation valves shall be flanged to the tee or cross within the street intersection. All isolation valves shall be direct buried (no vaults are required).

1.8 Backflow Prevention

Backflow prevention device shall be required on domestic water service connections and irrigation water service connections on all industrial or commercial buildings.

Backflow prevention device shall be required on domestic water service connections where recycle water is used on the property.

Backflow prevention device shall be required on domestic service connections where water from other sources may become cross-connected to other water supplies or sources as determined by the City, an approved backflow prevention device is required by Title 17, Drinking Water Supplies, of the California Administrative code, and shall be installed in accordance with City requirements.

All materials, installation, and testing shall be in accordance with City of Ontario Municipal Code, Title 6 Sanitation and Health, Chapter 8B Water Services, Section 6-8.57 Water Quality Control. The water meter shall not be installed until an approved backflow prevention device is installed.

1.9 Pressure Reducing Station

Where required by the City, pressure reducing station shall be individually designed specifically for each installation, subject to City review and approval of design and materials.

1.10 Fire Service Installations

Where fire service installations are necessary, the minimum construction requirement shall be in accordance with City Standards.

1.11 Corrosive Soil Design

Where pipelines are to be constructed in known or likely corrosive soil conditions, cathodic test stations shall be provided in accordance with City requirements and standards at the locations determined by the City. The City, at its option, may also require cathodic test stations for its transmission mains and major pipelines, regardless of existing soil conditions.

In order to determine whether or not unfavorable soil conditions exist, the City may request that soil boring samples and laboratory analysis be provided as part of the project. The analysis shall include an evaluation of PH, Redox, Sulfide, Resistivity and Sulfate.

Under certain circumstances, the City may require special pipe installation procedures or types of pipe, including special protective coatings for pipe and fittings.

All test stations shall be installed behind existing or proposed curbs to allow safe access for personnel during testing. Test boxes shall be from City approved manufacturers list. Test stations shall be installed at 1000 foot intervals or as directed by the City.

1.12 Water Sampling Stations

Where water sampling stations are required, as determined by the City, the stations shall be constructed in accordance with City Standards.

1.13 Service Installations

All services shall be constructed in accordance with the applicable City Standard Drawings. Services shall not be connected to 18-inch or larger mains unless specifically permitted by the City. In addition to a domestic water service meter, all commercial/industrial projects shall be required to provide a separate landscape irrigation meter, in conformance with City Standards.

1.14 Fire Hydrants

All fire hydrants shall be installed at 300-foot intervals with the exception of fire hydrants located on arterial roads, which will be spaced at 500-foot intervals on alternate sides of the roadway (1000 feet separation same side). Fire hydrants shall be installed with a minimum separation of 5-feet from any driveway, street light, power pole, sign, fence, walls, etc.

Fire hydrants shall be installed 12-inches behind sidewalk when sidewalk is adjacent to curb and 20-inches behind curb face when sidewalk is not adjacent to curb. All fire hydrants piping shall be same as main and installed with a break-off check valve.

1.15 Blow-Offs

Appropriately sized blow-offs shall be located at all low points along the pipeline alignment and at all "dead end" locations. Additionally, for all pipelines 16-inches in diameter and greater, a blow-off shall be located on the upstream side of all mainline valves. All blow-offs shall be constructed to City Standards.

Blow-offs should be located as near to storm drain catch basins whenever possible. On arterial streets blow-offs are to be placed prior to the curb radius with service line perpendicular with mainline.

The size of the blow-off shall be based on the mainline pipe diameter as follows:

Main Size	Blow-Off Size
12-inch to 16-inch	4-inch
18-inch to 24-inch	6-inch
Greater than 24 inch	8-inch

1.16 Combination Air/Vacuum Release Valves

Appropriately sized air vacuum release valves shall be located at all high points along the pipeline alignment and at all "dead ends" that occur at a high point. Additionally, for all pipelines 16-inches in diameter and greater, an air vac valve shall be located on the downstream side of all mainline valves. On arterial streets air vac valves are to be placed prior to the curb radius with service line perpendicular with mainline. All air vac's shall be constructed per City Standards.

The size of the air vac's shall be based using the APCO APSLIDE Model or engineering calculations.

1.17 Temporary End of Line Appurtenances

A 4-inch blow off shall be installed at the end of each segment of pipeline that is installed for future use. If the section of pipe is installed creating a high point an air vac will be required.

1.18 Tracer Wire

Tracer wire shall be installed on all PVC waterlines for the purpose of providing a continuous signal path used to determine pipe alignment after installation. Locator wire shall be brought to

the surface at all appurtenances (i.e. fire hydrants, water services, air valves, blow-offs, etc.), thus providing continuous "looping" between the appurtenances and the water main.

1.19 Ductile Iron Fittings for PVC

All fittings for use with PVC C900 pipe shall be cast-iron outside diameter (C.I.O.D.) push-on or mechanical joint fittings with the exception of fittings with valves which shall be push-on or mechanical joint by flange. Ductile iron fittings shall be classified as "compact ductile iron fittings" and shall be produced in strict accordance with ANSI/AWWA A21.53/C153. Unless otherwise specified, the interior of the ductile iron fitting shall be lined with a uniform thickness of cement mortar "double thickness" then sealed with a bituminous coating in accordance with AWWA C 104. The outside surfaces of the DIP fittings shall be coated with a bituminous coating in accordance with ANSI A21.6 or ANSI A21.51.

All ductile iron fittings shall be polyethylene encased at the time of installation. Polyethylene encasement and installation shall be accordance with AWWA C105.

1.20 Restrained System

Restrained joints shall be utilized for thrust restraint on all pipelines per City Standards. The acceptable method of restraint for PVC would be Uni-flange or Mega-lug type restraints, field-lock gaskets or TR-Flex joints for DIP and welded joints for CML&CMC steel pipe.

All restraint devices for shall have a water working pressure rating equivalent to the full rated pressure of the pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. Restraining devices shall provide full (360 degree) support around the circumference of the pipe.

Length of pipe to be restrained on each side of bends, tees, reducers and other fittings shall be determined by the Private Engineer or manufacturer of the restraint device in accordance with City Standards.

2.0 Recycle Water System Design Criteria

2.1 Off-Site Recycled Water System

2.1.1 General

The City of Ontario (City) recycled water program is supervised by the California Department of Health Services. As set forth in the City of Ontario Municipal Code, Title 6 Sanitation and Health, Chapter 8C Recycle Water Use. The City shall determine whether a given service will be furnished with recycled water or potable water. The determination shall be in accordance with the standards of treatment and water quality requirements set forth in Title 22, Chapter 4 of the California Administrative Code, with the intent of the City to work in conjunction with the health agencies to protect the public health, and with the availability and/or feasibility of making available recycled water facilities. All on-site facilities using recycled water will have a cross connection test every four years unless otherwise approved by the state based on a case by case basis. However, in unusual circumstances, the cross connection test could be required on an annual basis. All inspections and any cross connection found are reportable to California Department of Health Services.

All potential uses of recycled water, including, but not limited to, uses for landscape irrigation systems, agricultural irrigation systems, systems used for industrial process or construction purposes, or recreational impoundment systems shall be reviewed by the City. If recycled water is to be used, the facilities shall be constructed in accordance with the procedures and requirements set forth below.

2.1.2 General Layout

A. The tertiary treated recycled water lines shall be constructed in accordance with the color-coding, and labeling requirements per Section 116815, California Health and Safety Code of Regulations. All pipeline material used in the recycle water system shall be purple in color or installed with a purple polyethylene sleeve at the time of installation.

B. The system shall be designed as a circulating grid with at least three (3) main line valves at each four way intersection. Tee's shall be designed with at least two (2) main line valves.

C. Recycled water facilities shall typically be located 8-feet from the curb face on the opposite side of the street from the potable water

D. Each line shall be valved so that any segment does not exceed 2000 feet.

E. Dead end mains shall be provided with means of flushing with a blow-off.

F. Pipelines 8-inches and smaller shall be installed with a minimum of 54-inches of cover between the top of the pipe and the finished grade.

G. Pipelines 12-inches or greater shall be installed with a minimum of 60-inches from the top of the pipe to the finished grade. Recycle water pipes shall be installed at a depth greater than the potable waterlines.

2.1.3 SYSTEM DEMAND CRITERIA

System demand criteria shall be in accordance with the City of Ontario Public Works Agency Report "POTABLE AND RECYCLED WATER GUIDELINES FOR THE PREPARATION AND REVIEW OF HYDRAULIC ANALYSIS FOR NEW DEVELOPMENTS IN THE CITY OF ONTARIO UPDATED DECEMBER 1, 2005".

2.1.4 Pipe Sizing

The standard recycle water mainlines sizes allowed in the City shall be 8-inch, 12-inch, 16-inch, 24-inch, 30-inch and 36-inch in diameter. For recycled water, the minimum pipeline size in arterial streets of new development is 8-inch diameter. Smaller diameter pipeline will be considered in collector streets on a case-by-case basis by the City. These mains shall be sized so that sufficient water is regularly drawn to prevent stagnation

Whenever possible, pipelines shall be looped to provide dual direction supply and system flexibility. The City may require pipe sizing in excess of the minimum size as determined by the design criteria herein when the facilities being constructed will serve, or may be extended to serve, additional lands.

2.1.5 Pipeline Materials

Per the Water Pipeline Material Specification and Approved Material List.

2.1.6 Recycle Pipeline Location

Recycle water lines shall be located on the opposite side of the street from the potable waterlines and out of the main traveled lanes of the road where possible. Locate 8 feet from curb face or berm. Location is not to interfere with other existing utilities.

Separation Between Water, Sewer, and Recycled Water Lines

Installation of recycle water lines adjacent to existing or proposed sewer lines, recycle water lines, and storm drain lines shall be in accordance with Department of Health Services regulations, or City requirements; whichever is greater.

The basic separation criteria for water mains and pipelines conveying tertiary treated recycled water or storm drainage lines are a 4-foot horizontal separation where lines are running parallel and a 1-foor vertical separation (water line above recycled or storm drainage) where the lines cross each other. Generally, always cross above sewer lines with the recycle water lines, preferably with a minimum clearance of 1 foot, and parallel at least 10 feet (O.D. to O.D.) away from sewer lines.

2.1.7 Valves

Small mains (12-inch and less). Full line size gate valves 12 inches and less in diameter shall be resilient seat gate valves. All gate valves shall be ductile-iron, epoxy coated and lined in accordance with AWWA C509.

Large mains (16-inch and greater). Full line size butterfly valves 16 inches in diameter and larger shall be epoxy lined and coated ductile-iron flanged butterfly valves. All butterfly valves shall be Class 150B in accordance with AWWA C504.

Valves shall be located on discharge side of pipe connections; minimum 3 at crosses, 2 at tees and always at beginning of dead end mains. City may require additional valving on critical sections or where proposed valving requires closing more than 3 valves to isolate a section of pipeline. Maximum spacing for mainline valves shall not exceed 2000 feet or as directed by the City.

Isolation valves shall be flanged to the tee or cross within the street intersection. All isolation valves shall be direct buried (no vaults are required).

2.1.8 Backflow Prevention

Backflow prevention devices will not be required on the on-site recycled water facilities using recycled water. However, in accordance with the section on water backflow prevention in the City's Rules and Regulations, "backflow protection devices may be required of the developer's, owner's, or customer's potable water service."

2.1.9 Pressure Reducing Station

Where required by the City, pressure reducing station shall be individually designed specifically for each installation, subject to City review and approval of design and materials.

2.1.10 Corrosive Soil Design

Where pipelines are to be constructed in known or likely corrosive soil conditions, cathodic test stations shall be provided in accordance with City requirements and standards at the locations determined by the City. The City, at its option, may also require cathodic test stations for its transmission mains and major pipelines, regardless of existing soil conditions.

In order to determine whether or not unfavorable soil conditions exist, the City may request that soil boring samples and laboratory analysis be provided as part of the project. The analysis shall include an evaluation of PH, Redox, Sulfide, Resistivity and Sulfate.

Under certain circumstances, the City may require special pipe installation procedures or types of pipe, including special protective coatings for pipe and fittings.

All test stations shall be installed behind existing or proposed curbs to allow safe access for personnel during testing. Test boxes shall be from City approved manufacturers list. Test stations shall be installed at 1000 foot intervals or as directed by the City.

2.1.11 Service Installations

All services shall be constructed in accordance with the applicable City Standard Drawings. Services shall not be connected to 18-inch or larger mains unless specifically permitted by the City.

2.1.12 Blow-Offs

Appropriately sized blow-offs shall be located at all low points along the pipeline alignment and at all "dead end" locations. Additionally, for all pipelines 16-inches in diameter and greater, a blow-off shall be located on the upstream side of all mainline valves. All blow-offs shall be constructed to City Standards.

Blow-offs should be located as near to storm drain catch basins whenever possible. On arterial streets blow-offs are to be placed prior to the curb radius with service line perpendicular with mainline.

The size of the blow-off shall be based on the mainline pipe diameter as follows:

Main Size	Blow-Off Size
12-inch to 16-inch	4-inch
18-inch to 24-inch	6-inch
Greater than 24 inch	8-inch

2.1.13 Combination Air/Vacuum Release Valves

Appropriately sized air vacuum release valves shall be located at all high points along the pipeline alignment and at all "dead ends" that occur at a high point. Additionally, for all pipelines 16" in diameter and greater, an air vac valve shall be located on the downstream side of all mainline valves. On arterial streets air vac valves are to be placed prior to the curb radius with service line perpendicular with mainline. All air vac's shall be constructed per City Standards.

The size of the air vac's shall be based using the APCO APSLIDE Model or engineering calculations.

2.1.14 Temporary End of Line Appurtenances

A 4-inch blow off shall be installed at the end of each segment of pipeline that is installed for future use. If the section of pipe is installed creating a high point an air vac will also be required.

2.1.15 Tracer Wire

Tracer wire shall be installed on all PVC waterlines for the purpose of providing a continuous signal path used to determine pipe alignment after installation. Locator wire shall be brought to the surface at all appurtenances (i.e. fire hydrants, water services, air valves, blow-offs, etc.), thus providing continuous "looping" between the appurtenances and the water main.

2.1.16 Ductile Iron Fittings for PVC

All fittings for use with PVC C900 pipe shall be cast-iron outside diameter (C.I.O.D.) push-on or mechanical joint fittings with the exception of fittings with valves which shall be push-on or mechanical joint by flange. Ductile iron fittings shall be classified as "compact ductile iron fittings" and shall be produced in strict accordance with ANSI/AWWA A21.53/C153. Unless otherwise specified, the interior of the ductile iron fitting shall be lined with a uniform thickness of cement mortar "double thickness" then sealed with a bituminous coating in accordance with AWWA C104. The outside surfaces of the DIP fittings shall be coated with a bituminous coating in accordance with ANSI A21.6 or ANSI A21.51.

All ductile iron fittings shall be polyethylene encased at the time of installation. Polyethylene encasement and installation shall be accordance with ANSI/AWWA C105.

2.1.17 Restrained System

Restrained joints shall be utilized for thrust restraint on all pipelines per City Standards. The acceptable method of restraint for PVC would be Uni-flange or Mega-lug type restraints, field-lock gaskets or TR-Flex joints for DIP and welded joints for CML&CMC steel pipe.

All restraint devices shall have a water working pressure rating equivalent to the full rated pressure of the pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. Restraining devices shall provide full (360 degree) support around the circumference of the pipe.

Length of pipe to be restrained on each side of bends, tees, reducers and other fittings shall be determined by the Private Engineer or manufacturer of the restraint device in accordance with City Standards.

2.2 On-site Recycled Water Facilities

2.2.1 General

Design of all on-site facilities including, but not limited to, landscape irrigation systems, agricultural irrigation systems, systems used for industrial process, construction purposes, or recreational impoundment systems shall conform to the provisions set forth herein and to any conditions, standards, and requirements set forth by the City in addition to these standard specifications.

2.2.2 Design of Recycled Water Facilities with Temporary Potable Water Service

Before design, the developer should obtain the following from the City:

A. Approval to use recycled water for the proposed system, as stated in the previous section.

B. Verification of locations and size of proposed points of connection (meter facilities).

C. Design pressures for the proposed facilities.

Where recycled water is not immediately available for use when the design area is ready for construction, and if the City has determined that recycled water will be supplied in the future, the on-site facilities shall be designated to use recycled water. The on-site system shall be designed and constructed to the City's construction specifications as set forth herein. Provisions shall be made as directed by the City and these specifications followed to allow for connection to the recycled water facilities when they become available. In the interim, potable water will be supplied to the recycled water facilities through a temporary potable water connection. Until recycled water is available, potable water rates will be charged as set forth in the City of Ontario Municipal Code Title 6 Sanitation and Health, Chapter 8B Water Service.

A backflow prevention device acceptable to the Health Department and the City will be required as long as the on-site facilities area uses potable water. The backflow prevention device shall be downstream of the meter and a part of the on-site facilities. When recycled water becomes available, the backflow prevention device will be removed by the owner and the on-site facility reconnected to the meter.

2.2.3 Backflow Prevention Devices and Signage

Backflow prevention devices will not be required on the on-site recycled water facilities using recycled water. However, in accordance with the section on water backflow prevention in the City's Municipal Code Title 6 Sanitation and Health, Chapter 8B Water Service, backflow protection devices shall be required of the developer's, owner's, or customer's potable water service." All new common areas where recycled water is used and that are accessible to the

general public shall be posted with conspicuous signs that include the flowing wording in a size no less than 4 inches high by 8 inches wide: "RECYCLED WATER DO NOT DRINK "or "RECLAIMED WATER DO NOT DRINK ". Each sign shall also display an international symbol conveying the same warning.

2.2.4 Prohibitions and Limitations

Design of on-site recycled water facilities shall conform to the following:

A. The recycled water system shall be separate and independent of any potable water system. Cross connections between potable water facilities and on-site recycled water facilities are prohibited.

B. Hose bibs on recycled water facilities are prohibited.

C. Drinking fountains shall be protected from the spray of recycled water in a manner approved by the City Engineer, prior to installation.

D. Overspray and runoff shall be limited or prevented.

E. Potable and recycled lines are not to be installed in the same trench.

F. Recycled water shall not be used for any purpose other than the approved uses as set forth herein.

G. The system shall be designed to irrigate the design area within the allowable time periods as set forth herein.

H. On-site looped meters are prohibited.

2.2.5 Control of Runoff and Application Areas

The City encourages new and innovative methods of irrigation. The use of drip or subsurface irrigation may prove effective in the reduction of total water consumption and control of unnecessary runoff by containment of the water to the design area.

In accordance with the requirements of the City's Rules and Regulations for control of runoff and for control of the areas to which recycled water is applied, the design of irrigation systems shall conform to the following:

A. The on-site recycled water facilities shall be designed to meet the peak moisture demand of all plant materials used within the design area. The use of moisture sensors is encouraged, but not mandatory.

B. On-site recycled water facilities shall be designed to prevent discharge onto areas not under control of the customer. Part circle sprinklers shall be used adjacent to roadways and property lines to confine the discharge from sprinklers to the design area.

C. The design of the on-site recycled water irrigation facilities shall provide for watering during the periods of minimal use of the service area. This is typically between the hours of 9 p.m. and 6 a.m., or as directed by the City Engineer. Consideration shall be given to allow a maximum dry out time before the design area will be used by the public.

D. The total time required to irrigate the design area shall not exceed 9 hours in any 24-hour period. Irrigation systems shall be designed to operate within this time requirement.

E. Recycled water shall be applied at a rate that does not exceed the infiltration rate of the soil. Where varying soil types are present, the design of the recycled water facilities shall be compatible with the lowest infiltration rate present. Copies of the developer's soils test reports shall be made available to the City upon request.

2.2.6 Minimum Depth to Top of On-Site Recycled Water Piping

For on-site recycled water piping, the minimum depth from finished grade to top of pipe (minimum cover) shall be as follows:

A. Constant pressure lines 3 inches and larger: 24"

B. Constant pressure lines 2-1/2 inches and smaller: 18"

C. Intermittent pressure lines: 12"

Where piping is under paved areas, these dimensions shall be considered below subgrade.

2.2.7 Data Required on Plans

A. Meter Data - The following information shall be supplied for each recycled water meter desired; information is to be provided and shown at each meter location.

1. The meter location and size (inches); meter address.
2. The peak flow through the meter (gpm).
3. The (static) design pressure at the meter (psi).
4. The total area served through the irrigation meter in square feet or acres.
5. An estimate of the yearly water requirement through the meter (acre-feet).

B. Drinking Fountains – Exterior drinking fountains must be shown and called out on the recycled water system plans. If no exterior drinking fountains are present in the design area, it must be specifically stated on the plans that none exist. The potable water line supplying the drinking fountain must have a warning tape installed as provided in Section 5.10.8 herein and shall be so stated on the plans. Drinking fountains must be protected from the direct spray of recycled water either by proper placement of the drinking fountain within the design area or the use of a covered fountain approved for this purpose.

C. Irrigation Equipment Legend – For irrigation systems, a legend showing the pertinent data for the materials used in the system shall be recorded on the plans. The legend shall include a pipe schedule listing pipe sizes and materials of construction, a listing of valve types including quick-coupling valves, and the following information for each type of sprinkler head:

1. Manufacturer and model number.
2. Sprinkler radius (feet).
3. Operating pressure (psi).
4. Flow (gpm).
5. Sprinkler pattern

3.0 Sewer System Design Criteria

3.1 General

Sewer system improvements proposed for inclusion into the City's shall be designed in accordance with the criteria set forth herein, unless otherwise approved in writing by the City.

The design shall take into consideration physical conditions known to exist at the time and place of each installation and the probable operating requirements. Where such conditions render sections of these Specifications inapplicable, alternate methods of design may be submitted to the City, and upon approval thereof, may be incorporated in the Plan.

3.2 Unit Flow Factors

System design criteria and flow factors shall be in accordance with the City of Ontario Public Works Agency Report "SEWER SYSTEM DESIGN GUIDELINES FOR THE PREPARATION AND REVIEW OF SEWER ANALYSIS FOR NEW DEVELOPMENTS IN THE CITY OF ONTARIO UPDATED DECEMBER 27, 2005"

3.3 Locations of Mains

In local residential and industrial streets, sewer mains are to be located six (6) feet from the centerline of the street in the center of the driving lane. In major, primary, and secondary highways, the sewer mains will be located in the center of the driving lane nearest to the center of the street, but will not be located in the median strip or parking lanes. On curved streets, sewer mains shall be parallel with the centerline of the street by use of horizontal curves for the alignment, unless approved by the City Engineer.

Horizontal curves are allowed on all pipe sizes 8" and larger, but are not encouraged except where necessary to maintain the required clearance from water pipelines. The minimum curve radius for sewers shall conform to the manufacturer's minimum recommendations. No reverse curves shall be allowed between manholes. No vertical curves shall be allowed.

Sewer main lines shall have a minimum cover over pipe which should be sufficient to service adjacent property by gravity, and cover shall not be less than 7.5' to finish grade of street, unless otherwise approved by City. In addition, sewer mains must be sufficiently deep in subdivisions to allow water lines to be set with 4' min. cover without interference from sewer laterals.

Sewer installation shall provide a minimum clearance of 50 feet from all potable, non-potable, and water quality monitoring wells.

3.4 Pipe Sizing

The standard sewer mainlines sizes allowed in the City shall be 8-inch, 10-inch, 12-inch, 15-inch, 18-inch, 21-inch, 24-inch, and 27-inch in diameter.

3.5 Pipe Material

Per the Sewer Pipeline Material Specification and Approved Material List.

3.6 Manholes

Manholes are required at the end of each line, change in grade or size, change in alignment or intersection of two or more sewer mains. Manholes shall be spaced at a maximum distance of 350-feet, unless otherwise approved by City. Manholes shall be located at or near all BC's, EC's, PRC's and PCC's on curved sewers. Distance noted between manholes shall be measured to manhole centerlines.

Minimum 48-inch ID manhole shall be required for sewers with a diameter of 18-inch or less and/or at a depth of 12-feet or less. A 30-inch frame and cover shall be used on a 48-inch manhole. Minimum 60-inch ID manholes shall be required for sewers with a diameter of 20-inch or larger and/or deeper than 12-feet. A 36-inch frame and cover shall be used on a 60-inch manhole. Minimum 72-inch ID manhole shall be required for sewers with a diameter of 30-inches. A 36-inch frame and cover shall be used on a 72-inch manhole.

Manholes shall have 0.2-feet of elevation differential through the manhole on straight runs and at angles. Pipe flow line elevations at inlet and outlet of manhole as well as centerline manhole stationing shall be shown on plans. Unless otherwise approved by the City, junction manholes shall have the crowns (soffits) of the intersecting pipes at the same elevation where their projections intersect the manhole centerline.

Drop manholes may be utilized only upon prior approval by the City. Drops shall not be less than 3 feet ("Steep" slopes from the first manhole upstream are preferred to drop manholes). Manholes shall not be buried except where approved by City. Manholes shall be raised above ground level where necessary to maintain them in farmed areas and in waterways.

Manholes may be required on laterals 8-inch or larger at the point of connection to the mainline and at the property line. A monitoring manhole can be used for the manhole at the property line.

Manholes located outside of the pave area shall be installed with the frame and cover .1-foot above finish grade with a 3-foot concrete collar. Manholes located in landscape area and in fields shall be installed 18-inches above finish grade.

3.7 Cleanouts

The use of cleanouts is not permitted except on laterals at the property line.

3.8 Laterals

Minimum 4-inch lateral shall be required for single family residences. Minimum 6-inch lateral shall be required for multi-family dwellings, commercial and industrial use. Lateral shall be constructed of same material as main line.

House Connection Laterals at 2% slope, utilizing 45° connection at main.

3.9 Bedding

Minimum requirements per City Standard Drawings No. 2104 and No. 2105

3.10 Backflow Valves

Backflow valves shall be required in accordance with the Uniform Plumbing Code, Latest Edition.

Backflow valves shall be installed at shallowest location allowing access for future inspection and maintenance. Where backflow valves are required, they shall be installed on private property by the property owner or tract developer and are to be maintained by property owner.

3.11 Industrial Waste Provisions

The developers of all commercial/industrial projects shall provide the City with detailed information concerning the project's expected wastewater quality and quantity. The City will review this information and determine which of the following facilities are required.

1. Building sewer sampler.
2. Wastewater flow monitoring station.
3. Gravity separator.
4. Industrial waste clarifier.
5. Pretreatment facilities.

4.0 Material Specifications–Water Pipeline

4.1 General

All pipe and fittings delivered to the job site shall be clearly marked to identify the manufacturer's name, material, class, and thickness. All material shall be new and free of blemishes. Acceptance of pipe and accessories by the City will be based on load bearing tests, and inspection of the complete products as specified hereinafter. Acceptance of installed piping will be based on inspection and leakage tests as specified hereinafter.

4.1.1 Piping Schedule

Unless noted otherwise on the plans or in the specifications, pipe shall be furnished in accord with the following materials schedule.

Piping Schedule			
Diameter	Domestic Water		Recycle Water
	OMC	NMC	
2-inch and smaller	Copper	PE Tubing	PE Tubing w/purple tape wrap or sleeve
8-inch & 12-inch	CML/CMC DIP	PVC C900	Purple PVC C900
16-inch	CML/CMC DIP	CML/CMC PVC C905	Purple PVC C905
18-inch to 42-inch	CML/CMC DIP	CML/CMC	CML/CMC w/purple warning tape
DIP – Ductile iron pipe CML/CMC – Cement Mortar lined and coated steel pipe PVC C900 – Polyvinyl Chloride pressure pipe			

4.1.2 Welded Steel Pipe, CML & CMC

Shop fabricated pipe with machine-applied lining and coating, dye-check shop welding performed after hydrostatic testing of cylinders, pipe per A.W.W.A. C200, steel plate per A.S.T.M. A-570, 10 ga. minimum, minimum yield 33,000 psi, cement mortar coating and lining per AWWA C-205. Design stress shall not exceed 16,500 psi. Each pipe section shall be provided, prior to delivery, with temporary plastic end covers, with exposed steel shopcoated, 40' maximum joint lengths, lap weld bell x plain end spigot, or rubber gasket bell x rubber gasket spigot, including rubber gaskets and gasket lubricant.

Cement used in mortar lining and coating shall be Portland Cement per ASTM C 150, Type V for coating and Type II or Type V for lining. Cement-mortar coating shall be reinforced in accordance with AWWA C205.

4.1.3 Welded Steel Fittings

All bends, reducers, increasers, tees, crosses, wyes, and other special fittings, except as specifically noted on the Drawings, shall be constructed of cement mortar lined steel pipe with coating as specified for balance of pipeline, and shall be shop fabricated in accordance with the latest revision of A.W.W.A. C208. (as modified below).

ELBOWS				
Angle	0-22 1/2°	22 1/2°-45°	45°-67 1/2°	67 1/2°-90°
No. Pieces	2	3	4	5

NOTE: At the break point angles (i.e. 22 1/2°, 45°, and 67 1/2°) use the elbow with the largest number of pieces.

All fittings shall have a steel cylinder thickness equal to or greater than the specified wall thickness of the pipeline, but not less than 10-gauge. The minimum radius for all bends shall not be less than 2.5 times the nominal diameter of the pipelines. Where simulated weld bells are used for lap-welded fittings, the bell plate thickness shall be 1/4". Fittings shall be designed and fabricated for a pressure which is 150 percent of the pressure class as designated for the pipeline, except where otherwise indicated.

Special fittings shall be fabricated from machine cement mortar lined and machine outside coated. The individual parts of the fittings shall be cut from the pipe, welded together, and the coating and lining of shop joints shall be hand applied to provide a finished cement mortar lined and finished outside coated joint comparable to the mechanically applied lining and coating detailed herein.

Special fittings and sections shall be reinforced with stiffener rings, collars, crotch plates, etc. as necessary to keep the maximum working stress to that level permitted for the pipe in accordance with AWWA M11 Steel Pipe Manual, Section 13.3.

Non-flanged joints shall be designed for lap-weld joints, and shall have bell ends for receiving the O.D. of the mating steel pipe cylinder.

Specials and fittings fabricated from cylinders that have been hydrostatically tested in accordance with these specifications shall be tested by the dye-check method, or approved equal, prior to the lining and coating of said material. Contractor shall submit fabrication drawings for all AWWA shop fabricated fittings to the City for approval prior to construction.

Butt Straps

Use two-piece rolled steel straps with a minimum thickness of ¼-inch and a minimum width of 10-inch. Straps shall be fabricated to snugly fit over the plain pipe ends, and shall be centered over the ends of the pipe sections to be joined. Weld one or more standard 5-inch, 3000 lb. threaded half-couplings to the butt strap. Provide a threaded billet steel plug for each half-coupling. Two hand-holes shall be required on pipelines 14-inch and larger.

4.1.4 Ductile Iron Water Pipe

Ductile iron pipe and fittings shall be manufactured per AWWA C110, C111, C115, C150, C151 and C153. The minimum wall thickness for ductile iron pipe shall be as specified in AWWA C150 for the design pressure class, and thickness Class 53 for flanged spools. Gray iron and cast iron fittings or flanges shall not be used.

Joints for ductile iron pipe and fittings shall be mechanical, flanged, or push-on in accordance with AWWA C110, C111 and C153. The joint dimension and gasket shall be as specified in AWWA C111. All pipe joints shall be bonded to provide electrical continuity for corrosion monitoring and future cathodic protection.

The standard restrained joints shall be of the type utilizing cast lugs, shop welded retainer lugs, retainer rings bearing against pipe shoulders, or retainer rings in pipe grooves. Where the restrained joint is of the grooved type, the wall thickness beneath the groove shall be equal to or greater than the minimum specified wall thickness. Retainer glands or uni-flange adapters utilizing setscrews bearing against the pipe wall are not acceptable.

The exterior surfaces of all pipe and fittings shall be factory coated with a minimum one 1-mil thick petroleum asphaltic material per AWWA C110 and C151. All pipe and fittings shall be cement-mortar lined in accordance with AWWA C104. Cement-mortar shall be in accordance with ASTM C150, Type II or Type V.

Ductile pipe and fittings shall be polyethylene encased in accordance with AWWA C105.

4.2 Polyvinyl Chloride (PVC) PIPE

PVC pressure pipe shall be manufactured per AWWA C900 and C905. C900 PVC pipe shall be used for mains and related appurtenances 12-inches or less in diameter. C905 PVC pipe shall be used for mains and related appurtenances 16-inches and greater. PVC pipe shall be provided in standard 20-foot lengths, unless otherwise detailed or required on the Approved Plans. The minimum length of PVC pipe sections used for tie-ins and stub-outs shall be 3 times the pipe diameter or 48-inches, whichever is longer, unless otherwise approved by the City.

PVC pipe shall have common profiles for inter-changeability between rough-barrel dimensions, couplings, ends, and elastomeric gaskets to facilitate future repairs. When assembled, the pipe shall have only one gasket per bell and spigot end, and/or two gaskets per coupling. These rubber rings (elastomeric gaskets) shall be manufactured to conform to the requirements of ASTM F-477 and furnished by the pipe manufacturer.

In areas where it is required to lay the pipe along a curve, the use of deflection couplings will be used to form the arc. The pipe shall not be bent to form the arc, nor shall the pipe be deflected within integral bells or ductile-iron fittings. Deflection couplings shall be limited to use only on 8-inch and 12-inch AWWA C900 PVC pipe. Unless otherwise approved by the City, PVC pipe shall be installed using 5° deflection couplings (2½° at each bell) to form arcs with radii no less than the minimums noted below:

Pipe Length Used	Minimum Radius
20-foot length	229-foot radius
10-foot length	115-foot radius

All pipe to be supplied under these specifications must have the following markings on the pipe barrel: Nominal size and O.D. base (for example, 8" C.I.O.D.); dimension ratio number; AWWA pressure class; and manufacturer's name or trademark and production record code. PVC pipe shall carry a current certification of the National Sanitation Foundation (NSF) as acceptable to use in the transport of potable water.

PVC pipe shall be installed within one year of its manufactured date. Pipe older than one year shall not be delivered to the construction site. The City shall require the manufacturer to submit a certificate stating that all pipe has been manufactured and tested in accordance with this specification.

4.2.1 Pipe Outlets 2 Inches and Smaller

Outlet connections to PVC water mains two (2) inches and smaller shall be bronze service saddles with double stainless steel straps designed specifically for C.I.O.D. PVC pipe. No single strap saddles or full circle saddles are allowed.

4.2.2 Pipe Outlets Larger Than 2 Inches

Outlets in PVC pipe larger than two (2) inches shall be accomplished through the use of ductile fittings.

For outlets to be installed after initial pipeline construction, a tapping tee may be used subject to advanced written approval by the City.

4.2.3 Ductile Iron Fittings for PVC

This specification covers ductile iron fittings for use with AWWA C900 polyvinyl chloride (PVC) pipe including tees, crosses, elbows, reducers, and related special fittings. Cast iron fittings are not permitted. All fittings for use with PVC C900 and C905 pipe shall be cast-iron outside diameter (C.I.O.D.) push-on or mechanical joint fittings with the exception of fittings with valves which shall be push-on or mechanical joint by flange. Ductile iron fittings shall be classified as "compact ductile iron fittings" and shall be produced in strict accordance with ANSI/AWWA A21.53/C153. Unless otherwise specified, the interior of the ductile iron fitting shall be lined with a uniform thickness of cement mortar "double thickness" then sealed with a bituminous coating in accordance with AWWA C104 (latest). The outside surfaces of the DIP fittings shall be coated with a bituminous coating in accordance with ANSI A21.6 or ANSI A21.51.

All ductile iron fittings shall be polyethylene encased at the time of installation. Polyethylene encasement and installation shall be accordance with ANSI/AWWA C105.

4.2.4 Restrained System

Restrained joints shall be provided by a clamping ring and an additional ring designed to seat on the bell end of the pipe. The rings shall be connected with T-Head bolts or rods. Restraining devices shall provide full (360 degree) support around the circumference of the pipe. No point loading shall be permitted.

Restraint of mechanical joint fittings shall be provided by a clamping ring installed on the PVC pipe and connected to the mechanical joint fitting with T-Head bolts or rods. All restraint devices for PVC pipe shall have a water working pressure rating equivalent to the full rated pressure of the PVC pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. In addition, restraining devices shall meet or exceed requirements of UNI-Bell B-13

"Recommended Performance Specification for Joint Restraint Devices for Use with PVC Pipe." Restraining devices shall be approved by the City.

All buried steel parts shall be sand blasted in accordance with the coating manufacturer's technical data sheet for "submerged" service and coated with two-coat epoxy. Epoxy shall be Tnemec Series 66 or approved equal. All bolts and connecting hardware shall be of high strength low alloy material in accordance with ANSI/AWWA C111/A21.11. Buried steel parts shall be covered with grease and wrapped with polyethylene encasement.

4.2.5 Locator Wire

Locator wire shall be installed over all PVC waterlines, non-ferrous services and pipelines. Locator wire shall be 14-1 solid insulated copper wire (UF), in a continuous strand, placed on top of pipe and secured with tape. Locator wire shall be brought to the surface at all appurtenances (i.e. fire hydrants, water services, air valves, blowoffs, etc.), thus providing continuous "looping" between the appurtenances and the water main.

After all trench backfill operations are complete, the Contractor shall conduct the conductivity test to confirm that the wire is continuous. The Contractor shall be responsible for all costs to confirm, locate, and repair any breaks in the locator wire identified in the conductivity test. The Contractor is advised to use care in the installation and backfilling operations to prevent damage to the wire.

Splices shall be made at locations approved by the City. The wire connecting device shall be an underground electrical wire connector to splice and effectively moisture-seal the conductors. Wire connectors shall be approved by the City and shall be UL listed and CSA certified for direct burial splices.

4.2.6 Polyethylene Water Service Pipe (PVC Mains Only)

1-inch diameter polyethylene water service pipe shall conform to all applicable requirements of the latest revision of AWWA C901. Polyethylene water service pipe shall be iron pipe size and supplied by a City approved manufacturer.

The PE pipe or tubing shall be marked in accordance with ASTM D2239 for IPS pipe sizes. It shall also carry the seal of the National Sanitation Foundation (NSF). The PE pipe and tubing shall be rated for use with water at 73.4°F at a maximum working pressure of 200 psi, based on ASTM D2837.

For iron pipe sizes (IPS), the standard inside dimension ratio (SIDR) shall be SIDR 7 with the average inside diameter, minimum wall thickness and respective tolerances for any cross section as specified in ASTM D2239. The minimum burst pressure at 73.4°F determined in accordance with ASTM D1599 latest revision shall be 630 psi. The time of testing of each specimen shall be between 60 and 70 seconds. The PE pipe and tubing shall not fail, balloon, burst or weep as defined in ASTM D1598, latest revision, when tested in accordance with Section 7.6 of ASTM D2239.

4.3 A.W.W.A. GATE VALVES

All resilient seat gate valves shall meet the requirements of A.W.W.A. C509 (latest) for rubber seated gate valves and shall be tested bubble-tight. In addition, RS gate valves shall be furnished with low zinc bronze stems, stainless steel body hardware and valve body and bonnet

fusion bonded epoxy coated inside and out (10 mils nominal thickness) and meet all requirements of AWWA C550.

4.4 Rubber Seated Butterfly Valves

Butterfly valves shall conform to the latest revision of A.W.W.A. C504. Butterfly valves and operators shall be Class 150B, constructed for direct burial and have flanged ends to mate A.S.A. 150 lb. steel flanges.

Butterfly valves shall be furnished with operators of the traveling nut or worm gear type, self-locking in any position, and sealed, gasketed, and lubricated to withstand a submersion in water to 10 psi. The valve shall open by counter-clockwise rotation of a 2 inch square A.W.W.A. operating nut. The operator shall be capable of meeting the torque requirements for opening and closing the valve against 150 psi upstream and 0 psi downstream pressure and a maximum inlet-outlet flow rate of 12 FPS, normal flow rate of 6 FPS, and shall be provided with A.W.W.A. stops capable of absorbing up to 300 foot-pounds of input torque without damage to the valve or operator.

Butterfly valves shall have Buna N seat bonded or mechanically retained, without use of metal retainers or other devices located in the flow stream, to the body and have a disc seating edge of ni-crome or stainless steel. All internal mountings or working parts shall be stainless steel.

Butterfly valves shall have the shaft V-type self-adjusting packing. The shaft shall not be exposed between the valve body and the operator.

Butterfly valves shall have their internal and external surfaces (except flange faces, stainless steel and rubber surfaces) epoxy coated, to meet all requirements of A.W.W.A. C550. All butterfly valves shall be lined (holiday free) with a minimum of 10-mils (2,5-mil coats) of Keysite 750, (white); or DeVoe Bar-Rust No. 235 (white). The epoxy lining shall be applied at the valve manufacturer's plant in accordance with the coating manufacturer's application specifications.

4.5 COPPER TUBING (CML & DI Pipe)

Copper tubing shall conform to the requirements of the "Specifications for Seamless Copper Water Tube" (ASTM Designation B88) and shall be Type K. As required by the City, copper tubing shall be installed with a 6-mil (minimum) polyethylene sleeve "Polywrap C" by Northtown Company or City approved equal.

4.6 Red Brass Pipe

Brass pipe and fittings shall conform to the requirements of the "Specifications for Seamless Red Brass Pipe, Standard Sizes" (ASTM Designation B43). As required by the City, brass pipe shall be installed with a 6-mil (minimum) polyethylene sleeve "Polywrap C" by Northtown Company or City approved equal.

4.7 Protecto Wrap

For specified outside wrapped steel pipelines and/or where specifically directed by the City, outside pipe wrapping shall be Protecto Wrap No. 200, or 310 bituminous resin tape with No. 1170 primer.

4.8 Precast Concrete Vaults

All precast concrete manhole sections shall be manufactured in a plant especially designed for that purpose. All units will conform to the design shown on the drawings, and all work shall be conducted under strict plant controlled supervision.

Design loads shall consist of dead load, live load, impact, and in addition, loads due to water table, and any other loads which may be imposed upon the structure.

Live loads shall be for H-20 and/or H-20-S16 per AASHTO Standard Specifications for Highway Bridges with revisions. Design wheel load shall be 16 kips. The live load shall be that loading which produces the maximum shears and bending moments in the structure. All reinforcing steel shall be intermediate or hard grade billet steel conforming to ASTM A615/A706. Bars other than ¼-inch round, or smaller, shall be deformed in accordance with ASTM A305.

All vaults shall have a 2 piece torsion hinged cover specified for traffic loads where required. The effort necessary to lift the cover shall not exceed OSHA requirements. Also, cover shall be provided with a safety chain capable of limiting the travel of the cover. Precast sections shall be joined with a plastic joint sealing compound.

Vaults shall be located outside of sidewalk areas. The dimension from the top of the vault to the centerline of the piping within the vault shall not exceed 5-feet.

4.9 Fusion Bonded Epoxy Coating

Wherever fusion-bonded epoxy coating is specified on steel piping or equipment for potable water, the coating system shall consist of two or more coats of Scotchkote 306; Tnemec Series 104 or City approved equal. Minimum dry film thickness shall be 10-mils. Surface preparation shall be SSPC-10. Coating shall be in accordance with NSF-61. Method of application shall be either electrostatic method or heat fusion method.

Submit manufacturer's data sheets for review and approval, including: method of application; minimum and maximum DFT for prime, intermediate and finish coats; percent solids by volume; recommended surface preparation; application instructions and curing requirements; etc.

4.10 Test Cable and Bonding Cable

All test cable and bonding cable shall be stranded copper wire with insulation rated at 600 volts. Cable with cut or damaged insulation is not acceptable. All cable shall be of sufficient length to extend from the point of connection to the appropriate corrosion monitoring test box without splices. The cable shall have a 7/64-inch thick, high molecular weight polyethylene (HMW/PE) insulation specifically designed for cathodic protection service and suitable for direct burial in corrosive soil or water, conforming to ASTM D 1248, Type I, Class C, Category 5 (HMW/PE Type CP) Grade E-5 or J-1. Test cable shall have at least 18-inches of slack in the test box. Cable size shall be in accordance with the Standard Drawings.

4.11 Pipe Flange Insulating Kits

All pipe flange-insulating materials shall be of the type designated by the manufacturer as suitable for service at the operating temperatures and pressures of the pipeline. Insulating gaskets shall be full-face dielectric neoprene-faced phenolic. Insulating sleeves shall be full-length phenolic. Insulating washers shall be phenolic.

BRASS IDENTIFICATION TAGS

All wires terminating in CP Test Boxes shall be identified with brass tags securely attached to the wires with nylon fasteners. The tags shall be 1½-inch in diameter, 1/16-inch thick, and shall be die-stamped with identifying letters and numbers ¼-inch high.

4.12 Steel Flanges, Bolts, Nuts and Gaskets

Flanges for steel pipe shall conform to requirements for ASA 150-lb. flanges and flanged fittings or ASA 300-lb. flanges and flanged fittings, as noted on Drawings. All flanges shall be forged steel welding-neck or slip-on flanges. Dimensions and drilling of flanges for steel pipe shall conform to ASA 150 or 300, respectively, steel pipe flanges and flanged fittings, and all flanges shall be attached with bolt holes straddling vertical axis of pipe, unless otherwise shown on Drawings. Flanges and their attachment to pipe shall conform to applicable requirements of latest edition of API-ASME Code for Unfired Pressure Vessels. Welding-neck flanges shall be bored to same inside diameter as adjoining pipe.

Bolts shall be standard hexhead machine per ASTM A-307, Grade B. Nuts shall be hexagonal, cold pressed, semi-finished steel, per ASTM A-194, Class 2H. Studs with nuts on both ends shall be furnished wherever close clearances make removal and replacement of fixed head bolts difficult. Bolts and studs shall be of such lengths that not less than two or more than four threads shall project through nut when nut is drawn tight. All bolts, studs, or cap screws used in tapped holes shall be of sufficient length to provide an engagement of length of threaded portion of not less than nominal diameter of bolt for steel nor less than one and one-half times the diameter for cast iron fittings.

Unless stainless steel nuts and bolts are used, each steel/iron type fitting shall be equipped with at least one (1) sacrificial zinc anode cap. Said cap shall be "protecto-cap" or City approved equal.

Slip-on flanges shall be welded along the inner seam surrounding the pipe diameter as well as along the outside pipe and flange interface.

Gaskets for flanged joints shall be 1/16-inch thick compressed non-asbestos sheet, produced by a "City Approved Manufacturer". Flat-faced flanges shall be provided with full face gaskets with bolt holes pre-punched. Raised-face flanges shall be provided with ring gaskets.

5.0 Materials Specifications—Sewer Pipeline

5.1 General

Where alternate pipeline materials are allowed by the City, the Contractor shall select such materials and construction methods as will result in a satisfactory completed project. All pipe materials shall be new and unused unless otherwise specified. Materials and strength of pipe shall be as shown on the plans or as specified herein.

5.2 Gravity Mains

5.2.1 Vitrified Clay Pipe (VCP)

Vitrified clay pipe and fittings shall be extra strength Vitrified Clay Pipe (VCP) and shall conform to the requirements of ASTM C-700 "Specifications for Extra Strength Vitrified Clay Pipe), the "Green Book" 207-8, 208-2, and the requirement specified herein. Vitrified clay pipe shall be of the best quality, vitrified, homogeneous in structure, thoroughly burned throughout the entire thickness, free from cracks or other imperfections and must give a clear metallic ring when struck with a hammer.

All Vitrified Clay Pipe shall be subject to the Bearing Strength Tests and hydrostatic pressure tests described in ASTM C-301. The City may select at random and test one length of pipe for each 200 lengths of pipe (or fraction thereof) delivered to the project site.

5.2.2 Joints

Joints in vitrified clay pipe shall be made using a factory-made mechanical compression joint, consisting of a plastic material (Polyurethane), and shall be produced by a City Approved Manufacturer and shall conform with the requirements of Section 208.2.3 Type "G" Joints of the "Standard Specifications for Public Works Construction", Latest Edition.

5.2.3 Fittings

Vitrified Clay Pipe fittings shall include branches of every type and stoppers. These fittings shall conform to these specifications, ASTM C-301, and shall equal or exceed the pipe in quality. Branches shall be of the type called for on the plan and standard drawings and shall be securely and completely fastened to the barrel of the pipe in the process of manufacture. Stoppers shall be strong enough to sustain all applied earth and hydrostatic tests or air testing. Stoppers shall be capable, unbraced, of remaining in place when subjected an air pressure up to 5 psi.

5.2.4 Ductile Iron Pipe (DIP)

Ductile iron pipe shall comply with the provisions of Section 207-9 of the "Standard Specifications for Public Works Construction", Latest Edition. All pipe/fittings shall be coated inside and outside per ANSI Standard A21.6 - (latest edition) unless otherwise noted. Ductile iron pipe shall be compression (slip) joint, conforming with ANSI A21.11 and A21.51, latest, and have a standard thickness class (minimum CL 50) based on internal pressures and external loadings as supported by engineering calculations signed by a professional engineer registered in the State of California. All ductile iron pipe shall be provided with an 8 mil polyethylene

encasement for the entire length of the pipeline. The minimum bedding class shall be Class "C" per the City's specifications and standards.

Where restrained joints are required, ductile iron pipe/fittings shall be U.S. Pipe TR flex restrained joint or equal, conforming with ANSI A21.11 and A21.51, latest.

Unless otherwise specified, all ductile iron pipe shall be cement-mortar lined with a to the specifications of ASTM designation C150. The weight, class or nominal thickness, and casting period shall be shown on each pipe/fittings. The manufacturer's mark, the year in which the pipe/fitting was produced and the letters "DI" or "DUCTILE" shall be cast or stamped on the pipe.

5.3 Force Mains

Polyvinyl Chloride Plastic Pipe (PVC), (4" to 12" Dia.) The pipe to be used shall be rubber gasket joint polyvinyl chloride pressure pipe, Class 150, conforming to A.W.W.A. C900 (latest), outside dimensions of cast-iron pipe, plain end x gasket bell ends.

Fittings shall be cast iron A.N.S.I./A.W.W.A. C101(latest), 250 psi rated working pressure, cement mortar lining with Type 5 cement conforming to the specifications of ASTM designation C150, mechanical joint ends (MT) to fit Class 150 and 200 PVC C-900 pipe, flange ends (F) shall conform in dimensions and drilling to A.N.S.I. B16.1 for cast-iron flanges and flanged fittings for 125 lb.

The PVC force main pipe shall be accompanied with a reinforced detectable underground marking tape "Terra Tape Sentry Line 1350" or approved equal for use in the protection and location of the force main. Tape shall be green in color imprinted with the message "Caution Sewage Force Main Buried Below" and shall be installed approximately 12 inches above the pipeline.

5.4 Manholes

Precast concrete manhole components shall be in accordance with ASTM C 478 and the Standard Drawings. Manhole components shall be designed for H-20 highway wheel loading and specific site conditions. Manhole shafts shall be fabricated only from precast shaft sections, eccentric cone sections and grade rings.

Manhole bases may be either precast or cast-in-place, as appropriate for the application, with a formed recess shaped to match the first precast shaft section. The manhole base shall extend 9-inches below the bottom of the lowest pipe and 6-inches above the top of the largest pipe.

5.5 Manhole Frames and Covers

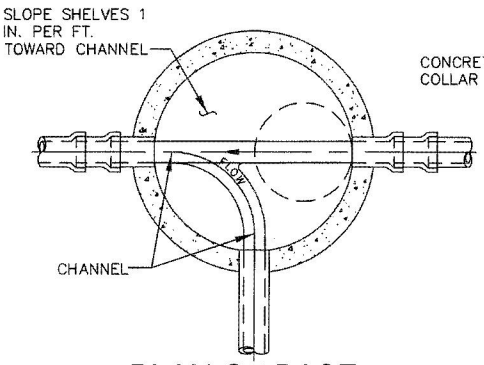
Manhole frames shall be 30-inch and 36-inch in diameter made of cast-iron in accordance with ASTM A 48, Class 30, the Standard Drawings and the Approved Materials List. Frames and covers shall be designed for H-20 highway wheel loading.

Castings shall be smooth, clean, and free from blisters, blowholes, and shrinkage. Mating surfaces of the frame and cover shall be machined to prevent movement of the lid. Frames and covers shall be match marked in sets before shipping to the site. Locking frames and covers may be required as determined by the City.

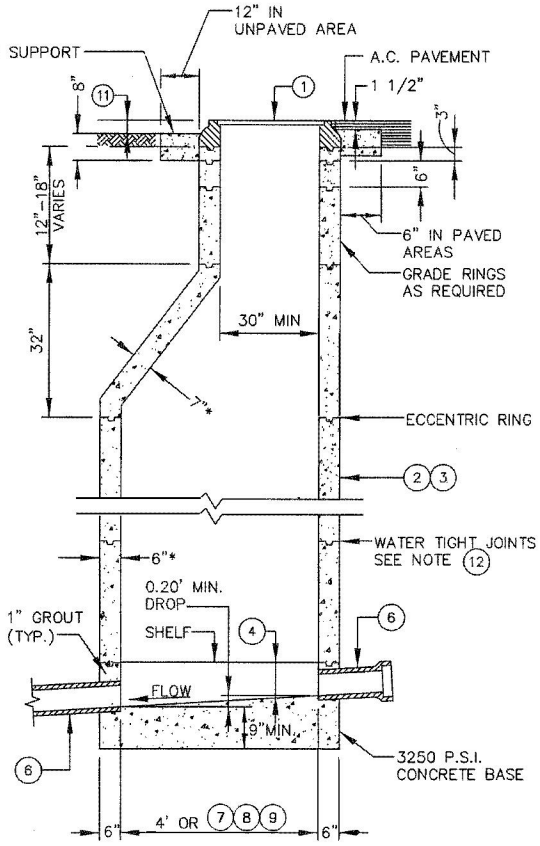
Covers shall have the words "'City Of Ontario' and 'SEWER'" cast into the cover as appropriate to the application. No other lettering will be permitted on the top portion of the cover.

All castings shall be dipped twice in a preparation of asphalt or coal tar and oil applied at a temperature of not less than 143.3 degrees C (290 degrees F) nor more than 154.4 degrees C (310 degrees F) and in such a manner as to form a firm and tenacious coating.

Appendix H - Standard Drawings



PLAN OF BASE



Section View

*(NON-REINFORCED MANHOLE)

NOTES

(1) FRAME AND COVER FOR 48" I.D. MANHOLE SHALL BE 30". FRAME AND COVER FOR 60" OR LARGER I.D. MANHOLE SHALL BE 36". MANHOLE COVER SHALL BE MANUFACTURED WITH THE LETTER "S" IN THE CENTER OF THE COVER.

(2) NON-REINFORCED PRE-CAST MANHOLES SHALL BE CLASS 560-C-3250 PER SECTION 201-1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

(3) REINFORCED PRE-CAST MANHOLES SHALL BE PER ASTM C-478 SPECIFICATIONS.

(4) THE DEPTH OF THE CHANNEL SHALL BE EQUAL TO THE FULL DIAMETER OF THE PIPE.

(5) THE BRANCH SHALL DROP A MINIMUM OF 0.20' FROM ITS INLET TO THE OUTLET ELEVATION.

(6) A 24" LONG STUB SHALL BE INSTALLED FROM THE MANHOLE INSIDE WALL TO THE PIPE BELL.

(7) 48" I.D. MANHOLE TO BE USED ON SEWERS WITH A DIAMETER OF 18" OR LESS AND A DEPTH OF 12 FEET OR LESS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

(8) 60" I.D. MANHOLE TO BE USED ON SEWERS WITH A DIAMETER OF 20" OR MORE OR WITH A DEPTH GREATER THAN 12 FEET UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.

(9) 72" I.D. MANHOLE TO BE USED ON SEWERS WITH A DIAMETER OF 30"

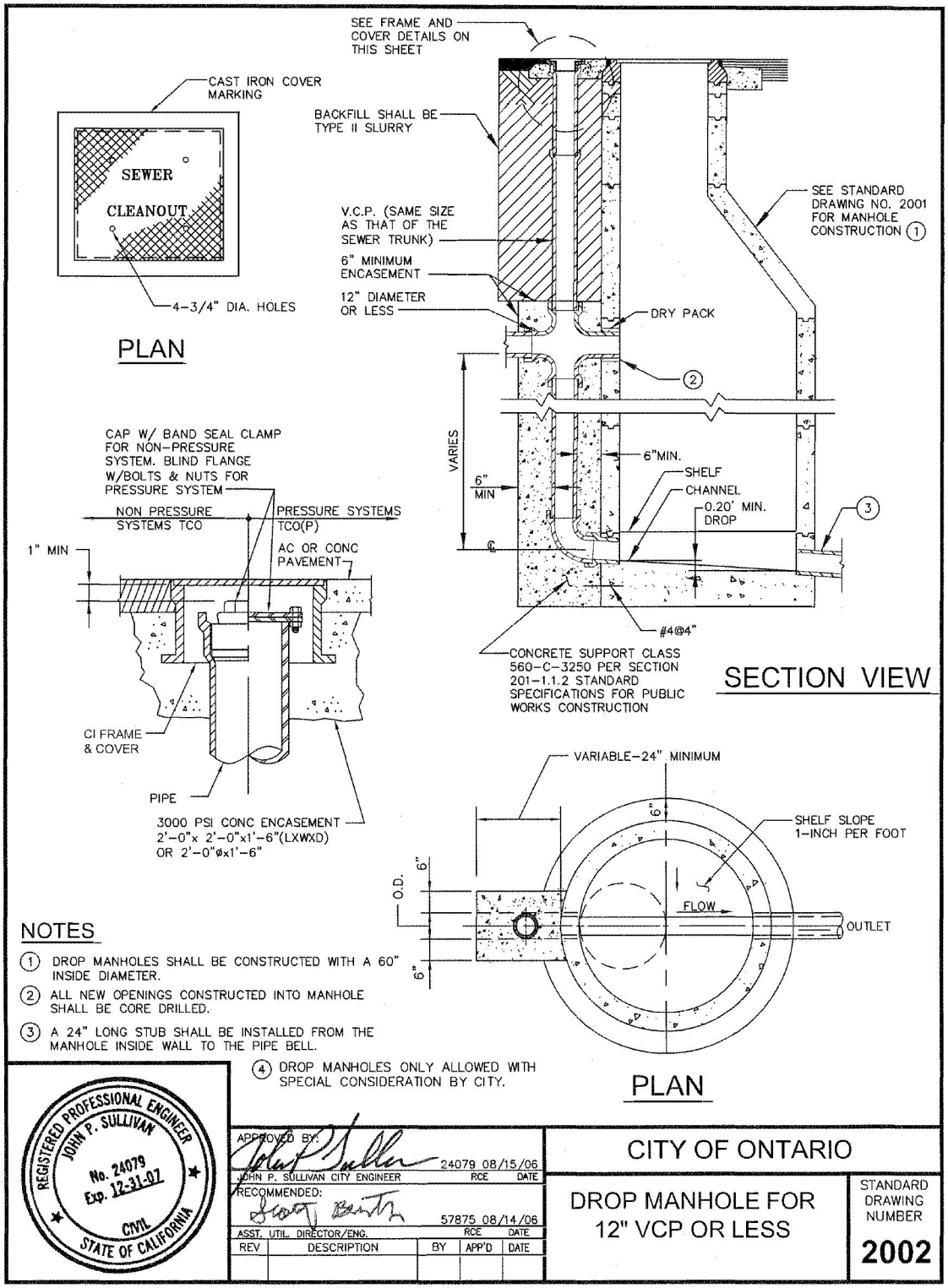
(10) THE CROWN ELEVATIONS OF ALL PIPES SHALL BE THE SAME AS THE CROWN ELEVATION OF THE LARGEST PIPE UNLESS OTHERWISE NOTED ON THE DRAWING.

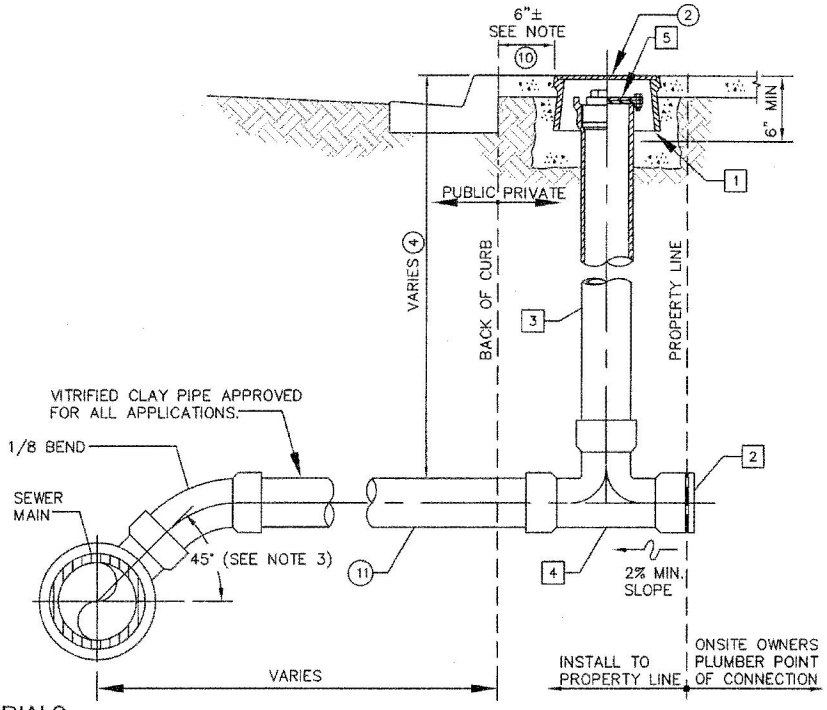
(11) FOR MANHOLES LOCATED OUTSIDE PAVED AREAS THE FRAME AND COVER SHOULD BE SET A MINIMUM OF 0.1 FEET ABOVE FINISH GRADE IN SHOULDER AREAS, UNPAVED ROADS OR LANDSCAPED AREAS AND 18" ABOVE UNFINISHED AREAS.

(12) MORTAR JOINTS - SUFFICIENT MORTAR SHALL BE APPLIED ACROSS ENTIRE FACE OF JOINT SO THAT WHEN PRECAST UNITS ARE PLACED ON TOP OF ONE ANOTHER, THE MORTAR WILL SQUEEZE OUT BOTH THE INSIDE AND OUTSIDE WALL FACES AROUND FULL CIRCUMFERENCE. JOINTS SHALL BE "POINTED UP" AFTER SETTING PRECAST UNITS EXCLUDING GRADE RINGS. PLASTIC JOINTS - PREFORMED COLD-APPLIED READY-TO-USE PLASTIC JOINT SEALING COMPOUND SHALL BE A QUICK-SEAL. MUST BE USED WHEN GROUND WATER IS ENCOUNTERED.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

APPROVED BY: 24079 08/15/06				CITY OF ONTARIO
JOHN P. SULLIVAN CITY ENGINEER RCE DATE				
RECOMMENDED: 57875 08/14/06				SEWER MANHOLE
ASST. UTIL. DIRECTOR/ENG. RCE DATE				STANDARD DRAWING NUMBER
REV	DESCRIPTION	BY	APP'D DATE	2001


SEE FRAME AND COVER DETAILS ON THIS SHEET
CAST IRON COVER MARKING
SEWER
CLEANOUT
4-3/4" DIA. HOLES
PLAN
BACKFILL SHALL BE TYPE II SLURRY
V.C.P. (SAME SIZE AS THAT OF THE SEWER TRUNK)
6" MINIMUM ENCASEMENT
12" DIAMETER OR LESS
SEE STANDARD DRAWING NO. 2001 FOR MANHOLE CONSTRUCTION (1)
DRY PACK
(2)
VARIES
6" MIN
6"MIN.
SHELF
CHANNEL
0.20' MIN. DROP
(3)
#4@4"
CONCRETE SUPPORT CLASS 560-C-3250 PER SECTION 201-1.1.2 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION
SECTION VIEW
CAP W/ BAND SEAL CLAMP FOR NON-PRESSURE SYSTEM. BLIND FLANGE W/BOLTS & NUTS FOR PRESSURE SYSTEM
NON PRESSURE SYSTEMS TCO
PRESSURE SYSTEMS TCO(P)
1" MIN
AC OR CONC PAVEMENT
CI FRAME & COVER
PIPE
3000 PSI CONC ENCASEMENT 2'-0"x 2'-0"x1'-6"(LXWXD) OR 2'-0"øx1'-6"
VARIABLE-24" MINIMUM
6"
SHELF SLOPE 1-INCH PER FOOT
O.D.
6"
FLOW
OUTLET
6"
PLAN
NOTES
(1) DROP MANHOLES SHALL BE CONSTRUCTED WITH A 60" INSIDE DIAMETER.
(2) ALL NEW OPENINGS CONSTRUCTED INTO MANHOLE SHALL BE CORE DRILLED.
(3) A 24" LONG STUB SHALL BE INSTALLED FROM THE MANHOLE INSIDE WALL TO THE PIPE BELL.
(4) DROP MANHOLES ONLY ALLOWED WITH SPECIAL CONSIDERATION BY CITY.
REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA
APPROVED BY:
24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED:
57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE
REV DESCRIPTION BY APP'D DATE
CITY OF ONTARIO
DROP MANHOLE FOR 12" VCP OR LESS
STANDARD DRAWING NUMBER
2002



MATERIALS

1. METER BOX MARKED SEWER PER EQUIVALENT MATERIALS LIST.
2. APPROVED PLUG AT END OF PIPE.
3. MINIMUM 4" DIAMETER SEWER PIPE FOR SINGLE FAMILY RESIDENCE AND MIN. 6" DIAMETER FOR MULTI FAMILY RESIDENCE, COMMERCIAL AND INDUSTRIAL.
4. 4" TWO-WAY CLEANOUT TEE ABS & PVC PER EQUIVALENT MATERIALS LIST.
5. CLEANOUT ACCESS RISER TO BE CAPPED W/ CAP, BAND SEAL, PLUGGED, OR FLANGED DEPENDING ON APPLICATION.

NOTES

SEE DRAWING NO. 4001 FOR REQUIREMENTS WHEN SEWER CONNECTION IS CONSTRUCTED IN THE VICINITY OF A WATER MAIN.

1. PLACE CLEANOUT INSIDE PRIVATE PROPERTY.
2. LID MUST BE CAST IRON FOR LOCATING PURPOSES AND MARKED SEWER.
3. WYES LESS THAN 6' DEEP SHALL BE TO 22 1/2° BEND.
4. MINIMUM DEPTH OF LATERAL AT CURB LINE AND PROPERTY LINE TO BE DETERMINED IN THE FIELD.
5. BACKFILL OVER LATERALS TO BE COMPACTED BY TAMPING ONLY. BEDDING SHALL BE 4" MINIMUM THICKNESS USING 3/4" MAXIMUM CRUSHED ROCK.
6. FOR CONNECTIONS TO MAINS LESS THAN 12", MAKE CONNECTIONS WITH WYE OR SADDLE WYE.
7. FOR CONNECTIONS TO MAINS 12" OR LARGER, MAKE CONNECTIONS WITH CORED HOLE AND SADDLE TEE.
8. GRADE PARKWAY AT 2% TOWARDS CURB OR BACK OF SIDEWALK OR AS DIRECTED BY THE CITY ENGINEER.
9. WHERE LATERAL IS CONSTRUCTED UNDER AN EXISTING CURB, THE CONTRACTOR SHALL CHISEL THE LETTER "S" INTO THE CURB FACE DIRECTLY ABOVE THE LATERAL. "S" TO BE 1-1/2" HIGH & 3/16" DEEP.
10. LOCATE METER BOX 6"± BEHIND BACK OF CURB.
11. LATERIALS SIZED BY CITY, RECOMMENDED BY DESIGN ENGINEER.
12. MANHOLE WILL BE REQUIRED AT SEWER MAINLINE FOR LATERAL 8" OR GREATER
13. MANHOLE REQUIRED AT PROPERTY LINE FOR SEWER LATERAL 8" OR GREATER (MONITORING MANHOLE INLUIE

REGISTERED PROFESSIONAL ENGINEER
JOHN P. SULLIVAN
No. 24079
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE

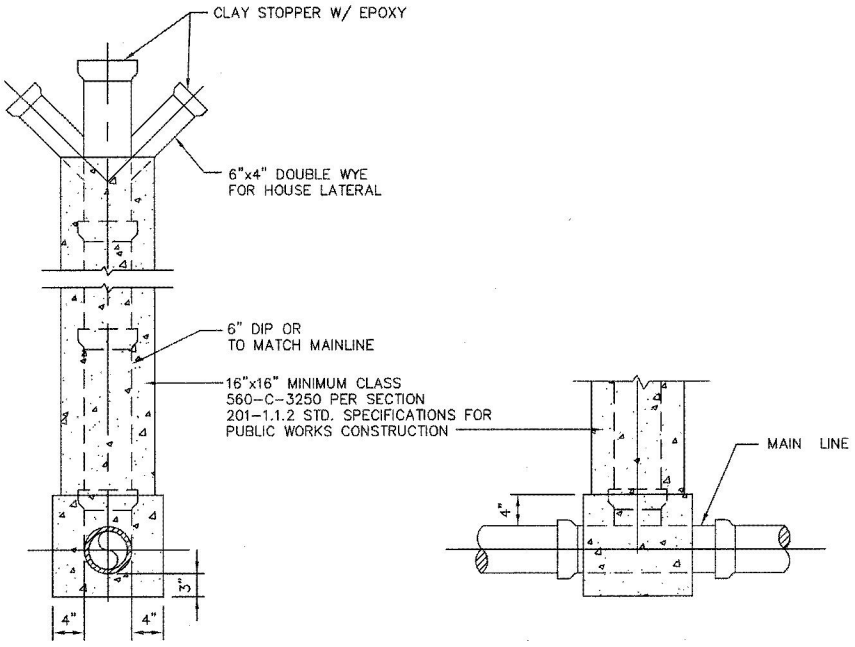
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

SEWER LATERAL

STANDARD DRAWING NUMBER
2003



NOTES

1. SEE DRAWING NO. 4001 FOR REQUIREMENTS WHEN SEWER CONNECTION IS CONSTRUCTED IN THE VICINITY OF A WATER MAIN.
2. WHERE LATERAL IS CONSTRUCTED UNDER AN EXISTING CURB, THE CONTRACTOR SHALL CHISEL THE LETTER "L" INTO THE CURB FACE DIRECTLY ABOVE THE LATERAL. "L" TO BE 1-1/2" HIGH & 3/16" DEEP.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

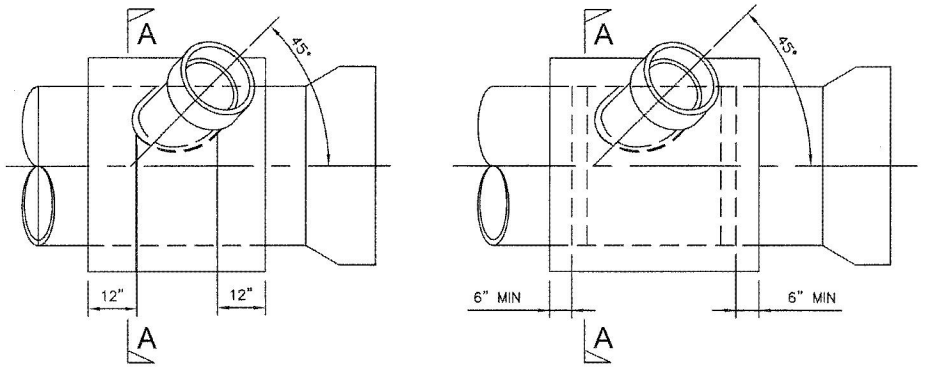
APPROVED BY: John P. Sullivan 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: Scott Burton 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

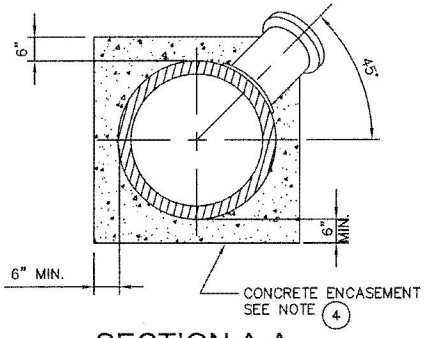
REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

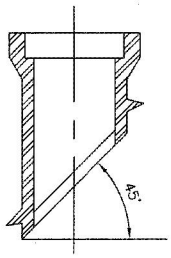
SEWER CHIMNEY

STANDARD DRAWING NUMBER **2004**

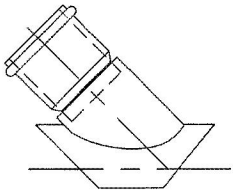




SECTION A-A



CLAY



PVC

NOTES

1. TAP TO BE MADE AT APPROXIMATELY CENTER OF JOINT LENGTH.
2. THE HOLE FOR THE COLLAR WYE FITTING FOR A SEWER SADDLE SHALL BE MADE WITH A TAPPING MACHINE. THE HOLE SHALL BE CLEANLY MACHINED AND IF NECESSARY WORKED BY HAND WITH A RASP, OR SANDED TO ACCOMPLISH A TRUE AND NEAT OPENING FOR THE COLLAR WYE.
3. THE COLLAR WYE SADDLE SHALL BE SECURED TO THE SEWER WITH AN APPROVED EPOXY RESIN.
4. THE SADDLE CONNECTION SHALL BE ENCASED WITH CLASS 560-C-3250 CONCRETE AFTER THE CONNECTION IS APPROVED BY THE INSPECTOR TO THE LIMITS INDICATED ABOVE. CONCRETE SHALL BE CLASS 560-C-3250 PER SECTION 201-1.1.2 STD. SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION.
5. THE BELL ON THE LATERAL SHALL NOT BE ENCASED.
6. ALL CHIPS, DIRT, EPOXY, MORTAR, AND CONCRETE SHALL BE KEPT OUT OF THE SADDLED SEWER, AND CLEANING AND BALLING OF THE SADDLED REACH SHALL BE PERFORMED IF SO ORDERED BY THE INSPECTOR.
7. ANY DAMAGED PIPE SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE INSPECTOR.
8. COLLAR WYE SADDLE OR CUT IN WYE TO BE USED WHEN LATERAL IS 4" OR 6" IN DIAMETER. FOR 8" AND OVER, A STANDARD MANHOLE CONNECTION IS REQUIRED.
9. SEE DRAWING NO. 4001 FOR REQUIREMENTS WHEN SEWER CONNECTION IS CONSTRUCTED IN THE VICINITY OF A WATER MAIN.
10. MAIN LINE SHALL BE BROKEN OUT FOR SADDLE ONLY IN THE PRESENCE OF A CITY ENGINEERING DEPARTMENT INSPECTOR.

REGISTERED PROFESSIONAL ENGINEER
JOHN P. SULLIVAN
No. 24079
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

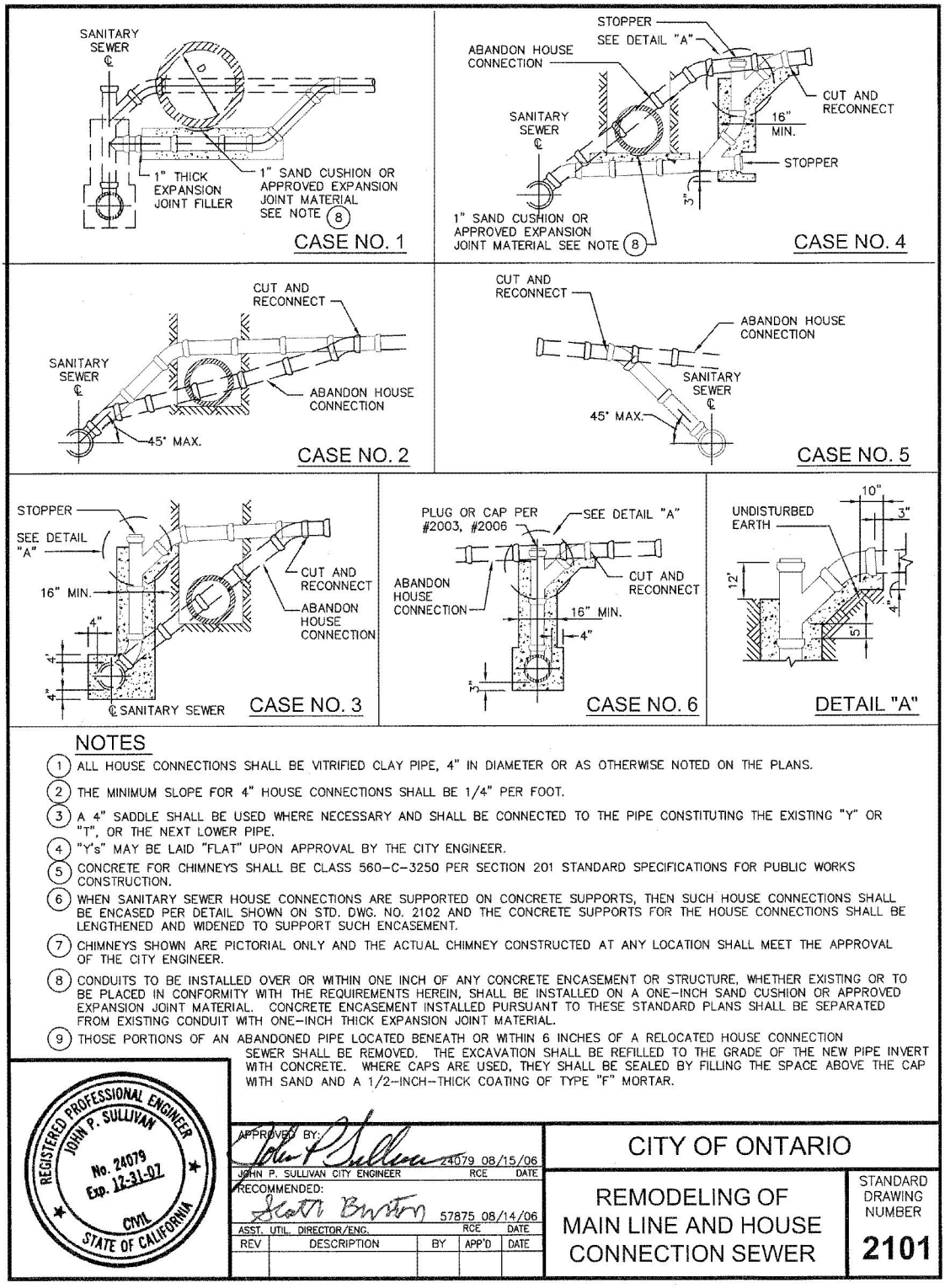
APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

SEWER SADDLE AND CUT IN WYE CONNECTION

STANDARD DRAWING NUMBER **2005**



NOTES

1. ALL HOUSE CONNECTIONS SHALL BE VITRIFIED CLAY PIPE, 4" IN DIAMETER OR AS OTHERWISE NOTED ON THE PLANS.
2. THE MINIMUM SLOPE FOR 4" HOUSE CONNECTIONS SHALL BE 1/4" PER FOOT.
3. A 4" SADDLE SHALL BE USED WHERE NECESSARY AND SHALL BE CONNECTED TO THE PIPE CONSTITUTING THE EXISTING "Y" OR "T", OR THE NEXT LOWER PIPE.
4. "Y's" MAY BE LAID "FLAT" UPON APPROVAL BY THE CITY ENGINEER.
5. CONCRETE FOR CHIMNEYS SHALL BE CLASS 560-C-3250 PER SECTION 201 STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
6. WHEN SANITARY SEWER HOUSE CONNECTIONS ARE SUPPORTED ON CONCRETE SUPPORTS, THEN SUCH HOUSE CONNECTIONS SHALL BE ENCASED PER DETAIL SHOWN ON STD. DWG. NO. 2102 AND THE CONCRETE SUPPORTS FOR THE HOUSE CONNECTIONS SHALL BE LENGTHENED AND WIDENED TO SUPPORT SUCH ENCASEMENT.
7. CHIMNEYS SHOWN ARE PICTORIAL ONLY AND THE ACTUAL CHIMNEY CONSTRUCTED AT ANY LOCATION SHALL MEET THE APPROVAL OF THE CITY ENGINEER.
8. CONDUITS TO BE INSTALLED OVER OR WITHIN ONE INCH OF ANY CONCRETE ENCASEMENT OR STRUCTURE, WHETHER EXISTING OR TO BE PLACED IN CONFORMITY WITH THE REQUIREMENTS HEREIN, SHALL BE INSTALLED ON A ONE-INCH SAND CUSHION OR APPROVED EXPANSION JOINT MATERIAL. CONCRETE ENCASEMENT INSTALLED PURSUANT TO THESE STANDARD PLANS SHALL BE SEPARATED FROM EXISTING CONDUIT WITH ONE-INCH THICK EXPANSION JOINT MATERIAL.
9. THOSE PORTIONS OF AN ABANDONED PIPE LOCATED BENEATH OR WITHIN 6 INCHES OF A RELOCATED HOUSE CONNECTION SEWER SHALL BE REMOVED. THE EXCAVATION SHALL BE REFILLED TO THE GRADE OF THE NEW PIPE INVERT WITH CONCRETE. WHERE CAPS ARE USED, THEY SHALL BE SEALED BY FILLING THE SPACE ABOVE THE CAP WITH SAND AND A 1/2-INCH-THICK COATING OF TYPE "F" MORTAR.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

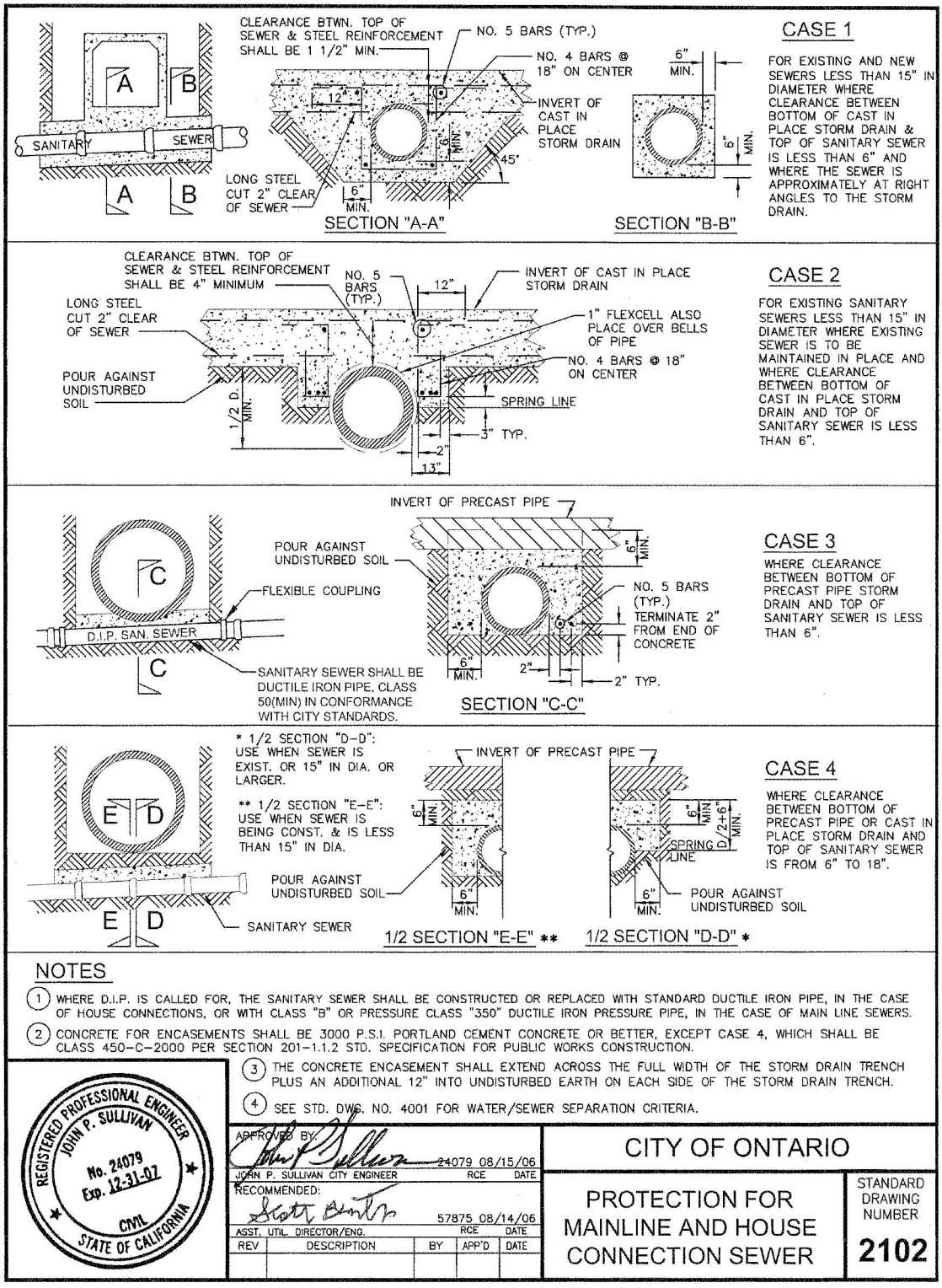
APPROVED BY: John P. Sullivan 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: Scott Burton 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

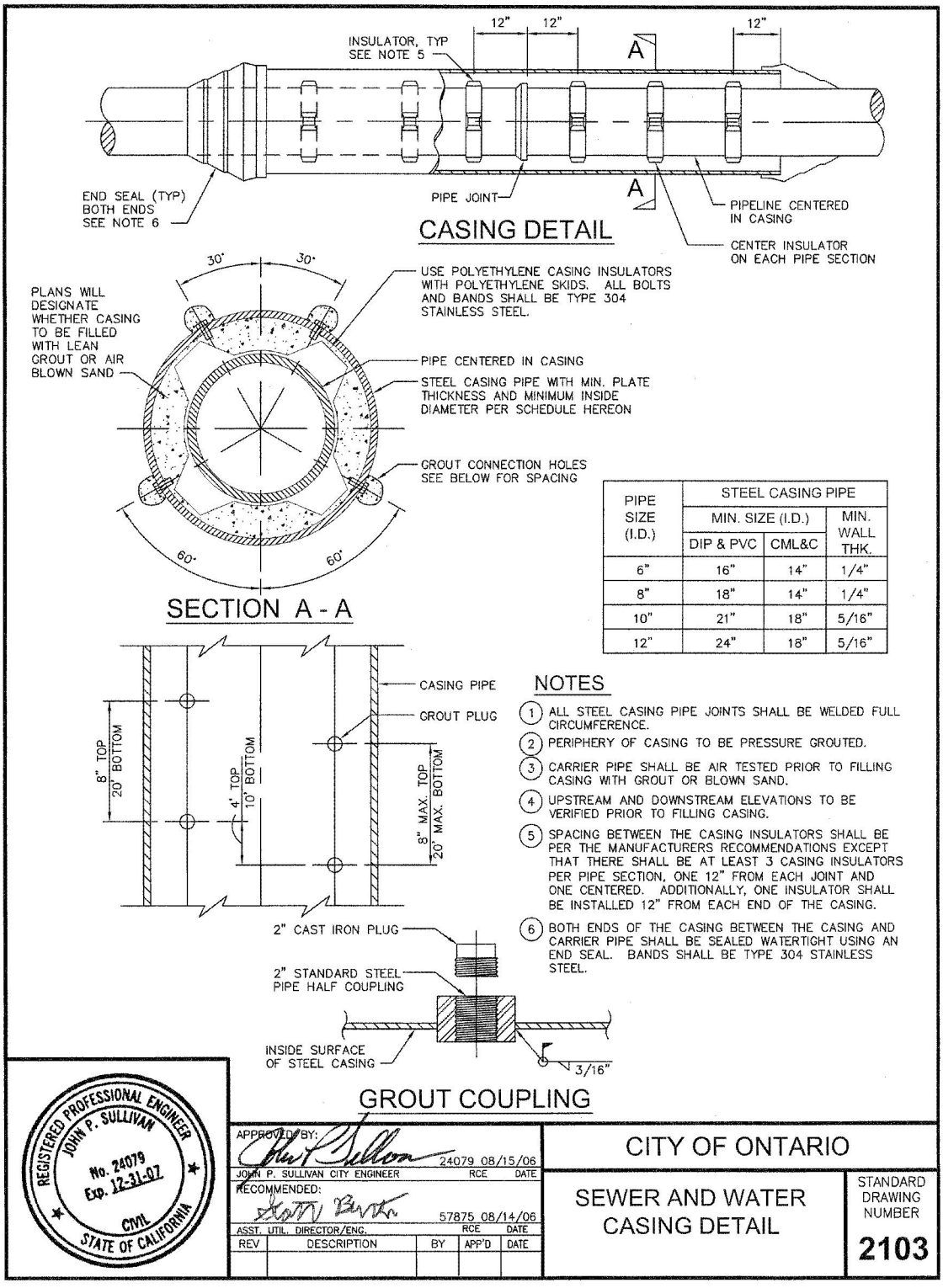
REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

REMODELING OF MAIN LINE AND HOUSE CONNECTION SEWER

STANDARD DRAWING NUMBER **2101**


CLEARANCE BTWN. TOP OF SEWER & STEEL REINFORCEMENT SHALL BE 1 1/2" MIN.
NO. 5 BARS (TYP.)
NO. 4 BARS @ 18" ON CENTER
INVERT OF CAST IN PLACE STORM DRAIN
LONG STEEL CUT 2" CLEAR OF SEWER
SANITARY SEWER
SECTION "A-A"
SECTION "B-B"
CASE 1
FOR EXISTING AND NEW SEWERS LESS THAN 15" IN DIAMETER WHERE CLEARANCE BETWEEN BOTTOM OF CAST IN PLACE STORM DRAIN & TOP OF SANITARY SEWER IS LESS THAN 6" AND WHERE THE SEWER IS APPROXIMATELY AT RIGHT ANGLES TO THE STORM DRAIN.
CLEARANCE BTWN. TOP OF SEWER & STEEL REINFORCEMENT SHALL BE 4" MINIMUM
NO. 5 BARS (TYP.)
INVERT OF CAST IN PLACE STORM DRAIN
LONG STEEL CUT 2" CLEAR OF SEWER
1" FLEXCELL ALSO PLACE OVER BELLS OF PIPE
NO. 4 BARS @ 18" ON CENTER
POUR AGAINST UNDISTURBED SOIL
SPRING LINE
3" TYP.
CASE 2
FOR EXISTING SANITARY SEWERS LESS THAN 15" IN DIAMETER WHERE EXISTING SEWER IS TO BE MAINTAINED IN PLACE AND WHERE CLEARANCE BETWEEN BOTTOM OF CAST IN PLACE STORM DRAIN AND TOP OF SANITARY SEWER IS LESS THAN 6".
INVERT OF PRECAST PIPE
POUR AGAINST UNDISTURBED SOIL
FLEXIBLE COUPLING
D.I.P. SAN. SEWER
NO. 5 BARS (TYP.) TERMINATE 2" FROM END OF CONCRETE
SANITARY SEWER SHALL BE DUCTILE IRON PIPE, CLASS 50(MIN) IN CONFORMANCE WITH CITY STANDARDS.
SECTION "C-C"
2" TYP.
CASE 3
WHERE CLEARANCE BETWEEN BOTTOM OF PRECAST PIPE STORM DRAIN AND TOP OF SANITARY SEWER IS LESS THAN 6".
* 1/2 SECTION "D-D": USE WHEN SEWER IS EXIST. OR 15" IN DIA. OR LARGER.
** 1/2 SECTION "E-E": USE WHEN SEWER IS BEING CONST. & IS LESS THAN 15" IN DIA.
INVERT OF PRECAST PIPE
POUR AGAINST UNDISTURBED SOIL
SANITARY SEWER
1/2 SECTION "E-E" **
1/2 SECTION "D-D" *
SPRING LINE
POUR AGAINST UNDISTURBED SOIL
CASE 4
WHERE CLEARANCE BETWEEN BOTTOM OF PRECAST PIPE OR CAST IN PLACE STORM DRAIN AND TOP OF SANITARY SEWER IS FROM 6" TO 18".
NOTES
1 WHERE D.I.P. IS CALLED FOR, THE SANITARY SEWER SHALL BE CONSTRUCTED OR REPLACED WITH STANDARD DUCTILE IRON PIPE, IN THE CASE OF HOUSE CONNECTIONS, OR WITH CLASS "B" OR PRESSURE CLASS "350" DUCTILE IRON PRESSURE PIPE, IN THE CASE OF MAIN LINE SEWERS.
2 CONCRETE FOR ENCASEMENTS SHALL BE 3000 P.S.I. PORTLAND CEMENT CONCRETE OR BETTER, EXCEPT CASE 4, WHICH SHALL BE CLASS 450-C-2000 PER SECTION 201-1.1.2 STD. SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION.
3 THE CONCRETE ENCASEMENT SHALL EXTEND ACROSS THE FULL WIDTH OF THE STORM DRAIN TRENCH PLUS AN ADDITIONAL 12" INTO UNDISTURBED EARTH ON EACH SIDE OF THE STORM DRAIN TRENCH.
4 SEE STD. DWG. NO. 4001 FOR WATER/SEWER SEPARATION CRITERIA.
REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA
APPROVED BY:
JOHN P. SULLIVAN CITY ENGINEER 24079 RCE 08/15/06 DATE
RECOMMENDED:
ASST. UTIL. DIRECTOR/ENG. 57875 RCE 08/14/06 DATE
REV DESCRIPTION BY APP'D DATE
CITY OF ONTARIO
PROTECTION FOR MAINLINE AND HOUSE CONNECTION SEWER
STANDARD DRAWING NUMBER
2102



PIPE SIZE (I.D.)	STEEL CASING PIPE		
	MIN. SIZE (I.D.)		MIN. WALL THK.
	DIP & PVC	CML&C	
6"	16"	14"	1/4"
8"	18"	14"	1/4"
10"	21"	18"	5/16"
12"	24"	18"	5/16"

NOTES

1. ALL STEEL CASING PIPE JOINTS SHALL BE WELDED FULL CIRCUMFERENCE.
2. PERIPHERY OF CASING TO BE PRESSURE GROUTED.
3. CARRIER PIPE SHALL BE AIR TESTED PRIOR TO FILLING CASING WITH GROUT OR BLOWN SAND.
4. UPSTREAM AND DOWNSTREAM ELEVATIONS TO BE VERIFIED PRIOR TO FILLING CASING.
5. SPACING BETWEEN THE CASING INSULATORS SHALL BE PER THE MANUFACTURERS RECOMMENDATIONS EXCEPT THAT THERE SHALL BE AT LEAST 3 CASING INSULATORS PER PIPE SECTION, ONE 12" FROM EACH JOINT AND ONE CENTERED. ADDITIONALLY, ONE INSULATOR SHALL BE INSTALLED 12" FROM EACH END OF THE CASING.
6. BOTH ENDS OF THE CASING BETWEEN THE CASING AND CARRIER PIPE SHALL BE SEALED WATERTIGHT USING AN END SEAL. BANDS SHALL BE TYPE 304 STAINLESS STEEL.

REGISTERED PROFESSIONAL ENGINEER
JOHN P. SULLIVAN
No. 24079
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE

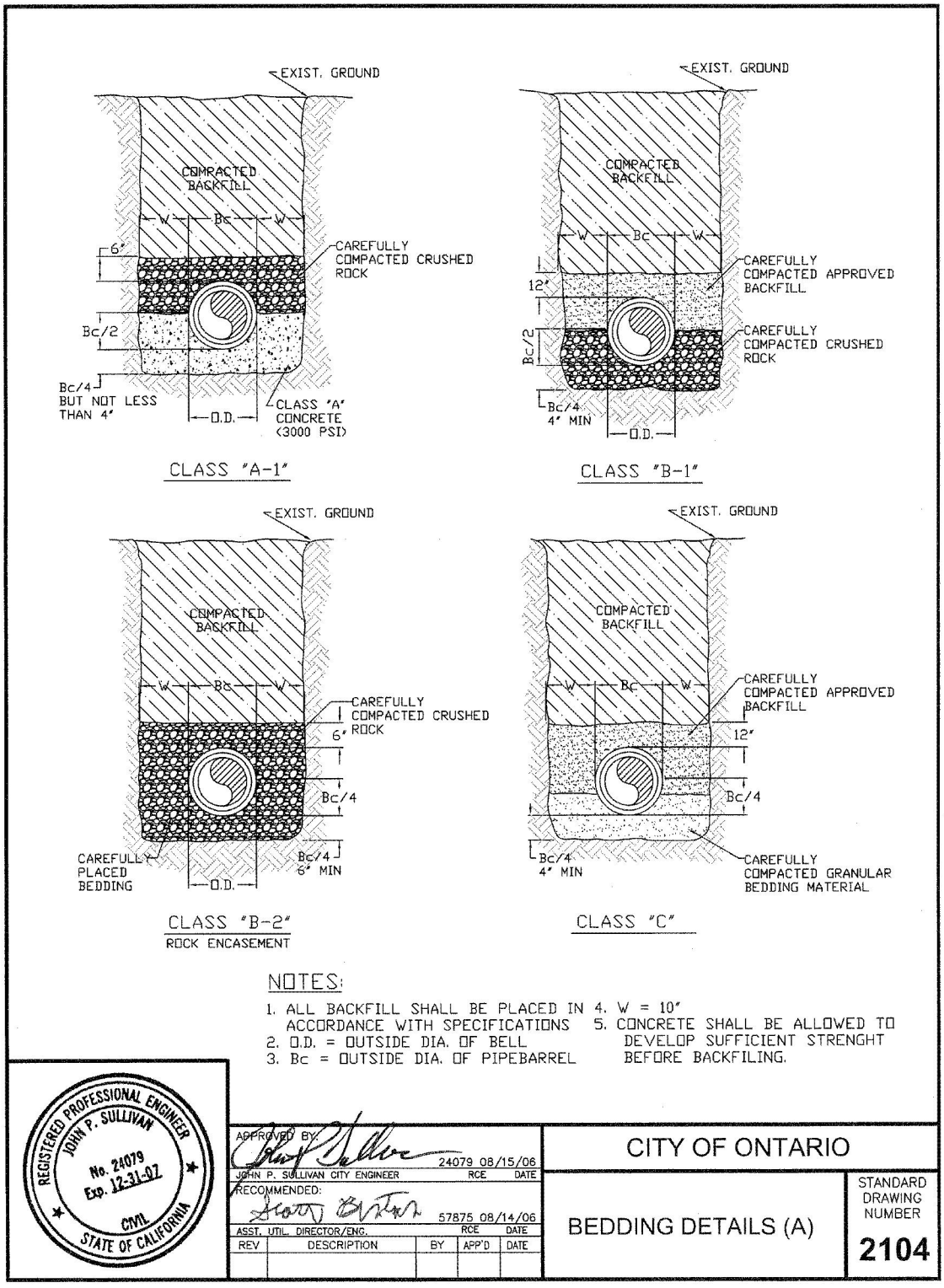
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

SEWER AND WATER CASING DETAIL

STANDARD DRAWING NUMBER **2103**


EXIST. GROUND
COMPACTED BACKFILL
W
Bc
W
6"
CAREFULLY COMPACTED CRUSHED ROCK
Bc/2
Bc/4 BUT NOT LESS THAN 4"
O.D.
CLASS "A" CONCRETE (3000 PSI)
CLASS "A-1"
EXIST. GROUND
COMPACTED BACKFILL
W
Bc
W
12"
CAREFULLY COMPACTED APPROVED BACKFILL
Bc/2
CAREFULLY COMPACTED CRUSHED ROCK
Bc/4 4" MIN
O.D.
CLASS "B-1"
EXIST. GROUND
COMPACTED BACKFILL
W
Bc
W
CAREFULLY COMPACTED CRUSHED ROCK
6"
Bc/4
CAREFULLY PLACED BEDDING
Bc/4 6" MIN
O.D.
CLASS "B-2"
ROCK ENCASEMENT
EXIST. GROUND
COMPACTED BACKFILL
W
Bc
W
CAREFULLY COMPACTED APPROVED BACKFILL
12"
Bc/4
Bc/4 4" MIN
CAREFULLY COMPACTED GRANULAR BEDDING MATERIAL
CLASS "C"
NOTES:
1. ALL BACKFILL SHALL BE PLACED IN ACCORDANCE WITH SPECIFICATIONS
2. O.D. = OUTSIDE DIA. OF BELL
3. Bc = OUTSIDE DIA. OF PIPEBARREL
4. W = 10"
5. CONCRETE SHALL BE ALLOWED TO DEVELOP SUFFICIENT STRENGHT BEFORE BACKFILING.
REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA
APPROVED BY:
24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED:
57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE
REV DESCRIPTION BY APP'D DATE
CITY OF ONTARIO
BEDDING DETAILS (A)
STANDARD DRAWING NUMBER
2104

BEDDING
1. V.C.P. (EXTRA-STRENGTH)

A. THE FOLLOWING MAY BE USED AS A GUIDE ONLY IN DETERMINING THE REQUIRED CLASS OF BEDDING BASED UPON MAXIMUM DEPTH TO SEWER PIPE INVERT. FOR OTHER CONDITIONS OF TRENCH WIDTH, OR FOR A WIDE TRENCH CONDITION, INDEPENDENT ANALYSIS MUST BE MADE.

PIPE DIAMETER (in.)	TRENCH MAXIMUM WIDTH (in.)	MAXIMUM DEPTH, (FEET) CLASS OF BEDDING (1) (2) A-1(1)	B-2	B-1	C
8	32	30+	30+	20.0	12.0
10	34	30+	30+	19.0	12.0
12	38	30+	21.5	16.0	11.0
15	42	30+	23.0	17.0	12.0
18	46	30+	24.0	18.0	12.5
21	50	30+	25.0	19.0	13.5
24	54	30+	26.0	20.0	14.5
27	56	30+	27.5	21.5	15.0

(1) REFER TO STD. DWG. NO. 2104
(2) ASSUMPTIONS
A. ORDINARY CLAY BACKFILL @ 120 lbs/cf
B. F.S. = 1.5
C. LOAD FACTORS
CLASS A-1 = 2.8
B-2 = 2.2
B-1 = 1.9
C = 1.5

ENGINEER SHALL BE REQUIRED TO PROVIDE STRUCTURAL LOADING CALCULATIONS FOR PIPELINE INSTALLATIONS DEEPER THAN 30 FEET.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

BEDDING DETAILS (B)

STANDARD DRAWING NUMBER 2105

SURVEILLANCE FACILITY

LOCATION

1. CONTACT THE PUBLIC WORKS AGENCY/UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION FOR APPROVAL OF MONITORING FACILITY LOCATION. CONFIRM THAT STANDARD DRAWING CONTAINS LATEST REVISION.
2. MONITORING FACILITIES ARE TO BE LOCATED AWAY FROM TRAFFIC, IF POSSIBLE. HOWEVER, IF INSTALLED IN TRAFFIC, THE MONITORING FACILITY MUST BE CAPABLE OF CARRYING H-20 LOADINGS.
3. MONITORING FACILITIES MUST BE LOCATED ON LINES WHICH REFLECT TOTAL NONDOMESTIC FLOWS.

GENERAL PROVISIONS

1. A UNIFORM PIPE SLOPE, NOT EXCEEDING 2.0% OR LESS THAN 0.40%, MUST BE MAINTAINED AT LEAST TWENTY (20) PIPE DIAMETERS UPSTREAM AND DOWNSTREAM OF THE MONITORING FACILITY AS WELL AS THROUGH THE FACILITY. DEVIATIONS FROM THE PIPE SLOPE LIMITS WILL REQUIRE SPECIAL PERMISSION FROM THE CITY ENGINEER.
2. THERE SHALL BE NO BENDS, DROP MANHOLES, FLOW JUNCTIONS, ETC. WITHIN 20 PIPE DIAMETERS (D) UPSTREAM OF THE MONITORING FACILITY.
3. THE BASE OF THE FACILITY MUST BE POURED AROUND THE EXISTING SEWER LINE WITHOUT ANY CHANGES IN THE SLOPE OF THE LINE.
4. WELD THE PERCENTAGE OF SLOPE AND PIPE DIAMETER OF THE SEWER LINE BEING MONITORED (%S,D") ON THE LID/COVER.
5. THE MAXIMUM UPSTREAM DEPTH SHALL NOT EXCEED 0.90D (D = PIPE DIAMETER IN INCHES).
6. WEIRS OR FLUMES ARE OPTIONAL AND MAY BE INSTALLED IF DESIRED. ALL INSTALLATION MUST BE ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND APPROVED BY THE CITY ENGINEERING DEPARTMENT.
7. ALL SURFACE WATER SHALL DRAIN AWAY FROM THE MONITORING FACILITY.
8. ELECTRICAL CONDUIT IS OPTIONAL AT THIS TIME BUT MAY BE DESIRED IF PERMANENT MONITORING DEVICES ARE DESIRED OR REQUIRED IN THE FUTURE.
9. ANY MONITORING INSTRUMENTATION DEVICES MUST BE APPROVED BY THE PUBLIC WORKS AGENCY/UTILITIES DEPARTMENT PRIOR TO AND AFTER INSTALLATION. MANUFACTURER OF THESE DEVICES WILL HAVE TO BE RECALIBRATED EVERY SIX (6) MONTHS BY EITHER THE MANUFACTURER OR AN APPROVED TESTING LABORATORY. A COPY OF THE CALIBRATION CERTIFICATE SHALL BE FURNISHED TO THE CITY ENGINEER.
10. ALL MONITORING FACILITY LOCATIONS MUST BE APPROVED BY THE PUBLIC WORKS AGENCY/UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION AND INSTALLATION MUST BE APPROVED BY THE CITY ENGINEERING DEPARTMENT INSPECTOR.

REGISTERED PROFESSIONAL ENGINEER
JOHN P. SULLIVAN
No. 24079
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

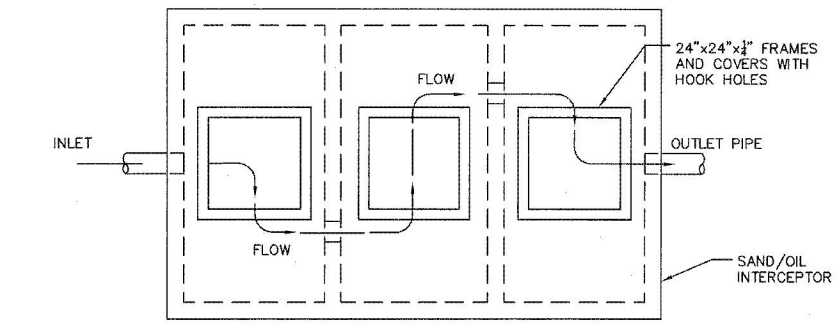
APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

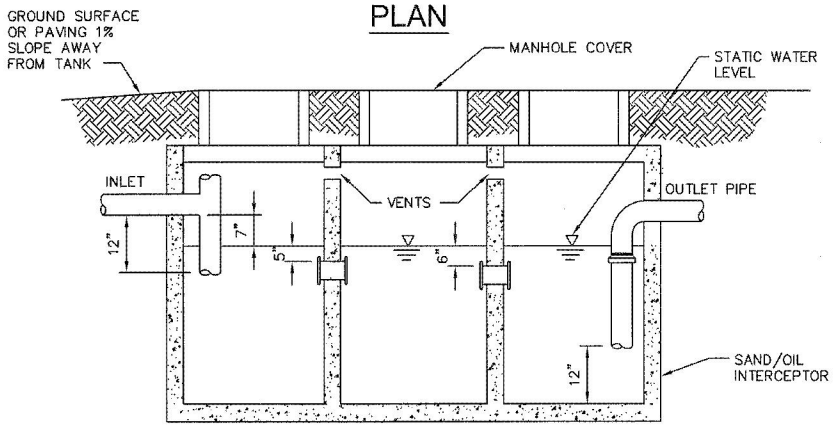
CITY OF ONTARIO

GENERAL REQUIREMENTS FOR A MONITORING FACILITY

STANDARD DRAWING NUMBER **2201**



PLAN



SECTION

NOTES

1. SIZING PER UNIFORM PLUMBING CODE, CHAPTER 7, "TRAPS AND INTERCEPTORS".
2. THE UNIT SHOWN SHALL BE MADE OF CONCRETE OR OTHER MATERIAL APPROVED BY THE CITY ENGINEER (SEE NOTE 3).
3. THE UNIT IS TO BE LOCATED AWAY FROM TRAFFIC, IF POSSIBLE. IF INSTALLED IN TRAFFIC, THE UNIT MUST BE CAPABLE OF CARRYING H-20 LOADINGS.
4. NO WASTE FROM RESTROOMS SHALL FLOW THROUGH INTERCEPTOR.
5. ALL WASTE SHALL ENTER THE INTERCEPTOR THROUGH THE INLET PIPE ONLY.
6. STRUCTURE SHALL BE INSTALLED TO ALLOW ACCESS FOR MAINTENANCE OR INSPECTION AT ALL TIMES.
7. ALL SURFACE WATER MUST DRAIN AWAY FROM THE SAMPLING BOX AND INTERCEPTOR TO EXCLUDE ANY SURFACE DRAINAGE.
8. INSPECTION COVERS SHALL BE BROUGHT TO GRADE TO PERMIT VISUAL INSPECTION OF INTERNAL FITTINGS, WITH RISERS AS REQUIRED.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

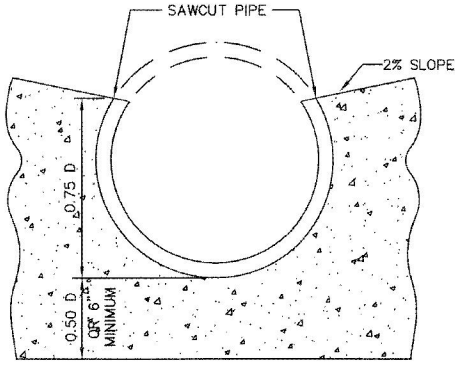
APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

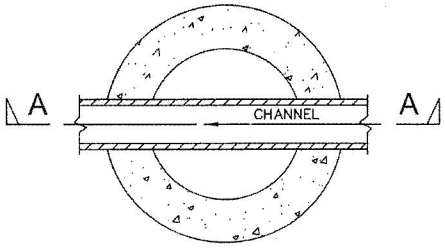
CITY OF ONTARIO

THREE CHAMBER SAND AND OIL INTERCEPTOR

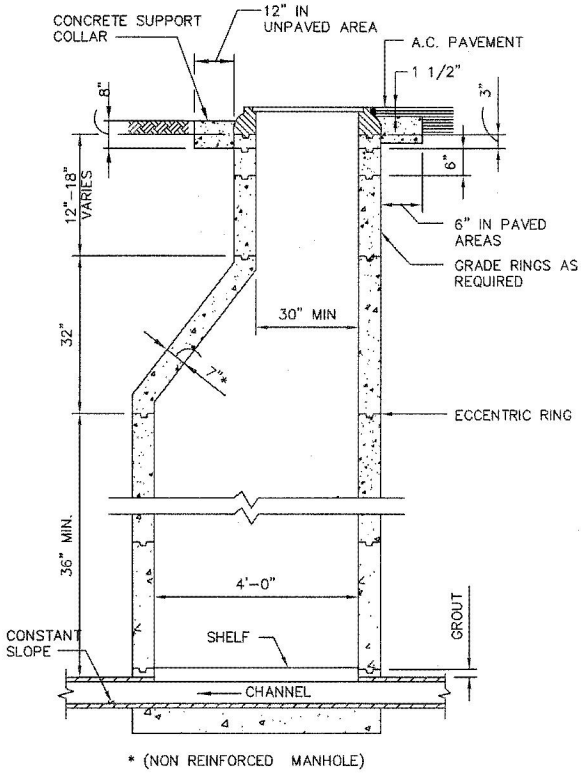
STANDARD DRAWING NUMBER 2202



CROSS-SECTION OF BASE



PLAN OF BASE



* (NON REINFORCED MANHOLE)

SECTION A-A

THE REQUIREMENTS SPECIFIED PER CITY STANDARD DRAWINGS 2001 AND 2201 SHALL APPLY TO THIS FACILITY.

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

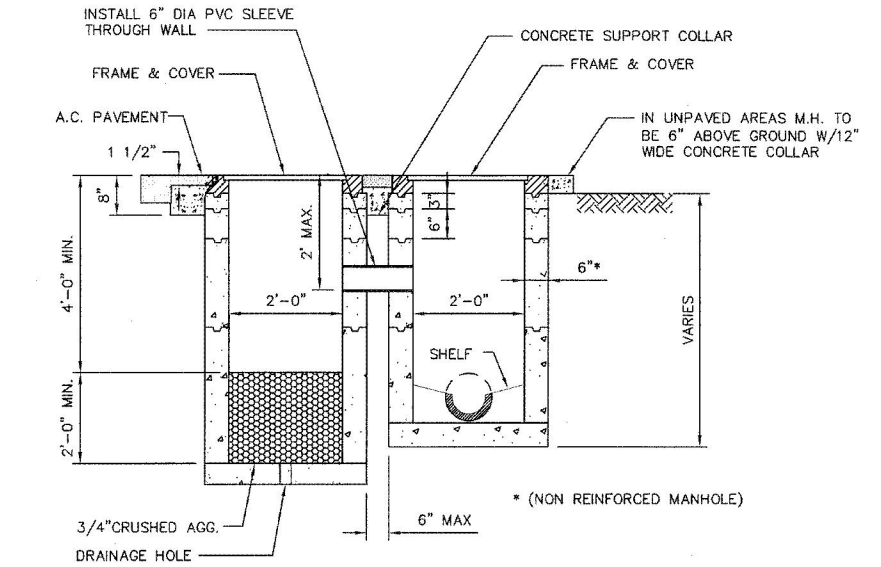
APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

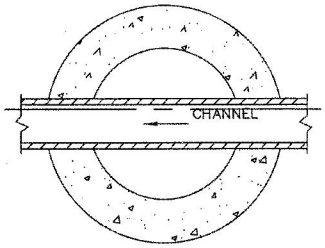
REV	DESCRIPTION	BY	APP'D	DATE

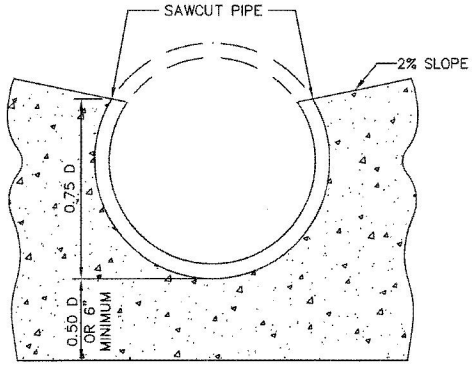
CITY OF ONTARIO

MONITORING FACILITY - TRAFFIC AREA

STANDARD DRAWING NUMBER **2203**







PLAN OF BASE

CROSS-SECTION OF BASE

THE REQUIREMENTS SPECIFIED PER CITY STANDARD DRAWING 2201 SHALL APPLY TO THIS FACILITY

REGISTERED PROFESSIONAL ENGINEER JOHN P. SULLIVAN No. 24079 Exp. 12-31-07 CIVIL STATE OF CALIFORNIA

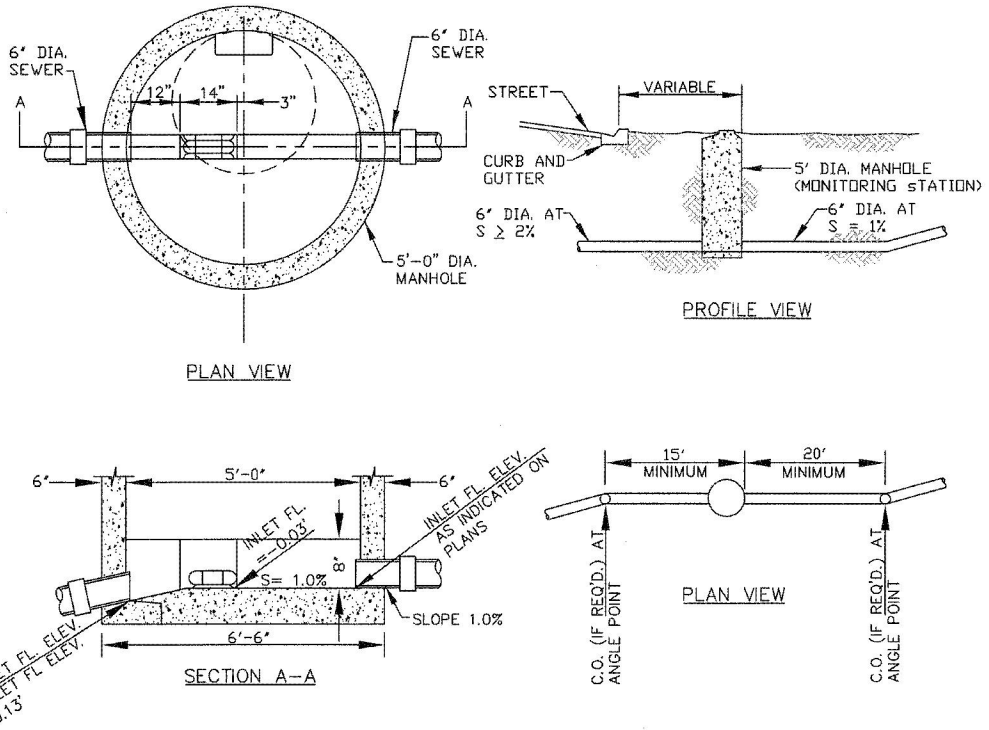
APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

MODIFIED SURVEILLANCE / MONITORING FACILITY - TRAFFIC AREA (SHALLOW DEPTH)

STANDARD DRAWING NUMBER **2204**



MANHOLE SHALL BE A PRECAST CONCRETE ECCENTRIC MANHOLE (5 FOOT DIA.) WITH A 36-INCH DIA. OPENING.
6" PALMER-BOWLUS FLUME INSTALLED PER MANUFACTURER'S RECOMMENDATIONS
WASTEWATER MONITORING STATION'S MAXIMUM FLOW = 0.2658 MGD
MANHOLE BASE SHALL BE MONOLITHICALLY POURED.

REGISTERED PROFESSIONAL ENGINEER
JOHN P. SULLIVAN
No. 24079
Exp. 12-31-07
CIVIL
STATE OF CALIFORNIA

APPROVED BY: 24079 08/15/06
JOHN P. SULLIVAN CITY ENGINEER RCE DATE
RECOMMENDED: 57875 08/14/06
ASST. UTIL. DIRECTOR/ENG. RCE DATE

REV	DESCRIPTION	BY	APP'D	DATE

CITY OF ONTARIO

MANHOLE MONITORING STATION

STANDARD DRAWING NUMBER
2205

Appendix I – Flow Monitoring Results and Hydraulic Deficiencies

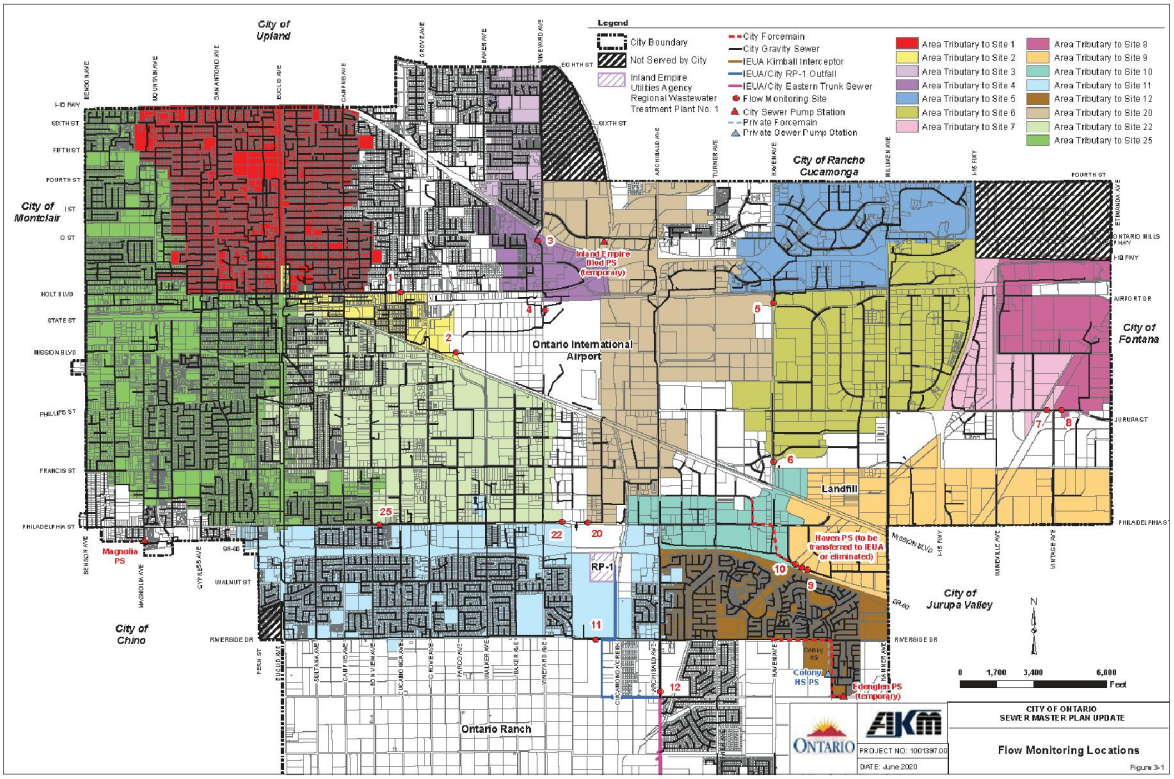

Legend
City Boundary
Not Served by City
Inland Empire Utilities Agency Regional Wastewater Treatment Plant No. 1
City Forcemain
City Gravity Sewer
IEUA Kimball Interceptor
IEUA/City RP-1 Outfall
IEUA/City Eastern Trunk Sewer
Flow Monitoring Site
City Sewer Pump Station
Private Forcemain
Private Sewer Pump Station
Area Tributary to Site 1
Area Tributary to Site 2
Area Tributary to Site 3
Area Tributary to Site 4
Area Tributary to Site 5
Area Tributary to Site 6
Area Tributary to Site 7
Area Tributary to Site 8
Area Tributary to Site 9
Area Tributary to Site 10
Area Tributary to Site 11
Area Tributary to Site 12
Area Tributary to Site 20
Area Tributary to Site 22
Area Tributary to Site 25
City of Upland
City of Rancho Cucamonga
City of Montclair
City of Fontana
City of Jurupa Valley
City of Chino
Ontario Ranch
Ontario International Airport
Landfill
Inland Empire Lift Station (temporary)
Magnolia PS
Haven PS (to be transferred to IEUA or eliminated)
Edenglen PS (temporary)
RP-1
0 1,700 3,400 6,800
Feet
CITY OF ONTARIO
SEWER MASTER PLAN UPDATE
Flow Monitoring Locations
PROJECT NO: 190139700
DATE: June 2020
Figure 3-1

Figure 3-2
Measured Flow Data

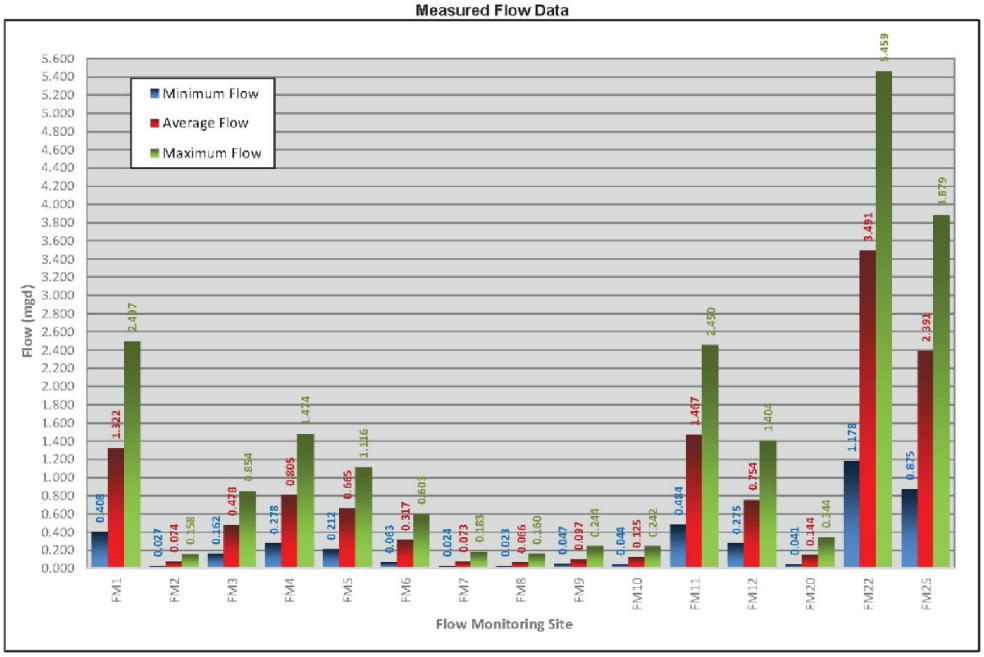


Table 3-1
Flow Monitoring Results

Site ID	Tributary Area ID	Manhole ID	Dates	Depth (in)			Velocity (ft/s)			Flow (mgd)		
				Min	Ave	Max	Min	Ave	Max	Min	Ave	Max
[1]FM1	O-058A	J15178	11/29/16 - 12/5/16	2.94	5.63	8.65	2.49	3.08	3.40	0.408	1.322	2.497
FM2	O-013	L16119	11/29/16 - 12/5/16	1.26	1.89	2.58	0.67	1.03	1.45	0.027	0.074	0.158
[2]FM3	O-014A	I17108	11/29/16 - 12/5/16	2.31	3.40	4.51	1.86	3.94	5.01	0.162	0.478	0.854
FM4	O-014	K17100	11/29/16 - 12/5/16	3.47	5.73	7.93	1.80	2.79	3.49	0.278	0.805	1.474
FM5	O-002	K21101	11/29/16 - 12/5/16	2.90	4.43	5.50	1.33	2.31	3.08	0.212	0.665	1.116
FM6	O-033	N21131	11/29/16 - 12/5/16	1.67	3.12	4.35	0.90	1.75	2.15	0.063	0.317	0.603
FM7	O-046A	M25118	11/29/16 - 12/5/16	1.41	2.05	3.02	0.44	0.76	1.19	0.024	0.073	0.183
FM8	O-046B	M25116	11/29/16 - 12/5/16	1.26	1.87	2.89	0.56	1.00	1.57	0.023	0.066	0.160
FM9	O-027B	Q21109	11/29/16 - 12/5/16	1.27	1.75	2.89	1.06	1.32	1.66	0.047	0.097	0.244
FM10	O-027A	Q21105	11/29/16 - 12/5/16	3.41	4.77	6.52	0.29	0.51	0.69	0.044	0.125	0.242
FM11	O-092WTS	R18132	11/29/16 - 12/5/16	4.72	7.55	9.74	1.60	2.39	3.04	0.484	1.467	2.450
FM12	O-090	T19163	11/29/16 - 12/5/16	2.03	3.40	5.03	4.29	5.42	6.10	0.275	0.754	1.404
FM20	O-003	P18106	3/15/17 - 3/21/17	2.72	4.05	5.67	0.36	0.71	1.12	0.041	0.144	0.344
FM22	O-004	P17113	3/15/17 - 3/21/17	10.72	15.08	1.18	0.92	1.65	2.12	1.178	3.491	5.459
[3]FM25	O-004A	P14103	3/15/17 - 3/21/17	5.64	9.81	13.12	1.90	2.30	2.62	0.875	2.391	3.879

Total (without FM3 and FM25) 9.400

[1] *Site FM1 was established one manhole upstream of the connection point O-058 in order to isolate the residential*
[2] *Site FM3 is upstream of Site FM4.*
[3] *Site FM25 is upstream of Site FM22*

3-3 Unit Flow Factors

Sewage load estimates for future development and redevelopment areas will be estimated with sewer unit flow factors. The sewer unit flow factors were last evaluated as part of the 2012 Sewer Master Plan Study, prepared by AKM Consulting Engineers. At that time, the unit flow factors were generally developed from flow monitoring data that was obtained in 2006. Due to recent water conservation efforts and the fact that people have changed their indoor water use habits, sewage generation has declined. Therefore, the unit flow factors were reevaluated and updated as a part of this study. The updated factors are based on newly collected flow monitoring data, existing land uses obtained from the City's current GIS, population estimates, historical water use records, newly developed potable water unit flow factors and sewer return ratios. The sewer unit flow factors are detailed in Table 3-2.

Table 3-2
Sewer Unit Flow Factors

Landuse		Sewer Unit Flow Factors							
		Max Density (du/ac)[1]	Density (people/ du)[2]	FAR	gpd	unit	gpd/ac	gpd/tsf	gpd/du
Residential									
Rural Residential (OMC)	RR	2	3.997	-	52	gpd/person	420	-	208
Low Density Residential (OMC)	LDR	4	3.997	-	52	gpd/person	840	-	208
Low Density Residential (OR)	LDR	5	3.997	-	52	gpd/person	1,040	-	208
Low Medium Density Residential (OMC)	LMDR	8.5	3.997	-	52	gpd/person	1,785	-	208
Low Medium Density Residential (OR)	LMDR	11	3.997	-	52	gpd/person	2,300	-	208
Medium Density Residential (OMC)	MDR	18	3.347	-	52	gpd/person	3,150	-	174
Medium Density Residential (OR)	MDR	25	3.347	-	52	gpd/person	4,350	-	174
High Density Residential (OMC)	HDR	35	3.347	-	52	gpd/person	6,125	-	174
High Density Residential (OR)	HDR	40	3.347	-	52	gpd/person	6,960	-	174
Commercial									
Business Park	BP	-	-	0.40	53	gpd/job	1,610	90	-
General Commercial	GC	-	-	0.30	132	gpd/job	1,610	120	-
Hospitality[3]	HOS	-	-	1.00	116	gpd/room	-	100	-
Neighborhood Commercial	NC	-	-	0.30	51	gpd/job	1,610	120	-
Office Commercial	OC	-	-	0.75	31	gpd/job	2,250	70	-
Industrial									
Industrial	IND	-	-	0.55	51	gpd/job	1,060	45	-
Mixed Use[4]									
High Density Residential	MU-HDR	35	2.000	-	52	gpd/person	4,200	-	104
Office	MU-O	-	-	-	31	gpd/job	2,250	70	-
Non-Office	MU-NO	-	-	-	91	gpd/job	1,610	120	-
Open Space									
Open Space Non-Recreational	OS-NR	-	-	-	-	-	-	-	-
Open Space Recreational	OS-R	-	-	-	-	-	200	-	-
Public									
Public Facility	PF	-	-	-	-	-	1,450	-	-
Public Middle or High School	PS	-	-	-	8	gpd/student	-	-	
Public Elementary School	PS	-	-	-	8	gpd/student	-	-	-

[1] Max Density per the City's Buildout Table (April 2015) for Original Model Colony. Density for LDR, LMDR, MDR, and HDR in Ontario Ranch were increased per the City Planning Department recommendation (March 2016).

[2] Density per the City's Buildout Table (April 2015)

[3] The sewage generation for a hotel is best estimated by the number of rooms.

[4] Mixed Use demands should be based on the types of landuse that make up the specific area and the unit demand factors provided above. The City's Buildout Table (April 2015) provides detailed information on the landuses that make up each mixed use area.

Definitions: ac = acre; du = dwelling unit; gpd = gallons per day; OMC = Original Model Colony; OR = Ontario Ranch; tsf = thousand sqare feet

3-3.1 Residential Sewer Unit Flow Factors

As shown on Figure 3-1, the flow monitoring sites were primarily chosen in the Original Model Colony (OMC) areas, which are generally built out. The residential developments in this area is predominately low density residential (LDR) and high density residential (HDR), which were used to develop the sewage generation estimates in gallons per day per person.

The sewer unit flow factor for LDR and HDR were calculated to be 52 and 51 gpd/person, respectively, when applying annual sewer return ratios to the potable water unit flow factors. This calculation shows that the sewage generation per person is very similar, regardless of the residential land use categorization. For planning purposes, the sewage unit flow factor of 52 gpd per person was applied to all residential land use types, as shown in Table 3-2.

The majority of the new development is composed of low density residential (LDR) and low-medium density residential (LMDR) land use types, each with an estimated population density of 3.997 persons per dwelling unit. The sewer unit flow factor for both LDR and LMDR is 208 gpd/DU, when applying the sewage generation factor of 52 gpd per person.

The City's planning department estimates that the medium density residential (MDR) and high density residential (HDR) land use types have population densities of 3.347 persons per dwelling unit. With the sewage generation factor of 52 gpd per person, the unit flow factor for MDR and HDR are 174 gpd per dwelling unit.

3-3.2 Non-Residential Sewer Unit Flow Factors

Commercial Land Uses

The City's water meter billing data accounts for commercial indoor use, outdoor irrigation water use, as well as recycled water use. Excluding irrigation and recycled water use for commercial customers (business park, general commercial, office commercial, neighborhood commercial, and hospitality), a sewer return ratio of 89% of the annual average water use was developed. This return ratio was applied to the developed water demand factors to establish the sewer unit flow factors for commercial uses.

Hospitality Land Uses

The City's 2010 General Plan defines an area along Vineyard Avenue, south of the I-10 Freeway and north of the Ontario International Airport, as the hospitality area. It consists of numerous hotels and restaurants that provide service for patrons of the airport. A sewer return ratio of 89% of the annual average water use was applied to the hospitality land use to establish the sewer unit flow factors.

Industrial Land Uses

Industrial land use types include a wide variety of businesses and manufacturing processes that causes sewage generation to vary significantly from one customer to another. This is evident in the wide range water use for different businesses with these land use categorizations. For example, warehouses typically use a low amount of water and generate low amounts of sewage. On the other hand, some manufacturing businesses can use large of amounts of water and contribute large amounts of sewage to the City's sewer system.

The average sewer return ratio was estimated to be 75% of the annual average water use. For planning purposes and when no other specific planning information is available, the sewage generation will be based on

the sewer unit flow factor of 1,060 gpd/ac. This factor was based on the number of future estimated jobs and the 51 gpd/job divided by the number of future industrial acres. It is considered quite conservative in comparison to the currently estimated factor of 244 gpd/ac per flow monitoring in a primarily industrial area. The reason the existing factor is so low is because many of the industrial areas consist of warehouse uses that don't use a lot of water. In the future, these warehouses can be converted to manufacturing uses. Therefore, for planning purposes, the calculated unit flow factor of 1,060 gpd/ac is deemed appropriate.

It is recommended that the City evaluate future potential high water users on a case by case basis, as details regarding the proposed development or redevelopment area becomes available. The sewer hydraulic model should be utilized to make sure that the system is capable of handling the proposed sewage generation.

Public Facility and School Land Uses

Sewer return ratios of 85% and 80%, respectively were implemented for public facilities and schools. The sewer unit flow factor for public facilities is 1,450 gpd per acre. For schools, the sewer unit flow factor is 8 gpd per student.

3-4 Peaking Factors

3-4.1 Peak Dry Weather

The wastewater unit flow factors discussed in Section 3-3 are used to generate average dry weather flows (ADWF) entering the collection system. However, the adequacy of a sewage collection system is based upon its ability to convey the peak flows. At any individual point in the system, peak dry weather flow (PDWF) is estimated by converting the total average flow upstream of the point in question to peak dry weather flow by an empirical peak-to-average relationship.

The peaking formula commonly used in sewerage studies is of the following form:

$PDWF = a \times ADWF^{b}$ where PDWF = Peak Dry Weather Flow
ADWF = Average Dry Weather Flow
a, b = Peaking Formula Coefficients

In order to develop the peaking formula and establish coefficient "a" and "b", the maximum versus average flow measured was plotted for each flow monitoring site as shown in Figure 3-3.

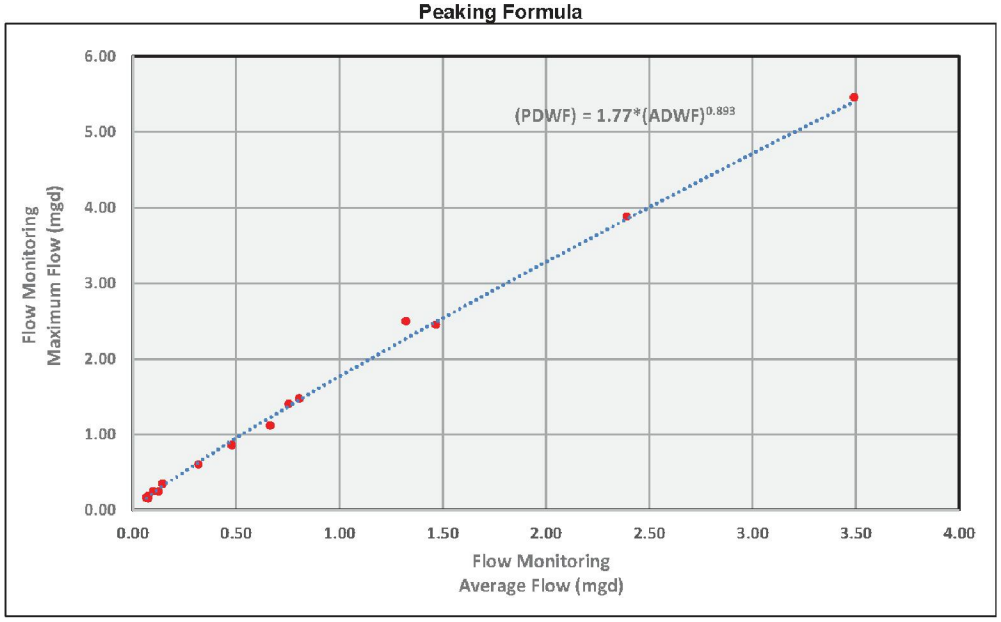
Based on the best fit line through the data points shown in Figure 3-3, the following peaking relationship was selected for this study:

$$PDWF\ (mgd) = 1.77 \times ADWF\ (mgd)^{0.893}$$

The coefficient "b" factor accounts for smaller tributary areas with smaller ADWF, which generally experience greater PDWF. The change in usage of one customer in a very small tributary area will have a greater effect on its corresponding PDWF than a change in usage of one customer is a very large tributary area.

Note that the units of the selected peaking formula are in million gallons per day (mgd). These peaks are generally observed between the hours of 6:00 a.m. and 9:00 a.m. and 7:00 p.m. and 9:00 p.m. during weekdays and somewhat later in the morning hours during weekends in the predominantly residential areas.

Figure 3-3
Peaking Formula



3-4.2 Peak Wet Weather

The peak wet weather flow (PWWF) has two components: peak dry weather flow (PDWF) and rainfall dependent inflow/infiltration (I/I) as expressed by the following equation:

PWWF = PDWF + I/I

Inflow and infiltration is discussed further in Section 3-5.

The flow monitoring effort for this study did not cover a wet weather period. Until wet weather flow data can be collected, it is recommended that the peak wet weather flow be estimated as the following:

Peak Wet Weather Flow (PWWF) = 1.34 x Peak Dry Weather Flow (PDWF)

Although the PWWF/PDWF factor of 1.34 may not cover all situations, it is not reasonable or feasible to design the sewer system to carry the flows that would result from the use of a larger ratio. Instead, it is recommended that the City concentrate on projects such as replacing manhole covers, installing plugs in manhole covers, and replacing or relining cracked pipes to reduce inflow and infiltration.

3-5 Inflow and Infiltration

Inflow is the surface water that typically gains entry to the sewer system through perforated or unsealed manhole covers during rainfall events. Infiltration is defined as water entering the collection system from the ground through defective pipes, pipe joint connections, or manhole walls. The sewer system design capacity

must include allowances for these extraneous flow components, which inevitably become a part of the total flow. The amount of inflow and infiltration (I/I) that enters the system typically depends upon the availability, adequacy, and location of the storm water drainage facilities; age and condition of structures; materials and methods of construction; the location of the groundwater table; and the characteristics of the soil. In the absence of flow monitoring data, many regulating agencies utilize commonly accepted practices for estimating I/I. For example, I/I is often estimated based on the diameter and length of pipeline (100 to 400 gpd/ in. dia/ mile) or as a percentage of the peak flow or pipeline capacity.

AKM's experience from other master planning studies and review of limited flow monitoring information available during severe rainfall events indicate that the peak wet weather flow can vary from 10 percent of average dry weather flows in steeper areas with adequate drainage facilities, to over 400 percent of average dry weather flows in flat areas that lack significant drainage facilities.

For this study, extraneous flow due to inflow and infiltration is included in the peak wet weather flow formula described above. If better data becomes available subsequently for specific areas, the analysis shall be updated based upon that information.

3-6 Sewer System Performance Evaluation Criteria

Sewer system performance evaluation criteria are established to ensure that the wastewater collection system can operate effectively under all flow conditions. Each pipe segment must be capable of carrying peak wet weather flows in the hydraulically stable zone of the pipe. Low flows must be conveyed at a velocity that will prevent solids from settling and blocking the system.

The design capacity of a gravity pipeline is the calculated capacity of the pipeline based on the Manning formula:

$$Q = 1.486 * A * R^{\frac{2}{3}} \frac{S^{\frac{1}{2}}}{n}$$

where, **Q** = flow in cubic feet per second
R = hydraulic radius in feet = A / P
A = cross-sectional area of the pipe in square feet
P = wetted perimeter in feet
S = slope of pipe in feet of rise per foot of length
n = Manning's friction factor

Sewer system capacity is established using a Manning's friction factor of 0.013 for vitrified clay pipe.

The design and analysis of sewer pipes is typically based upon the depth to diameter ratio (d/D). In this study, **existing** pipes are considered capacity deficient if the d/D is above 0.64 at peak dry weather flows. This d/D ratio was arrived at by taking 75% of a pipe's maximum stable flow capacity, which is at a d/D of 0.82. The area above a d/D of 0.82 is considered hydraulically unstable. The 25% pipe capacity above the d/D ratio of 0.64 is reserved for inflow and infiltration.

By setting the maximum allowable PWWF equal to the maximum capacity of the pipe (d/D ratio = 0.82) and setting the maximum allowable PDWF equal to 75% of the maximum pipe capacity (d/D ratio = 0.64), the PWWF/PDWF ratio is 1.34 (100% pipe capacity/75% pipe capacity) as stated in Section 3-4.2.

The extra pipeline capacity also allows for the possibility that actual wastewater flows may be slightly higher than anticipated PDWF. Additionally, the area above the water surface helps to keep the sewage aerated, reducing the possibility of septic conditions and odors.

For **new construction**, the design and analysis of gravity sewer pipes shall be based on the following depth to diameter ratios:

- Pipes **12-inches and smaller** in diameter shall be designed to flow at a maximum **d/D of 0.50** under peak dry weather flows
- Pipes **15-inches and greater** in diameter shall be designed to flow at a maximum **d/D of 0.64** under peak dry weather flows
- For either group, the depth of flow to diameter ratio shall not exceed **0.82 with peak wet weather flows**

Although this Sewer Master Plan study defined existing pipes as deficient when the d/D ratio exceeded 0.64 under peak dry weather flows, for all practical purposes the aforementioned design criteria must be adhered to. For instance, if the sewer pipe is 12-inches and smaller and was designed to flow at a maximum PDWF d/D of 0.50 and is now constructed. The maximum PDWF d/D must be maintained at 0.50. Additional future development flow should not be allowed to contribute to this sewer pipe if the maximum PDWF d/D ratio is going to exceed 0.50.

At a minimum, all pipes shall be 8 inches or larger in diameter and the velocity of flow in the pipe shall be greater than 2 feet per second at average dry weather flow (ADWF). This velocity will prevent deposition of solids in the sewer and help to re-suspend any materials that may have already settled in the pipe. The minimum corresponding slopes for various pipe sizes are shown in Table 3-3.

It is important to note that the slopes listed in Table 3-3 assume the depth of flow in the pipe is 50 or 64 percent full depending on the size. If there is insufficient flow to create this condition, greater slopes than those shown may be required.

The peak flow velocity shall be less than 10 feet per second in vitrified clay pipe.

The City recognizes that minimum slopes and velocities are sometimes not achievable under certain circumstances. On a case by case basis, the City may approve sewer designs that do not meet these criteria.

Table 3-3
Example Sewer Slopes

Sewer Size	2 ft/s Velocity Slope
8"	0.0057
10"	0.0042
12"	0.0033
15"	0.0019
18"	0.0014
21"	0.0011
24"	0.0008
27"	0.0008
30"	0.0007
33"	0.0006
36" & larger	0.0005

**Pipes 12" and smaller assume depth of flow is 50 percent*
**Pipes 15" and greater assume depth of flow is 64 percent*

3-7 Sewer Pump Station Performance Evaluation Criteria

It is desirable to develop a sewer collection system with as few pump stations as possible due to the associated cost and maintenance required. The City's policy does not allow new pump stations. If a pump station is absolutely necessary, the following criteria shall be minimum standards.

The pump station must be designed to be reliable, and sized with sufficient capacity. They must contain redundant equipment, an emergency power supply, bypass pumping capability, sufficient wet well storage, and be able to notify the appropriate personnel in the event of failure.

The primary components of a typical pump station are the wet well, motors, valves, dry well, pumps, ventilation, electrical, controls and the force main. The following general criteria are recommended.

The wet well stores the incoming wastewater until a pump is activated to discharge it to a gravity facility for further conveyance. It shall be designed with sufficient capacity to prevent short cycles whereby the pumps frequently start and stop, yet small enough that it will regularly evacuate sewage from the wet well to prevent the wastewater from becoming septic. Generally, the desired number of pump cycles shall be limited to no more that 6 per hour for motors up to 10 horsepower. Motors up to 75 horsepower shall start no more than 4 times per hour. Larger motors shall cycle less frequently. Pump stations shall also have sufficient volume to store sewage in the event of mechanical or electrical failures, until the City can respond to the failure and prevent overflows. The necessary emergency storage is dependent upon how rapidly the City can respond to a failure and mitigate it. A minimum emergency storage of 30 minutes at peak wet weather flow shall be provided.

The pumps shall be sized to efficiently handle the peak wet weather flows. A minimum of two pumps sized at the peak wet weather flow to the station shall be provided so that sufficient standby capacity is available when one pump is removed for repairs or experiences a mechanical failure. The pumps shall be able to pass a minimum solid size of 3 inches without clogging. The shafts, seals and impellers shall be constructed of wear resistant material to provide long life. Tungsten Carbide seals, Ni-Hard impellers, and 316 stainless steel pump shafts are recommended. For services where aggressive agents may be found in the sewage, such as at golf courses, complete stainless steel construction is recommended. This includes the pump bowl, shaft, impeller, and motor housing.

The dry well houses the valves, pumps, motors and electrical equipment and controls. It must be well ventilated and provide unobstructed access to all equipment. A minimum 3-foot clearance from all obstructions shall be provided. Greater clearances may be required for equipment with special maintenance needs. Provisions for equipment removal including hatches, large door openings, and hoists shall also be provided.

The force mains shall be selected to operate within a 3 feet per second to 5 feet per second velocity range, but shall not be smaller than 4-inches in diameter.

While submersible pump stations may be utilized for the small flows, the larger pump stations shall be the wet well/dry well type. They shall be designed with easy access to all equipment. The National Electric Code classifies the wet wells of wastewater pumping stations as Class I, Group D, Division 1 facilities if ventilated at less than 12 air changes per hour, and Division 2 if continuously ventilated at 12 or more air changes per hour. Dry wells, which are physically separated from wet wells, if ventilated at less than 12 air changes per hour, are classified as Class I, Group D, Division 2 locations. Wet wells, and under certain circumstances dry wells, are considered confined spaces and shall be entered in accordance with the corresponding requirements of Occupational Safety and Health Administration (OSHA).

All pump stations shall incorporate redundant control systems for operation of the pumps. A float system shall be used as a backup for a primary control system that utilizes an ultrasonic device or a bubbler system for level measurement and pump operation.

Full SCADA telemetry equipment which includes a telephone dialer as a backup, must be provided at all sewer pump stations. When an alarm or failed condition occurs, the dialer calls pre-programmed telephone numbers in sequence until the call is acknowledged, indicating response will be provided by City staff. If the alarm or failed condition is not corrected within a set time, the dialer will call the pre-programmed numbers again. The dialer can also be used to remotely check the status of the station if desired.

3-8 Inverted Siphon Performance Evaluation Criteria

In general, siphons should be avoided when possible. This section describes recommended performance criteria for the design of any future siphons.

General

1. Accessibility of the inlet and outlet structures to minimize traffic control setup.
2. Adequate space for equipment setup and vehicle parking, including a buffer for safety.

Siphon Barrels

1. Dual (or multiple) barrels so that normal flow can be diverted to either barrel when the other barrel is cleaned.
2. Minimum barrel diameters of 8-inches.
3. Minimum barrel velocity of 3 feet per second at average dry weather flow and 4 feet per second at peak dry weather flow.
4. Barrels with vertical curves and with no sharp horizontal angles or changes of grade.
5. For an inverted siphon crossing a stream waterway, a minimum of 5 feet between the top of the siphon and the level of possible scour in the stream or waterway.
6. Location away from an outlet of a lateral or a drop manhole
7. Invert of the barrels at the outlet structure at least 0.1 feet lower than the invert at the inlet structure.
8. Siphon materials constructed of pressure rated HDPE or PVC.
9. The maximum angle of the downstream (rising) leg approaching the outlet structure should be no more than 15 degrees from horizontal. The maximum angle of the upstream leg should be no more than 30 degrees from horizontal.

Access Structures

1. Access structure at each end of siphon. Rectangular access structures are preferred.
2. Access structures sized to allow for any maintenance and operation procedure.
3. The interior surface of the access structures are lined, coated or otherwise protected with a suitable corrosion resistant material.
4. Steps, ladders, access frames and covers, gratings and other appurtenances fabricated of 316 stainless steel.
5. Ability to install temporary guard rails while maintenance work is being conducted.

Slide Gates, Stoplogs, Weirs

1. Slide gates, stoplogs, weirs, and similar devices fabricated of 316 stainless steel.

Valves

1. No valves shall be used for siphons.

Air Jumper

1. Adequately sized air jumper line between access structures
2. Minimum air jumper size of 6-inches in diameter.

   The empirical method for determining the cross sectional area of the conduit allocated for gas flow approaching the inverted siphon is as follows:

   $$A_A = 2A_S$$

   Where, A_A = Cross sectional area of airline

   A_S = Flow cross sectional area allocated for gas flow of the approaching conduit
3. Air jumpers made of pressure rated HDPE or PVC.
4. Air jumpers designed to remove condensate with a minimum slope for drainage. Where practical, overhead air jumpers that are self-draining to the access structures are preferred.
5. Air jumpers designed to accommodate the City's inspection and cleaning methods.

A summary of sewer system performance evaluation criteria is listed in Table 3-4.

Table 3-4
Sewer System Performance Evaluation Criteria

Collection System	
Minimum Pipe Size	8-inch
Minimum Velocity	2.0 ft/sec at average flow 3.0 ft/sec at peak dry weather flow
Pipe Depth to Diameter Ratio for *Existing Pipes**	0.64 for all pipe sizes at peak dry weather flow 0.82 for all pipe sizes at peak wet weather flow
Pipe Depth to Diameter Ratio for *New Construction*	0.50 for pipes 12-inches and smaller at peak dry weather flow 0.64 for pipes 15-inches and larger at peak dry weather flow 0.82 for all pipe sizes at peak wet weather flow
Pump Stations	
Pumps	▪ Minimum 2 each sized at peak wet weather flow ▪ Minimum solids handling capacity 3"
Wet Wells	▪ Sized to limit pump cycling to less than 4 to 6 times/hr ▪ Provide sufficient storage at peak wet weather flow to allow response to a failure ▪ Equipment to be maintained must be accessible without entering structure

Ventilation	▪ 12 -air changes/hour minimum in dry well and as required by NFPA 820 ▪ 30-air changes/hour minimum in wet well if not operated continuously ▪ 12-air changes/hour minimum in wet well if operated continuously
Controls	Redundant system. Float operated back-up controls.
Emergency Power	Stationary source with automatic transfer switch
Telemetry	Full SCADA with dialer system as back up at all pump stations to alert personnel in the event of a station failure.
Force Mains	▪ Minimum velocity 3.0 ft/sec ▪ Maximum velocity 5.0 ft/sec ▪ Minimum size 4" ▪ Air/Vacs installed in vaults ▪ Plumb Air/Vacs piping back to wet well to avoid discharges of raw sewage to vaults
Inverted Siphons	
Siphon Barrels	▪ Dual or multiple ▪ Minimum diameters of 8-inches ▪ Minimum velocity of 3 ft/s ADWF and 4 ft/s PDWF ▪ Vertical curves, with no sharp horizontal angles or changes of grade ▪ If crossing a waterway, minimum 5 ft between the top of the siphon and the level of possible scour in the waterway ▪ Location away from an outlet of a lateral or a drop manhole ▪ Invert at the outlet structure at least 0.1 ft lower than invert of inlet structure ▪ Material is HDPE or PVC ▪ Maximum angle of downstream leg no more than 15 degrees from horizontal ▪ Maximum angle of upstream leg no more than 30 degrees from horizontal
Access Structures	▪ Located at each end of siphon, rectangular preferred ▪ Sized to allow for any O&M procedure ▪ Lined, coated, or protected with a suitable corrosion resistant material ▪ Steps, ladders, access frames and covers, gratings and other appurtenances fabricated of 316 stainless steel ▪ Ability to install temporary guard rails
Slide Gates, Stoplogs, Wiers	▪ Fabricated of 316 stainless steel
Valves	▪ No valves allowed
Air Jumper	▪ Adequately sized between access structures ▪ Minimum 6-inches in diameter

	▪ Material is HDPE or PVC ▪ Designed to remove condensate with a minimum slope for drainage; overhead air jumpers that are self-draining to the access structures are preferred ▪ Ability to accommodate City inspection and cleaning methods

** Although this Sewer Master Plan study defined existing pipes as deficient when the d/D ratio exceeded 0.64 under peak dry weather flows, for all practical purposes the aforementioned design criteria provided for new construction must be adhered to.*

3-9 Service Life of Pipe and Pump Station Equipment

In addition to the design criteria discussed in previous sections, the useful lives for which one can expect relatively trouble-free service is also of great importance when assessing an existing or future sewer system. Once the service life of a facility is exceeded, it becomes subject to failure and is often expensive to maintain. The determination of useful life can be difficult and depends on many different considerations including the following:

- Type of materials used and recorded performance of similar installations
- Velocities and flow rates expected in the system
- Chemical and biological conditions of the wastewater
- Construction methods and installation

The values listed in Table 3-5 are generally accepted as prudent planning criteria and are used as benchmarks for replacement recommendations in this study.

Table 3-5
Planning Criteria for Facility Useful Life

Facility	Description	Useful Life (Years)
Gravity Sewers:	Cast Iron Pipe (CIP)	20
	Plastic Pipe	65
	Vitrified Clay Pipe (VCP)	75
Force Mains:	Asbestos-Cement Pipe (ACP)	40
	Ductile Iron Pipe (DIP)	40
	Plastic Pipe	30
Pump Stations:	Structure	60
	Piping	30
	Valving	20
	Mechanical	15
	Electrical	15

3-10 Criteria for Specific Plans and Development Subareas

Each party wishing to pursue development of a tract or area within the City service area shall develop a Sub-Area Master Plan (SAMP). The developer's plans for providing adequate sewer service to all users within the proposed development, how the local sewer system will connect to the backbone and regional system, and the impact of the proposed development to the downstream facilities (to the regional system) shall be fully described in the SAMP. The local sub-area sewers shall meet the sewer design criteria provided in this document and the City Standard Drawings for Sewer Construction. At a minimum, sewage flow calculations shall be based upon the unit flow factors contained in Table 3-2 or higher factors if specific conditions require it.

Where flow from a new development or redevelopment is proposed to be added to an existing City sewer, the existing sewer shall be flow monitored by a qualified company acceptable to the City at the owner's cost for a minimum period of two weeks to verify the existing minimum, average, and peak dry weather flows. The location(s) of flow monitoring shall be determined by the City. Two copies of the flow monitoring report shall be submitted to the City in the City's required format. The City will determine the adequacy of capacity in all the City facilities that will convey the subject flow to the regional facilities. Service to proposed development or redevelopment shall be subject to availability of capacity in the City sewers and regional sewers.

A typical Sub-Area Sewer Master Plan Report shall include, but not be limited to the following:

- Map showing project boundaries and drainage areas
- Detailed land use description and map
- Average dry weather, peak dry weather, and peak wet weather flow calculations
- Exhibit showing all proposed sewer facilities and connections to the downstream regional system
- Phasing of development and wastewater flows
- Hydraulic calculations for phased and fully developed ultimate conditions, from the development to the regional system, meeting all sewer design criteria
- Results of flow monitoring, if project area is tributary to existing City sewers

3-11 General Plan Land Use Changes

Any time a General Plan Amendment is proposed that includes a change in land use from what was included in this Sewer Master Plan, the applicant shall be required and responsible for processing an Amendment to this Sewer Master Plan. The Amendment must incorporate the land use change into the Sewer Master Plan and analyze any and all impacts on the City's sewer system. It must also recommend any required mitigation measures that may be a result of the proposed land use change.

SECTION 4
EXISTING SEWER SYSTEM

4-1 General

The existing sewer system, shown on Figure 4-1, is made up of a network of gravity sewers, pump stations, and force mains. The Original Model Colony (OMC) and Ontario Ranch gravity system combined consists of approximately 384 miles (2,028,218 ft) of pipe and 8,400 manholes and cleanouts. The system also includes three pump stations and 11,100 feet of associated force mains. The total existing average sewer load for the system is estimated at 10.39 mgd.

The general direction of flow is from north to south and east to west. The majority of the local sewers tie into one of the Inland Empire Utilities Agency (IEUA) trunk sewers crossing through the city. The sewage is then transported to IEUA's Regional Plant No. 1 (RP-1) or Regional Plant No. 5 (RP-5) for treatment.

The existing sewers are primarily constructed of vitrified clay pipe with sizes ranging from 4-inches to 48-inches in diameter. Approximately 73 percent of the pipes are 8-inches in diameter. Figure 4-2 shows the length of gravity sewers (feet) in the existing system by pipe size. The majority of the system was constructed between 1950 and 1990 as shown on Figure 4-3. Some of the collection system was constructed as early as 1895.

4-2 Regional Facilities and Points of Connection

The Inland Empire Utilities Agency (IEUA) is the regional agency that provides wastewater collection, treatment and disposal to the west end of San Bernardino County. Its 242 square mile service area includes the Cities of Upland, Montclair, Ontario, Fontana, Chino, Chino Hills, Rancho Cucamonga, and unincorporated areas of San Bernardino County. IEUA's wastewater collection system accepts flows from the collection systems operated by contracting agencies and conveys this wastewater to one of its nearby regional plants for treatment and disposal.

Several regional trunk sewers collect most of the sewage generated in the service area and transport it to IEUA's Regional Plant No.1 (RP-1) for treatment. RP-1 is located south of the Pomona Freeway (SR-60) and west of Cucamonga Creek, as shown on Figure 4-1. It has been in operation since 1948. It has a current capacity of 44 million gallons per day. RP-1 also serves the Cities of Rancho Cucamonga, Upland, Montclair, Fontana, and portions of unincorporated San Bernardino County.

IEUA began operation of Regional Plant No.5 (RP-5) in March 2004. RP-5 is located in the City of Chino at the southeast corner of Kimball Avenue and El Prado Road, as shown on Figure 4-1. It has an ultimate capacity of 60 million gallons per day. Sewage generated in Ontario Ranch, as well as the flow diverted from the Original Model Colony lift station tributary areas is treated at RP-5.

There are 100 identified regional connection locations where the City's facilities connect to IEUA trunk sewers. Some are future planned connections. All locations are listed in Table 4-1.

SECTION 7
HYDRAULIC SYSTEM ANALYSIS

7-1 Gravity System

The analysis of the sewer collection system was based upon the calculated existing and future peak dry weather flows. The hydraulic analysis results can be found in *Appendix 6.2* of this report. Pipes that exceed the following criteria are considered hydraulically deficient: Peak Dry Weather d/D > 0.64. The hydraulic deficiencies, based upon the criteria above, are listed in Table 7-1. The locations of these deficiencies are shown on Figure 7-1.

The total length of existing sewers found to be capacity deficient per the developed criteria discussed in Section 3 is 2,137 feet. This is 0.11 percent (2,137 / 2,028,218) of the total existing system length. This percentage is quite minimal in part because the City has completed several capital improvement projects since the last Sewer Master Plan was completed in 2012 and in part because sewage generation is generally lower than in the past due to water conservation efforts.

When the future development loads were applied to the model, it was found that an additional 7,645 feet of existing sewer would become capacity deficient per the developed criteria.

7-2 Pump Stations

The City currently owns and operates three sewer pump stations, namely Magnolia Pump Station, Haven Pump Station, and Edenglen Pump Station. Detailed descriptions of each pump station can be found in Section 4-7.

The Magnolia Pump Station is a wet well – dry well facility with two pumps, each rated at 400 gpm. The firm capacity of the Magnolia Pump Station is therefore 400 gpm. This is sufficient to pump the existing and future wet weather flows of 128 gpm.

The Haven Pump Station is a submersible pump station with four pumps rated at 3,400 gpm each. The estimated existing peak wet weather flow is 425 gpm. The estimated future peak wet weather flow is 515 gpm. Assuming one pump is for stand-by purposes, the firm capacity of the station is 10,200 gpm, which is significantly greater than the future peak wet weather flows.

The Edenglen Pump Station is a submersible pump station with two pumps rated at 120 gpm each. The pump station serves a total of about 525 dwelling units with an estimated average flow of 41,200 gpd or 29 gpm. The peak wet weather flow is estimated at 137,450 gpd or 95 gpm. During the pump station start-up testing which was conducted on November 9, 2007, the pump station delivered approximately 180 gpm. This is sufficient to pump the existing and future wet weather flows.

The Inland Empire Boulevard Pump Station has 2 pumps each rated at 100 gpm. The existing flow is minimal at less than 3 gpm. The estimated future average dry weather flow and peak dry weather flow is estimated at 412,965 gpd (287 gpm) and 803,496 gpd (558 gpm), respectively. The peak wet weather flow is estimated at 1,076,685 gpd (748 gpm).

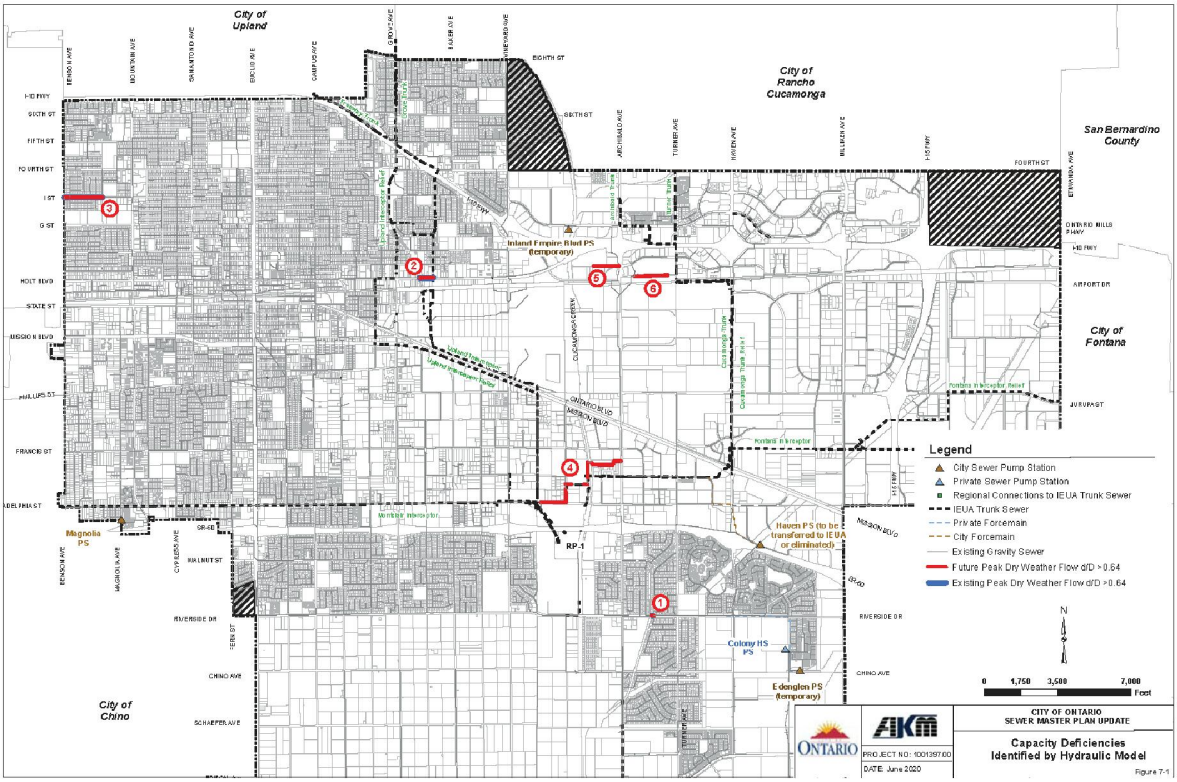

City of Upland
City of Rancho Cucamonga
San Bernardino County
City of Fontana
City of Chino
Inland Empire Blvd PS (temporary)
Haven PS (to be transferred to IEUA or eliminated)
Magnolia PS
Colony HS PS
Edenglen PS (temporary)
RP-1
Legend
City Sewer Pump Station
Private Sewer Pump Station
Regional Connections to IEUA Trunk Sewer
IEUA Trunk Sewer
Private Forcemain
City Forcemain
Existing Gravity Sewer
Future Peak Dry Weather Flow d/D > 0.64
Existing Peak Dry Weather Flow d/D > 0.64
0 1,750 3,500 7,000 Feet
CITY OF ONTARIO SEWER MASTER PLAN UPDATE
Capacity Deficiencies Identified by Hydraulic Model
PROJECT NO: 160139700
DATE: June 2020
Figure 7-1

Table 7-1
Hydraulic Deficiencies Identified by Hydraulic Model

General Information										Existing Conditions					Future Conditions					
Model	Location Number	Location Description	Pipe ID	U/S MH ID	D/S MH ID	Diameter (in)	Length (ft)	Slope	Full Flow (mgd)	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Water Depth (ft)	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Water Depth (ft)	Comments/Recommendations
South	1	Riverside Dr, east of Lower Deer Creek	R19TM1125	R19MH182	R19MH191	15	95	-0.0054		0.9163	0.4784	1.16	1.00	1.25	0.9923	0.1959	0.49	1.00	1.25	Inverts per As-built plan S13564. Verify the inverts in the field. If inverts in model are incorrect, rerun model and possibly eliminate deficiency. This is not deficient in the future scenario, because all flow at Riverside and Haven is diverted south into Haven Avenue Trunk Sewer.
			R19TM1124	R19MH181	R19MH190	15	52	0.0004	0.9242	0.9163	0.4784	1.16	1.00	1.25	0.9923	0.1959	1.03	0.49	0.61	Inverts per As-built plan S13564 which provides an adverse slope. Verify inverts in the field. If inverts in model are incorrect, rerun model and possibly eliminate deficiency.
North	2	Holt Blvd west of Imperial Ave	J161027	J16135	J16137	10	330	0.0026	0.7296	0.6370	0.3184	2.33	0.72	0.60	0.7639	0.3902	2.17	1.00	0.83	City is currently studying this location.
			J161047	J16137	J16133	10	303	0.0026	0.7250	0.6370	0.3184	2.32	0.73	0.61	0.7764	0.3974	2.20	1.00	0.83	
North	3	I St, btw Elderberry Ave and Fuchsia Ave	H111001	H11149	H10134	8	282	0.0038	0.4806	0.3671	0.1717	2.35	0.65	0.44	0.3713	0.1740	2.36	0.66	0.44	Flow monitor to verify sewage flows. If deficient, construct about 360 feet of 8-inch sewer in Mountain Avenue, south of I Street (from MH H11143 to I11100) and divert flow south. Possibly use existing sewer in I Street as an overflow.
		I St, btw Fuchsia Ave and Gardenia Ave	H101052	H10136	H10138	8	241	0.0038	0.4705	0.3842	0.1808	2.33	0.69	0.46	0.3884	0.1839	2.33	0.69	0.46	
		I St, btw Gardenia Ave and Oaks Ave	H101032	H10137	H10139	8	181	0.0036	0.4692	0.3948	0.1863	2.33	0.70	0.47	0.3990	0.1886	2.33	0.71	0.47	
		I St, btw Oaks Ave and Jasmine Ave	H101031	H10139	H10140	8	149	0.0046	0.5329	0.4076	0.1931	2.60	0.66	0.44	0.4118	0.1953	2.61	0.66	0.44	
			H101024	H10140	H10141	8	243	0.0041	0.4998	0.4092	0.1940	2.47	0.69	0.46	0.4134	0.1962	2.48	0.69	0.46	
			H101023	H10141	H10142	8	252	0.0040	0.4982	0.4122	0.1956	2.47	0.69	0.46	0.4164	0.1978	2.47	0.70	0.47	
		I St, btw Jasmine Ave and Benson Ave	H101022	H10142	H10135	8	272	0.0049	0.5404	0.4299	0.2070	2.68	0.68	0.45	0.4377	0.2092	2.67	0.68	0.46	
North	4	Easements btw Archibald Ave and Cucamonga Creek, north of Philadelphia St	O1910116	O19107	O19106	18	322	0.0016	2.7105	0.2188	0.0962	1.43	0.19	0.29	2.524	1.4882	2.70	0.76	1.15	Investigate the potential of diverting the flow south in Archibald to a new IEUA connection in Cedar Street. There is an existing issue at the siphon crossing Cucamonga Creek. Smart Manhole cover located at MH O18103. High water alarm has been triggered in the past and crews go to clear blockages. Based on review of the siphon design and the Smart Cover information, it appears that debris in the siphon cannot be pushed through due to the very low velocities, causing the sewage to back up into MH O18103. Redesigning and reconstructing or analyzing alternative to eliminate this siphon should be considered.
			O1910117	O19108	O19114	18	186	0.0016	2.7348	0.2188	0.0962	1.43	0.19	0.29	2.524	1.4882	2.72	0.76	1.14	
			O1910118	O19114	O19113	18	291	0.0016	2.7358	0.2188	0.0962	1.43	0.19	0.29	2.524	1.4882	2.72	0.76	1.14	
			O1910006	O19113	O18106	18	250	0.0016	2.7230	0.2188	0.0962	1.43	0.19	0.29	2.524	1.4882	2.71	0.76	1.14	
			O1810079	O18106	O18105	18	387	0.0016	2.7246	0.2437	0.1086	1.48	0.20	0.30	2.643	1.5006	2.71	0.77	1.15	
			O1810025	O18105	O18103	18	121	0.0016	2.6973	0.2437	0.1086	1.47	0.20	0.30	2.643	1.5006	2.69	0.77	1.15	
		Easements btw Hellman Ave and Cucamonga Creek, north of Philadelphia St	O1810016	O18102	O18108	18	310	0.0016	2.7332	0.2569	0.1152	1.50	0.21	0.31	2.553	1.5072	2.72	0.77	1.15	
			O1810015	O18108	O18118	18	311	0.0016	2.7311	0.2569	0.1152	1.50	0.21	0.31	2.553	1.5072	2.72	0.77	1.15	
			O1810047	O18118	O18127	18	99	0.0005	1.6763	0.2622	0.1178	1.07	0.27	0.40	2.557	1.5098	2.24	1.00	1.50	
			O1810094	O18139	O18138	18	167	0.0025	3.4117	0.2635	0.1185	1.77	0.19	0.28	2.558	1.5105	3.28	0.65	0.97	
			O1810095	O18136	O18135	18	286	0.0025	3.4036	0.2635	0.1185	1.77	0.19	0.28	2.558	1.5105	3.27	0.65	0.97	
		Hellman Ave, north of Philadelphia St	O1810004	O18148	P18101	18	369	0.0022	3.1915	0.3344	0.1547	1.81	0.22	0.33	2.659	1.5771	3.13	0.70	1.05	
			P1810019	P18191	P18188	18	263	0.0022	3.1952	0.3348	0.1550	1.81	0.22	0.33	2.659	1.5773	3.13	0.70	1.05	
		Philadelphia St, west of Hellman Ave	P1810007	P18108	P18107	18	333	0.0014	2.5828	0.3348	0.1550	1.56	0.24	0.36	2.659	1.5773	2.33	1.00	1.50	
			P1810008	P18107	P18106	18	336	0.0014	2.5730	0.3375	0.1563	1.56	0.24	0.37	2.661	1.5787	2.33	1.00	1.50	
			P1810011	P18106	P18105	18	251	0.0014	2.5805	0.3381	0.1567	1.56	0.24	0.37	2.662	1.5790	2.33	1.00	1.50	
			P1810018	P18105	P18133	18	249	0.0014	2.5615	0.3381	0.1567	1.55	0.25	0.37	2.662	1.5790	2.33	1.00	1.50	

Table 7-1 (Continued)
Hydraulic Deficiencies Identified by Hydraulic Model

General Information										Existing Conditions					Future Conditions					
Model	Location Number	Location Description	Pipe ID	U/S MH ID	D/S MH ID	Diameter (in)	Length (ft)	Slope	Full Flow (mgd)	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Water Depth (ft)	PDWF (mgd)	ADWF (mgd)	PDWF Vel (ft/s)	PDWF d/D	PDWF Water Depth (ft)	Comments/Recommendations
North	5	South of I-10 Fwy, west of Archibald Ave	J1 91010	J18106	J18107	8	325	0.0052	0.5643	0.0277	0.0095	1.30	0.15	0.10	0.6951	0.3511	3.08	1.00	0.67	Future deficiency due to Multi Modal Mixed Use development loads. Monitor sewage flows as development occurs.
			J1 91 009	J18107	J19110	8	324	0.0052	0.5639	0.0277	0.0095	1.30	0.15	0.10	0.6951	0.3511	3.08	1.00	0.67	
			J1 91 012	J19110	J19112	8	280	0.0052	0.5655	0.0277	0.0095	1.30	0.15	0.10	0.6951	0.3511	3.08	1.00	0.67	
			J1 91 011	J19112	J19111	8	256	0.0058	0.5960	0.0277	0.0095	1.35	0.15	0.10	0.6951	0.3511	3.08	1.00	0.67	
North	6	Old Guasti Rd, btw Turner Ave and Archibald Ave	J1 91 004	J20131	J19116	8	303	0.0045	0.5231	0.0508	0.0187	1.47	0.21	0.14	0.4145	0.1988	2.57	0.67	0.45	Future deficiency due to Guasti Plaza and Airport Towers Mixed Use development loads (applied at J19116 in model). Monitor sewage flows as development occurs.
			J1 91 047	J19116	J19119	8	297	0.0044	0.5223	0.0508	0.0187	1.47	0.21	0.14	0.4145	0.1968	2.57	0.67	0.45	
			J1 91 046	J19119	J19121	8	313	0.0045	0.5235	0.0508	0.0187	1.47	0.21	0.14	0.4145	0.1968	2.57	0.67	0.45	
			J1 91 035	J19121	J19123	8	354	0.0048	0.5397	0.0508	0.0187	1.50	0.21	0.14	0.4145	0.1968	2.64	0.68	0.46	
			J19CL1034	J19123	J19MH138	8	380	0.0032	0.4453	0.0508	0.0187	1.31	0.23	0.15	0.4145	0.1968	2.24	0.78	0.51	

*Corresponds to Figure 7-1

Total 9,782

SECTION 8
CAPACITY IMPROVEMENT PROJECTS AND PROPOSED SEWER FACILITIES

8-1 General

The primary goal of the development of the Capacity Improvement Project list is to provide the City of Ontario with a long-range planning tool for implementing its sewer capacity improvements in an orderly manner and a basis for financing of these improvements. To accomplish this goal, the program is phased based upon the implementation cost of the facilities, the quantity of work the City can reasonably administer each year, and the funds available for these projects.

8-2 Project Priorities

The capacity improvement projects were selected primarily with consideration of the health and safety of the public and protection of the environment by minimizing the possibility of overflows. The projects that will eliminate the capacity deficiencies in the gravity collection system are prioritized based upon the hydraulic analyses conducted during this study.

For this study, the gravity sewer projects were prioritized as follows:

1. Facilities identified with capacity deficiencies under existing peak dry weather conditions. **Flow monitoring is recommended prior to project implementation.**

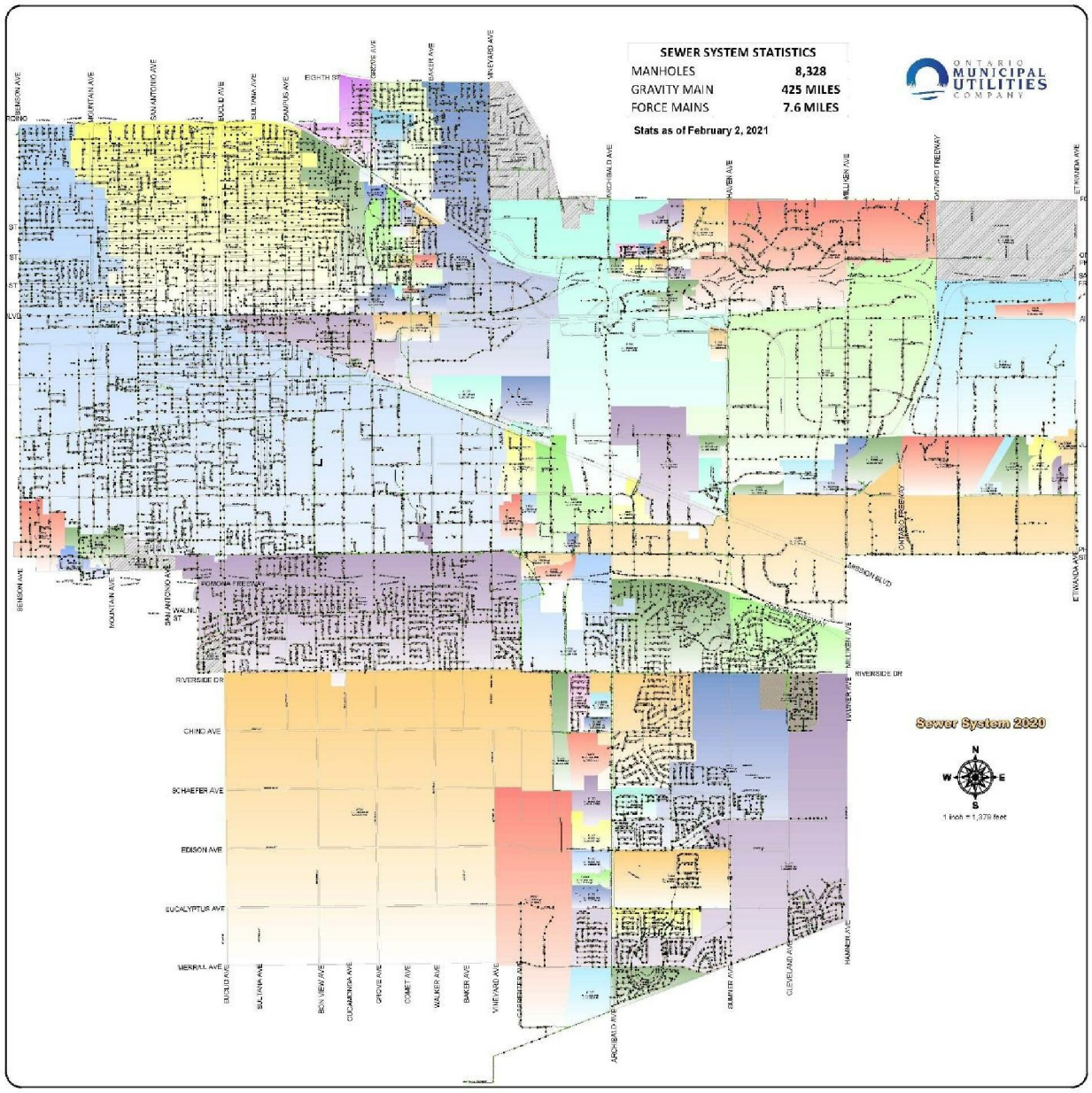
2. Facilities that have calculated future capacity deficiencies but are currently considered adequate under existing peak dry weather conditions. **Flow monitoring is recommended prior to project implementation.** When the measured peak flows exceed the pipe capacity (d/D = 0.64 during peak dry weather conditions), the projects should be reprioritized.

8-3 Project Cost Estimates

The capacity improvement projects are developed based upon the results of the hydraulic analyses and the priorities of Section 8-2. The cost estimates are based upon recent information for similar projects in the City of Ontario and include contingencies for this planning level study. The cost estimates are based on the unit construction costs shown in Table 8-1. Pipeline costs take into consideration the size of the pipe as well as whether the construction will be within the OMC or OR area. The OMC area is largely developed and there are many existing utilities to consider. Therefore, the costs of replacing sewer pipes will be generally higher than in an area that is undeveloped such as the OR area.

The pipe improvement recommendations are typically based on the replacement of the existing pipes in the same alignment. Replacement costs are generally more conservative and will therefore allow the City more flexibility for each project. Preliminary design studies should be conducted utilizing detailed utility information to identify and evaluate project alternatives such as parallel pipes and/or diversions prior to final design.

Appendix J - Sewer System Map


SEWER SYSTEM STATISTICS
MANHOLES 8,328
GRAVITY MAIN 425 MILES
FORCE MAINS 7.6 MILES
Stats as of February 2, 2021
ONTARIO MUNICIPAL UTILITIES COMPANY
Sewer System 2020
N
W
E
S
1 inch = 1,379 feet
BENSON AVE
MOUNTAIN AVE
SAN ANTONIO AVE
BUCKLE AVE
SULTANA AVE
EUCALYPTUS AVE
EIGHTH ST
GROVE AVE
BAKER AVE
VINEYARD AVE
ARCHIBALD AVE
HAVEN AVE
MILLIKEN AVE
ONTARIO FREEWAY
ETIWANDA AVE
POMONA FREEWAY
WALNUT ST
RIVERSIDE DR
CHINO AVE
SCHAEFER AVE
EDISON AVE
EUCALYPTUS AVE
MERRILL AVE
BROOKVIEW AVE
CUCAMONGA AVE
COMET AVE
WALKER AVE
HAMNER AVE
SUMNER AVE
CLEVELAND AVE

Appendix K - SmartCover® Locations

SmartCover® Locations

Manhole ID #	Location	Major cross street(s)
K11MH112	1044 Brooks St.	East of Mountain Ave.
O18MH103	1900 S. Proforma	North of Philadelphia St. West of Archibald Ave.
M13MH119	215 E. Phillips	East of Euclid Ave.
M12MH101	632 W. Belmont	East Of San Antonio Ave.
I15MH164	951 E. Flora St.	South of G St. west of Allyn Ave.
I17MH103	Granada & Plaza Serena	West of Vineyard Ave.
J17MH147	Mark Christopher Parking Lot	South of Holt Blvd. east of Vineyard Ave.
P10MH110	Philadelphia & Oaks	East of Benson Ave.
R16MH161	2672 E. Riverside Drive	West of Archibald Ave.
J15MH134	Alley between Allyn & Nocta	East of Allyn

Appendix L - SSMP Audit Checklist

SSMP Audit Checklist

City of Ontario Sewer System Management Plan (SSMP)

The purpose of the SSMP Audit is to evaluate the effectiveness of the City of Ontario's SSMP and to identify deficiencies, if any, and steps to correct them. The audit is prepared pursuant to the State Water Resources Control Board, WDR, September, 2006.

Directions: Please check **YES** or **NO** for each question. If **NO** is answered for any question, describe the updates/changes needed and the timeline to complete those changes in the "Description of Scheduled Updates/Changes to the SSMP" at the end of this form on Page 5.

		YES	NO
ELEMENT 1 – GOALS			
A.	Are the goals stated in the SSMP still appropriate and accurate?	☑	☐
ELEMENT 2 – ORGANIZATION			
A.	Is the Sanitary Sewer Overflow Responder Telephone List current?	☑	☐
B.	Is Table 1 of the SSMP, entitled "Organization Structure," current?	☑	☐
C.	Are position descriptions an accurate portrayal of staff Responsibilities?	☑	☐
D.	Is Table 2 of the SSMP, titled "Chain of Communication for Reporting and Responding to SSOs," accurate and up-to-date?	☑	☐
ELEMENT 3 – LEGAL AUTHORITY			
Does the SSMP contain excerpts from the current City Municipal Code documenting the City's legal authority to:			
A.	Prevent illicit discharges?	☑	☐
B.	Require proper design and construction of sewers and connections?	☑	☐
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?	☑	☐
D.	Limit discharges of fats, oil and grease?	☑	☐
E.	Enforce any violation of its sewer ordinances?	☑	☐

		YES	NO
ELEMENT 4 – OPERATIONS AND MAINTENANCE			
	Collection System Maps		
A.	Does the SSMP reference the current process and procedures for maintaining the City's wastewater collection system maps?	☑	☐
B.	Are the City's wastewater collection system maps complete, current, and sufficiently detailed?	☑	☐
	Resources and Budget		
C.	Does the City allocate sufficient funds for the effective operation, maintenance and repair of the wastewater collection system and is Prioritized Preventive Maintenance	☑	☐
	Prioritized Preventive Maintenance		
D.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?	☑	☐
E.	Based upon information in the Annual Report, are the City's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	☑	☐
	Scheduled Inspections and Condition Assessments		
F.	Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	☑	☐
	Equipment and Replacement Parts		
G.	Does the SSMP reference the procedures used for inventory management of equipment and parts used in the operation and maintenance of the collection system?	☑	☐
H.	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	☑	☐
	Training		
I.	Is the training calendar current?	☑	☐
J.	Does the SSMP document current training expectations and programs within the City's Wastewater Department?	☑	☐
	Outreach to Plumbers and Building Contractors		
K.	Does the SSMP document current outreach efforts to plumbers and building contractors?	☑	☐

		YES	NO
ELEMENT 5 – DESIGN AND PERFORMANCE STANDARDS			
A.	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?	☑	☐
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?	☑	☐
ELEMENT 6 – OVERFLOW AND EMERGENCY RESPONSE PLAN			
A.	Does the City's Sanitary Sewer Emergency Overflow and Backup Response Plan establish procedures for the emergency response, notification, and reporting of sanitary sewer overflows (SSOs)?	☑	☐
B.	Are Wastewater Division staff and contractor personnel appropriately trained on the procedures of the Sanitary Sewer Overflow and Backup Response Plan?	☑	☐
C.	Considering performance indicator data in the Annual SSO Report, is the Overflow and Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment?	☑	☐
ELEMENT 7 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM			
A.	Does the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?	☑	☐
B.	Are requirements for grease removal devices, best management practices (BMP), record keeping and reporting established in the City's FOG Control Program?	☑	☐
C.	Does the City have sufficient legal authority to implement and enforce the FOG Control Program?	☑	☐
D.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system	☑	☐
ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN			
A.	Does the City Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long term capacity enhancement and improvement projects?	☑	☐
B.	Does the City's Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and longterm improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	☑	☐

		YES	NO
ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS			
A.	Does the City maintain relevent info needed to monitor the implementation and effectiveness of the SSMP?	☑	☐
B.	Is the City able to sufficiently evaluate the effectiveness of SSMP elements based on relevant information?	☑	☐
ELEMENT 10 – SSMP AUDITS			
A.	Will the SSMP Audit be prepared along with the Annual Report by March 15th of the year following the end of the calendar year being audited?	☑	☐
ELEMENT 11 – COMMUNICATION PROGRAM			
A.	Does the City effectively communicate with the public and satellite and other agencies about the development and implementation of the SSMP and continue to address any feedback?	☑	☐

Description of Scheduled Updates/Changes to the SSMP

Directions: For each NO answer, please describe the planned revision and indicate the date the revision will be completed. Reference the SSMP element and question number with each explanation.

Prepared by: _____ 2/11/2021

Tittle: Assistant General Manager - Utilities Engineering & Operations

Appendix M – Overflow Emergency Response Plan

SANITARY SEWER OVERFLOW

EMERGENCY RESPONSE PLAN

June 2018

Table of Contents

Attachments

I. OBJECTIVE

The City of Ontario's Sanitary Sewer Overflow Emergency Response Plan (SSO ERP) is designed to ensure that every report of a sanitary sewer overflow (SSO) is dispatched to the appropriate response personnel so that the effects of the overflow can be minimized with respect to its adverse impacts on public health, the environment, and property. The source of the SSO shall be stopped and the spill contained as soon as possible. Notification and reporting to governmental agencies, affected residents and property owners shall be done in an appropriate time frame. All state and local regulations shall be observed and implemented in response and remediation procedures.

II. SCOPE

A. All federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in the State of California are required to comply with the terms of this Order.

B. Sanitary sewer overflows (SSOs) are overflows from sanitary sewer systems of domestic wastewater, as well as industrial and commercial wastewater, depending on the pattern of land uses in the area served by the sanitary sewer system. SSOs often contain high levels of suspended solids, pathogenic organics, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. SSOs may cause a public nuisance, particularly when raw untreated wastewater is discharged to areas with high public exposure, such as streets or surface waters used for drinking, fishing, or body contact recreation. SSOs may pollute surface or ground waters, threaten public health, adversely affect aquatic life, and impair the recreational use and aesthetic enjoyment of surface waters.

C. Major causes of SSOs include: grease blockages, root blockages, sewer line flood damage, manhole structure failures, vandalism, pump station mechanical failures, power outages, excessive storm or ground water inflow /infiltration, debris blockages, sanitary sewer system age and construction material failures, lack of proper operation and maintenance, insufficient capacity and contractor-caused damages.

III. DEFINITIONS

A. SSO Categories

i. **Category 1 SSO** – Discharges of untreated or partially treated wastewater of **any volume** resulting from a City's sewer system failure or flow condition that:

a. Reach surface water and/or reach a drainage channel tributary to a surface water; or

b. Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sanitary sewer system or not otherwise captured and disposed of properly. Any volume of wastewater not recovered from the MS4 is considered to have reached surface water unless the storm drain system discharges to a dedicated storm water or groundwater infiltration basin (e.g., infiltration pit, percolation pond).

ii. **Category 2 SSO** – Discharges of untreated or partially treated wastewater of **1,000 gallons or greater** resulting from a City sanitary sewer system failure or flow condition that **does not** reach a surface water, a drainage channel, or the MS4 unless the entire SSO discharged to the storm drain system is fully recovered and disposed of properly.

iii. **Category 3 SSO** – All other discharges of untreated or partially treated wastewater resulting from a City sanitary sewer system failure or flow condition.

iv. **Private Lateral Sewage Discharge (PLSD)** – Discharges of untreated or partially treated wastewater resulting from blockages or other problems **within a privately owned sewer lateral** connected to the City's sanitary sewer system or from other private sanitary sewer system assets. PLSDs that the City becomes aware of may be voluntarily reported to the California Integrated Water Quality System (CIWQS) Online SSO Database.

B. **Order** – State Water Resources Control Board Order No. 2006-0003-DWQ; Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems Order No. WQ 2013-0058-EXEC.

C. **Receiving Water** – Surface waters receiving discharge from stormwater conveyance systems.

D. **SSO Reporting System** – Online spill reporting system that is hosted, controlled, and maintained by the State Water Resources Control Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

E. **Sanitary sewer overflow (SSO)** – Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

i. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

ii. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

iii. Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

F. **Sanitary sewer system** – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

G. **Surface Waters** – Waters of the United States as defined in 40 CFR 122.2 such as navigable waters, rivers, streams (including ephemeral streams), lakes, natural ponds, lagoons,

estuaries, man-made canals, ditches, wet meadows, wetlands, marshes, sloughs and water courses.

IV. IMPLEMENTATION

A. The City shall take all feasible steps to eliminate SSOs. In the event that an SSO does occur, the City shall take all feasible steps to contain and mitigate the impacts of an SSO.

B. The City supervisor or highest level staff person on-site is responsible for using sound judgment in efforts to stop and contain the SSO as soon as possible, initiate proper notifications in accordance with an approved communication plan, and implement safe and effective measures to remediate the spill.

C. All SSOs shall be reported in accordance with Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Resources Control Board Order No. 2006-0003-DWQ) and Amended Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Resources Control Board Order No. WQ 2013-0058-EXEC); and amendments thereto.

D. The City shall ensure that up-to-date copies of the Sanitary Sewer Overflow Emergency Response Plan are readily available to sewer system operation and maintenance personnel at all times.

E. The City shall ensure that SSO response personnel are properly trained in the use of the Sanitary Sewer Overflow Emergency Response Plan.

V. RESPONSE PROCEDURES

A. When a report of a possible SSO is received, it triggers an immediate response to identify and correct the problem. This section describes the general procedures employed by the City to stop, contain, and clean up the impact of an overflow. City personnel shall perform the following SSO response procedures, as applicable. The SSO Response Procedures Checklist (Attachment 2) is completed for all Category 1 and Category 2 SSOs.

B. **Investigation and Assessment** - Following notification of a possible sanitary sewer overflow, a crew is dispatched to conduct an investigation. The initial response team is responsible for assessing the cause of the problem and determining the level of effort needed to correct the problem. If the overflow is confirmed, the supervisor or highest level staff person on-site shall record the relevant spill information on a sewer overflow incident report form.

C. **Notify Response Personnel** - Response personnel are dispatched to the site as appropriate based on the following criteria:

i. Source of the SSO

ii. Volume of the SSO

iii. Severity of the SSO

The supervisor or highest level staff person on-site shall immediately notify appropriate SSO response personnel. SSO response personnel are City staff trained to respond to SSO situations. Personnel involved in clean-up activities shall be trained and properly equipped with appropriate personal protective equipment (PPE). Appropriate PPE shall be determined by the site supervisor based on the hazard, weather conditions and clean-up procedures.

D. **Stop and Contain Overflow** - The supervisor or highest level staff person on-site shall be responsible for determining the most effective method(s) to:

   i. Control or limit the SSO volume discharged;

   ii. Terminate the SSO as rapidly as possible; and

   iii. Contain the spill as rapidly as possible.

E. **Traffic and Crowd Control** - SSO response personnel shall be adequately trained in traffic control procedures and public safety requirements.

   i. The supervisor or highest level staff person on-site shall be responsible for determining the most effective method(s) to:

      a. Safely control traffic flow around the spill area; and

      b. Provide crowd control measures to ensure public safety at all times.

   ii. The following City Departments may be contacted to assist with traffic and crowd control measures:

      a. Police Department

      b. Highway Patrol

F. **Clean-up and Remediation**

   i. The supervisor or highest level staff person on-site is responsible for determining the most effective clean-up method and remediation procedures and shall determine when adequate remediation procedures have been completed.

   ii. For SSOs contained downstream in the stormwater collection system due to hydraulic surcharging of the system (typically involving gravity discharges), the City will remediate the SSO by removing from the system at the point of containment a minimum of one hydro-vactor load of wastewater (approximately 2,000-2,500 gallons) or three times the volume of the SSO, whichever is greater.

VI. NOTIFICATION REQUIREMENTS

A. For any Category 1 SSO greater than or equal to 1,000 gallons that results in a discharge to a surface water or spilled in a location where it probably will be discharged to surface water, either directly or by way of a drainage channel or MS4, the City shall, as soon as possible, but not later than two (2) hours after (A) the City has knowledge of the discharge, (B)

notification is possible, and (C) notification can be provided without substantially impeding cleanup or other emergency measures, notify Cal OES and obtain a notification control number.

i. **Category 1 and Category 2 SSOs:**

a. Cal OES within 2 hours of becoming aware of SSO: (800) 852-7550

- Obtain a notification control number

b. Notify Santa Ana Regional Water Quality Control Board (RWQCB) within 24 hours of becoming aware of SSO and provide the Cal OES notification control number:

- Ken Theisen, Basin Planning Inland Waters Section
  1. Email: ktheisen@waterboards.ca.gov.
  2. Office Phone: (951) 320-2028

c. If SSO enters a flood control District, call the following and provide the CalOES notification control number:

- Office Hours: (909) 899-4366
- After Hours: (909) 356-3805

d. Draft SSO report in CIWQS (http://ciwqs.waterboards.ca.gov) must be done within **3 business days** of becoming aware of SSO.

e. Overflow Report due to RWQCB within **5 business days.**

f. Final SSO report shall be certified in CIWQS within **15 calendar days** of the end date of the SSO.

3. **Category 3 SSOs:**

a. All SSO's must be reported in CIWQS within 30 calendar days after the end of the calendar month in which the SSO occurs.

4. **Private Lateral Sewage Discharge (PLSD)**

a. Notification to CalOES is encouraged when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water.

b. For any private lateral sewage discharges greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is also encouraged to file spill report as required by Health and Safety Code §5410 et. seq. and Water Code §13271. OMUC documents all private lateral sewage spills.

c. OMUC reports all private lateral spills into CIWQS.

B. To satisfy notification requirements for each applicable SSO, the City shall provide the information requested by Cal OES before receiving a control number. Spill information requested by Cal OES may include:

i. Name of person notifying Cal OES and direct return phone number.

ii. Estimated SSO volume discharged (gallons).

iii. If ongoing, estimated SSO discharge rate (gallons per minute).

iv. SSO Incident Description:
   a. Brief narrative.
   b. On-scene point of contact for additional information (name and cell number).
   c. Date and time City became aware of SSO.
   d. Name of sanitary sewer system agency causing the SSO.
   e. SSO cause (if known).

v. Indication of whether SSO has been contained.

vi. Indication of whether surface water or basin is impacted.

vii. Name of surface water or basin impacted by SSO, if applicable.

viii. Indication of whether a drinking water supply is or may be impacted by SSO.

ix. Any other known SSO impacts.

x. SSO incident location (address or cross streets, city, state, and zip code).

C. Following the initial notification to Cal OES and until such time that City certifies the SSO report in the CIWQS Online SSO Database, the City shall provide updates to Cal OES regarding substantial changes to the estimated volume of untreated or partially treated sewage discharged and any substantial change(s) to known impact(s).

VII. REPORTING PROCEDURES

A. **CIWQS Online SSO Database Account:** The City shall maintain a CIWQS Online SSO Database account and maintain a "Username" and "Password" by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

B. **SSO Mandatory Reporting Information:** For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the City shall complete one SSO report in the CIWQS Online SSO Database which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and provide descriptions of the locations of all other discharge points associated with the SSO event.

C. **SSO Reporting to CIWQS - Timeframes**

i. **Category 1 and Category 2 SSOs** – All SSOs that meet the above criteria for Category 1 or Category 2 SSOs shall be reported to the CIWQS Online SSO Database:

   a. Draft reports for Category 1 and Category 2 SSOs shall be submitted to the CIWQS Online SSO within three (3) business days of the City becoming aware of the SSO. Minimum information to be reported are as follows for both Category 1 & 2 SSOs:

      - **Draft Category 1 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 1 SSO report:

        1. SSO Contact Information: Name and telephone number of City contact person who can answer specific questions about the SSO being reported.
        2. SSO Location Name.
        3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the SSO appearance point explanation field.
        4. Whether or not the SSO reached surface water, a drainage channel, or entered and was discharged from a drainage structure.
        5. Whether or not the SSO reached a municipal separate storm drain system.
        6. Whether or not the total SSO volume that reached a municipal separate storm drain system was fully recovered.
        7. Estimate of the SSO volume, inclusive of all discharge point(s).
        8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
        9. Estimate of the SSO volume recovered (if applicable).
        10. Number of SSO appearance point(s).
        11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
        12. SSO start date and time.
        13. Date and time the City was notified of, or self-discovered, the SSO.

14. Estimated operator arrival time.

15. For spills greater than or equal to 1,000 gallons, the date and time Cal OES was called.

16. For spills greater than or equal to 1,000 gallons, call the Cal OES control number.

- **Draft Category 2 SSOs**: At a minimum, the following mandatory information shall be reported for a draft Category 2 SSO report: All Items 1-14 for Draft Category 1 SSO report above.

b. A final Category 1 or Category 2 SSO report shall be certified through the CIWQS Online SSO Database within 15 calendar days of the end date of the SSO. Minimum information that shall be certified for Category 1 & 2 are as follows:

- **Certified Category 1 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to all fields required in the draft Category 1 SSO report:

1. Description of SSO destination(s).

2. SSO end date and time.

3. SSO causes (mainline blockage, roots, etc.).

4. SSO failure point (main, lateral, etc.).

5. Whether or not the spill was associated with a storm event.

6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow; and a schedule of major milestones for those steps.

7. Description of spill response activities.

8. Spill response completion date.

9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.

10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.

11. Whether or not health warnings were posted as a result of the SSO.

12. Name of beach(es) closed and/or impacted. If no beach was impacted, NA shall be selected.

13. Name of surface water(s) impacted.

14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.

15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.

16. Description of methodology(ies) and type of data relied upon for estimations of the SSO volume discharged and recovered.

17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.

- **Certified Category 2 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report: All Items 1-14 for Draft Category 1 SSO report above and items 1-9, and 17 for Certified Category 1 SSO report above.

ii. **Category 3 SSOs** – All SSOs that meet the above criteria for Category 3 SSOs shall be reported to the CIWQS Online SSO Database and certified within 30 calendar days after the end of the calendar month in which the SSO occurs (e.g., all Category 3 SSOs occurring in the month of February shall be entered into the database and certified by March 30).

- **Certified Category 3 SSOs:** At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report: Items 1-14 for Draft Category 1 SSO report above and items 1-6, and 17 for Certified Category 1 SSO report above.

iii. **"No Spill" Certification** – If there are no SSOs during the calendar month, the City shall either 1) certify, within 30 calendar days after the end of each calendar month, a "No Spill" certification statement in the CIWQS Online SSO Database certifying that there were no SSOs for the designated month, or 2) certify, quarterly within 30 calendar days after the end of each quarter, "No Spill" certification statements in the CIWQS Online SSO Database certifying that there were no SSOs for each month in the quarter being reported on. For quarterly reporting, the quarters are Q1 - January/February/March, Q2-April/May/June, Q3-July/August/September, and Q4-October/November/December.

- If there are no SSOs during a calendar month but the City reported a PLSD, the City shall still certify a "No Spill" certification statement for that month.
-

iv. **Amended SSO Reports** – The City may update or add additional information to a certified SSO report within 120 calendar days after the SSO end date by amending the report or by adding an attachment to the SSO report in the CIWQS Online SSO Database.

D. SSO Technical Report

i. The City shall submit an SSO Technical Report in the CIWQS SSO Online Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards from requiring a more detailed analysis if requested, shall include at a minimum, the following:

ii. **Causes and Circumstances of the SSO**

a. Complete and detailed explanation of how and when the SSO was discovered.

b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).

c. Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.

d. Detailed description of the cause(s) of the SSO.

e. Copies of original field crew records used to document the SSO.

f. Historical maintenance records for the failure location.

iii. **City's Response to SSO**

a. Chronological narrative description of all actions taken by City to terminate the spill.

b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond and mitigate the SSO.

c. Final corrective action(s) completed and/or planned to be included, including a schedule for actions not yet completed.

iv. **Water Quality Monitoring**

a. Description of all water quality sampling activities conducted including analytical results and evaluation of the results.

b. Detailed location map illustrating all water quality sampling points

E. Private Lateral Sewage Discharges (PLSD)

i. Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the City's sanitary

sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.

a. The City may also voluntarily provide notification to Cal OES per section B above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water. For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the City may also voluntarily file a spill report as required by Health & Safety Code section 5410 et. seq. and Water Code section 13271, or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

b. If a PLSD is recorded in the CIWQS Online SSO Database, the City must identify the sewage discharge as occurring and caused by a private sanitary sewer system asset and should identify a responsible party (other than the City), if known. Certification of PLSD reports by City is not required.

F. **CIWQS Online SSO Database Unavailability**

i. In the event that the CIWQS Online SSO Database is not available, the City must fax or email all required information to the appropriate Regional Water Board office in accordance with the time schedules identified herein. In such event, the City must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

G. **Reporting SSO's to Other Regulatory Agencies**

i. These reporting requirements do not preclude the City from reporting SSOs to other regulatory agencies pursuant to state law. In addition, these reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.

H. **Collection System Questionnaire**

i. The required Questionnaire (see subsection G of the SSS WDRs) provides the Water Boards with site-specific information related to the City's sanitary sewer system. The City shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

I. **SSMP Availability**

i. The City shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the City's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP is posted. If all of the SSMP documentation listed in this subsection is not publicly available on the Internet, the City shall comply with the following procedure:

a. Submit an electronic copy of the City's approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board approval of the SSMP to the State Water Board, within 30 days of that approval and within 30 days of any subsequent SSMP re-certifications, to

the following mailing address:

State Water Resources Control Board
Division of Water Quality
Attn: SSO Program Manager
1001 I Street, 15th Floor, Sacramento, CA 95814

VIII. CERTIFICATION REQUIREMENTS

A. All information required to be reported into the CIWQS Online SSO Database shall be certified by a person designated as described in subsection J of the SSS WDRs. This designated person is also known as a Legally Responsible Official (LRO). A City may have more than one LRO.

B. Any designated person (i.e. an LRO) shall be registered with the State Water Board to certify reports in accordance with the CIWQS protocols for reporting.

C. Data Submitter (DS): Any City employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the City if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

D. The City shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), including deactivation or a change to the LRO's or DS's contact information, shall be submitted by the City to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

E. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the state as stated in the CIWQS Online SSO Database at the time of certification.

IX. WATER QUALITY MONITORING REQUIREMENTS

A. If the overflow is discharged to a surface water, the impact of the spill on water quality is assessed by visual inspection for abnormal conditions such as effects on aquatic life, abnormal color, odors, etc.

B. A Receiving Water Inspection/Sampling Log (Attachment 3) is used to record the findings of the inspection.

C. Photographs may be used to document the extent of the spill, including the discharge location, and any adverse effects to receiving water or surrounding areas.

D. For discharges to surface water, public health warning signs shall be posted to protect the public from exposure to water contaminated with sewage:

i. Signs will be posted in the affected area at appropriate intervals on both sides of the banks, if possible, of the receiving water body.

ii. Due to the occurrence of posted signs periodically being vandalized, stolen, wind-blown, etc., City staff will maintain a log and map of sign placement and removal. The signs will be checked on a regular basis by City staff and replaced or repositioned as necessary to make certain they are visible to the public throughout

the entire spill event.

E. To comply with subsection D.7(v) of the SSS WDRs, the City shall develop and implement an SSO Water Quality Monitoring Program to assess impacts from SSOs to surface waters in which 50,000 gallons or greater are spilled to surface waters. The SSO Water Quality Monitoring Program, shall, at a minimum:

   i. Contain protocols for water quality monitoring.

   ii. Personnel shall strictly adhere to City Department Standard Operating Procedures and Job Hazard Analyses for all water quality monitoring procedures.

F. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.).

   i. Surface water samples shall be collected at the discharge location as well as at appropriate sites upstream and downstream of the spill, if possible.

   ii. If inclement weather, site access or other physical conditions present an unsafe or inaccessible sampling environment, sampling may be omitted of delayed. If omitted, the impact of the spill on receiving water shall be based on visual observations only.

G. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.

H. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.

   i. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents (samples will be analyzed for ammonia and e-coli using methods prescribed in 40 CFR Part 136):

      a. Ammonia

      b. Appropriate Bacterial indicator(s) per the applicable Basin Plan water quality objective or Regional Board direction which may include total and fecal coliform, enterococcus, and e-coli.

   ii. Follow up samples are collected as soon as possible, typically 3-10 days after the overflow event, to determine whether the receiving water body at the discharge location remains contaminated with sewage. The decision for when to sample is site specific and is dependent on such items as tidal action and receiving water flow.

I. Records of water quality monitoring shall include:
   i. Date, location, and time of sampling or measurements;

   ii. Name(s) of individual(s) who performed the sampling or measurements;

iii. Date(s) analyses were performed;

iv. Name(s) of individual(s) who performed the analyses;

v. Analytical technique(s) or method(s) used;

vi. Monitoring instrumentation maintenance and calibration;

vii. Laboratory state certification; and

viii. Results of analyses.

X. PREVENTION AND TRAINING

A. **SSO Preventive Measures** - Investigation and Corrective Actions: Following containment and cleanup of an overflow, the causes of the discharge are evaluated to determine improvements to prevent future problems. Lines are cleaned and CCTV cameras are used to inspect the pipe. Necessary repairs are completed and maintenance schedules are adjusted as appropriate.

B. **Maintenance Programs** - Programs include regular cleaning of sewer lines, connections and pumps, and foaming to remove tree roots.

C. **Enforcement Program** - City code requires installation of grease interceptors at businesses and establishments where any grease or objectionable materials may be discharged into a public or private sewage main or disposal system. Enforcement orders are issued to businesses that do not adequately maintain and/or clean the interceptors.

D. **SSO Response Personnel Training** - All SSO response personnel shall receive annual training to ensure awareness with the procedures contained in the SSOERP. Periodic refresher sessions will be conducted whenever the SSOERP is updated or as necessary.

XI. RECORD KEEPING PROCEDURES

A. The following records shall be maintained by the City for a minimum of five (5) years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

i. General Records: The City shall maintain records to document compliance with all provisions of the SSS WDRs and this MRP for each sanitary sewer system owned including any required records generated by a City's sanitary sewer system contractor(s).

ii. SSO Records: The City shall maintain records for each SSO event, including but not limited to:

a. Complaint records documenting how the City responded to all notifications of possible or actual SSOs, both during and after business hours, including complaints that do not result in SSOs. Each complaint record shall, at a minimum, include the

following information:

1. Date, time, and method of notification.

2. Date and time the complainant or informant first noticed the SSO.

3. Narrative description of the complaint, including any information the caller can provide regarding whether or not the complainant or informant reporting the potential SSO knows if the SSO has reached surface waters, drainage channels or storm drains.

4. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.

5. Final resolution of the complaint.

b. Records documenting steps and/or remedial actions undertaken by the City, using all available information, to comply with section D.7 of the SSS WDRs.

c. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

d. Records documenting all changes made to the SSMP since its last certification indicating when a subsection(s) of the SSMP was changed and/or updated and who authorized the change or update. These records shall be attached to the SSMP.

e. Electronic monitoring records relied upon for documenting SSO events and/or estimating the SSO volume discharged, including, but not limited to records from:

1. Supervisory Control and Data Acquisition (SCADA) systems

2. Alarm system(s)

3. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

ATTACHMENT A

See Appendix M

ATTACHMENT B

See Appendix N

ATTACHMENT C

See Appendix O

ATTACHMENT D

See Appendix P

ATTACHMENT E

See Appendix C

ATTACHMENT F

See Appendix Q

ATTACHMENT G

See Appendix R

Appendix N – SSO Water Quality Monitoring Plan

ONTARIO MUNICIPAL UTILITIES COMPANY

Sanitary Sewer Overflow (SSO) Water Quality Monitoring Plan

February 2021

This guidance document is written to aid in implementation of monitoring required under State Water Resources Control Board (SWRCB) Orders No. 2006-0003-DWQ and 2013-0058-EXEC. In the event of an SSO where **50,000 gallons or more** are spilled or discharged into a receiving body of water, the Ontario Municipal Utilities Company (OMUC) Utilities staff must collect samples upstream and downstream of the point at which the SSO enters a receiving body of water (e.g., Day Creek Channel, Cucamonga Creek Channel, or the Santa Ana River) within 48 hours of becoming aware of the SSO. Analytes, containers/preservatives, and holding times are outlined below.

Container/ Preservative	Constituents	Method	Holding Time
(1) plastic pint with H_2SO_4, on ice	Ammonia	SM 4500-NH_3H	28 days
(1) 120 mL IDEXX sterile plastic bottle with $Na_2S_2O_3$, on ice	Total coliform, fecal coliform, & E. coli	SM 9221-B,C,F	8 hours
(1) 120 mL IDEXX sterile plastic bottle with $Na_2S_2O_3$, on ice	Enterococcus and Fecal Streptococcus	SM 9230B	8 hours

A cooler marked "Wastewater Samples" containing containers, chain-of-custody (COC) forms and labels is kept in the lab at OMSC. The chain of custody form must be completed by Utilities staff when samples are collected, and it must accompany samples from time of collection to time of receipt by the contract laboratory. Each time samples are transferred to another individual's possession, the COC must be signed by the person relinquishing samples and the person taking possession.

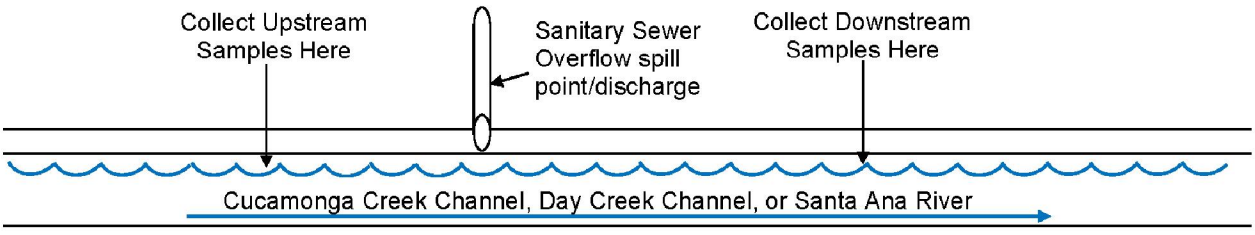
Pickup or delivery of samples to the contract laboratory must be coordinated immediately to ensure the samples are processed within the 8-hour holding time limit. Laboratory information is provided below.

1. E.S. Babcock & Sons Laboratories, 6100 Quail Valley Court, Riverside, CA, (951) 653-3351.
   Allison Mackenzie, CEO, Cell Phone: (909) 238-2507, Home Phone: (951) 789-9052.
   Carol Kase, Microbiology Manager, Cell Phone: (951) 675-2826.
   Omar Sosa, Field Operations Manager, Cell Phone: (909) 224-0498.

   If the contract laboratory listed above is unable to accept or analyze samples: BSK Associates, San Bernardino Analytical, 350 East Commercial Road, Suite #110, San Bernardino, CA 92408, (909) 796-2059.
   Cyndi Moore, Analytical Sales Director, Cell Phone: (951) 295-6123.
   Karen Tracy, Project Manager, Cell Phone: (951) 505-3423.
   Mark Tracy, Field Services Group Manager, Cell Phone: (909) 454-5745.

2. In the event of a local disaster: Eurofins Calscience, 7440 Lincoln Way, Garden Grove, CA, (714) 895-5494.

3. If in the event of a major disaster, consult the Water Quality Emergency Response Unit and OMUC's Emergency Response Plan.



Appendix O – Receiving Water Inspection / Sampling Log

Attachment 3

Receiving Water Inspection / Sampling Log

Date _____ Time _____ Inspector _____

Spill Date _____

Spill Location _____

Receiving Water Location _____

Sewage Color	None ☐	Light ☐	Moderate ☐	Heavy ☐
Sewage Foam	None ☐	Light ☐	Moderate ☐	Heavy ☐
Sewage Solids	None ☐	Light ☐	Moderate ☐	Heavy ☐
Sewage Odor	None ☐	Mild ☐	Moderate ☐	Severe ☐
Aquatic Life	No adverse impact observed ☐			
	Impacted ☐	Describe _____		
Photographs	None ☐	Upstream ☐	Discharge ☐	Downstream ☐
Warning Signs	None ☐	Upstream ☐	Discharge ☐	Downstream ☐
Samples	None ☐			

Upstream ☐ Locations _____

Site and flow conditions _____

_____

Discharge ☐ Locations _____

Site and flow conditions _____

_____

Downstream ☐ Locations _____

Site and flow conditions _____

_____

Appendix P – Ontario Employee Contact List

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Administrative Services

Last Revision: February 2021

	CITY PHONE #		
Utilities General Manager			
Burton, Scott	(909) 395-2682		
Assistant Utilities General Manager - Utilities Administration & Customer Service			
Michael Sigsbee	(909) 395-2653		
Dennice Raygoza	(909) 395-2616		
Senior Management Analyst			
Ria Pavia	(909) 395-2676		
Management Analyst			
Vanessa Villenas	(909) 395-2679		
Administrative Assistants			
Vanessa Campos	(909) 395-2412		
Danielle Guevara	(909) 395-2618		
Vanny Khu	(909) 395-2785		
Office Specialists			
Veronica Aguilar	(909) 395-2662		
Sergio Coreas	(909) 395-2687		
Georgia Hillard	(909) 395-2654		
Judy Witrago	(909) 395-2773		
Administrative Intern			
Ryan Wishner	(909) 395-2603		

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Engineering

Last Revision: February 2021

NAME	CITY PHONE #		
Assistant Utilities General Manager - Utilities Engineering & Operations			
Albert Gastelum	(909) 395-2770		
Utilities Engineering Division Manager			
Dennis Mejia	(909) 395-2609		
Principal Engineers			
Omar Gonzalez	(909) 395-2578		
Senior Associate Civil Engineer			
Christy Stevens	(909) 395-2641		
Senior Associate Engineer			
Thom Lambertson	(909) 395-2774		
Associate Civil Engineer			
Peter Tran	(909) 395-2677		
Associate Engineers			
Jeff Krizek	(909) 395-2697		
Thomas Palmieri	(909) 395-2688		
Assistant Engineers			
Cynthia Heredia-Torres	(909) 395-2647		
Ryan Rebick	(909) 395-2781		
Heather Young	(909) 395-2646		
Engineering Assistant/GIS			
Ivan Sanchez	(909) 395-2698		

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Environmental Programs

Last Revision: February 2021

NAME	CITY PHONE #		
Assistant Utilities General Manager - Utilities Engineering & Operations			
Albert Gastelum	(909) 395-2770		
Michael Birmelin	(909) 395-2661		
Water/Wastewater Technicians			
Kimberly Lopez	(909) 395-2650		
Ali Hameed	(909) 395-2783		
Maison Paps	(909) 395-2664		
Samantha Wu - pending	(909) 395-2772		
Environmental Technician			
Michael Milhiser	(909) 395-2156		

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Operations

Last Revision: February 2021

NAME	CITY PHONE #		
Assistant Utilities General Manager - Utilities Engineering &			
Albert Gastelum	(909) 395-2770		
Utilities Operations Division Manager			
Andy Marquez	(909) 395-2683		
Utilities Supervisors			
Castellanos	(909) 395-2621		
Ernesto "Alonzo" Davalos	(909) 395-2656		
Daniel Fernandez	(909) 395-2624		
Sergio Macias-Martinez	(909) 395-2693		
Robert Torres	(909) 395-2693		
Senior Utilities Technicians			
Reuben Reyes			
Martin Gomez			
Mike Schaffran			
Antonio Rodriguez			
David Meza			
Thomas Dobis			
Gregory Stube			
Levi Marconi			
Utilities Technicians			
Mike Gonzalez			
Marcos Ortiz			
Ernie Diaz			
Victor Romero			
Antonio Laguna			
Daniel Santizo			
Eric Caldera			
Joseph Soria			
Fidel Ascencio			
Ryan Dean			
William Vess			
Utilities Service Representatives			
Moises Castro			
David Suarez			

OMUC - Operations Page 1 of 2

Utilities Service Representatives_continued			
Gabrial Lara			
Manny Gonzalez			
Utilities Maintenance Workers			
Albert Dias			
Ricardo Marroquin			
Abraham Ocampo			
Ricky Ayala			
Christian Tupuola			
Christian Garcia			
Jeremiah Avila			
Justin Garcia			

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Water Production

Last Revision: February 2021

NAME	CITY PHONE #		
Assistant Utilities General Manager - Utilities Engineering & Operations			
Albert Gastelum	(909) 395-2770		
Water Resources & Regulatory Affiars Director			
Courtney Jones	(909) 395-2640		
Water Production Manager			
Chris Bonadurer	(909) 395-2696		
Water Production Operator			
Darin Bowers	(909) 395-2652		
Robert Cruz	(909) 395-2652		
Kenny Pro	(909) 395-2652		
Jesus Sanchez	(909) 395-2652		
Kevin Wise	(909) 395-2652		

ONTARIO MUNICIPAL UTILITIES COMPANY

Utilities

Water Quality Programs

Last Revision: February 2021

NAME	CITY PHONE #	PHONE #1	PHONE #2
Assistant Utilities General Manager - Utilities Engineering & Operations			
Albert Gastelum	(909) 395-2770		
Water Resources & Regulatory Affiars Director			
Courtney Jones	(909) 395-2640		
Water Quality Programs Manager			
Joline Neal	(909) 395-2652		
Cross-Connection Control Specialists			
William "Shane" Bradford	(909) 395-2669		
Roberto Ochoa	(909) 395-2607		
Cesar Guevara	(909) 395-2681		
Alexandria Macias	(909) 395-2630		
Water/Wastewater Technician			
Ntwali Gaju	(909) 395-2704		

ONTARIO MUNICIPAL UTILITIES COMPANY

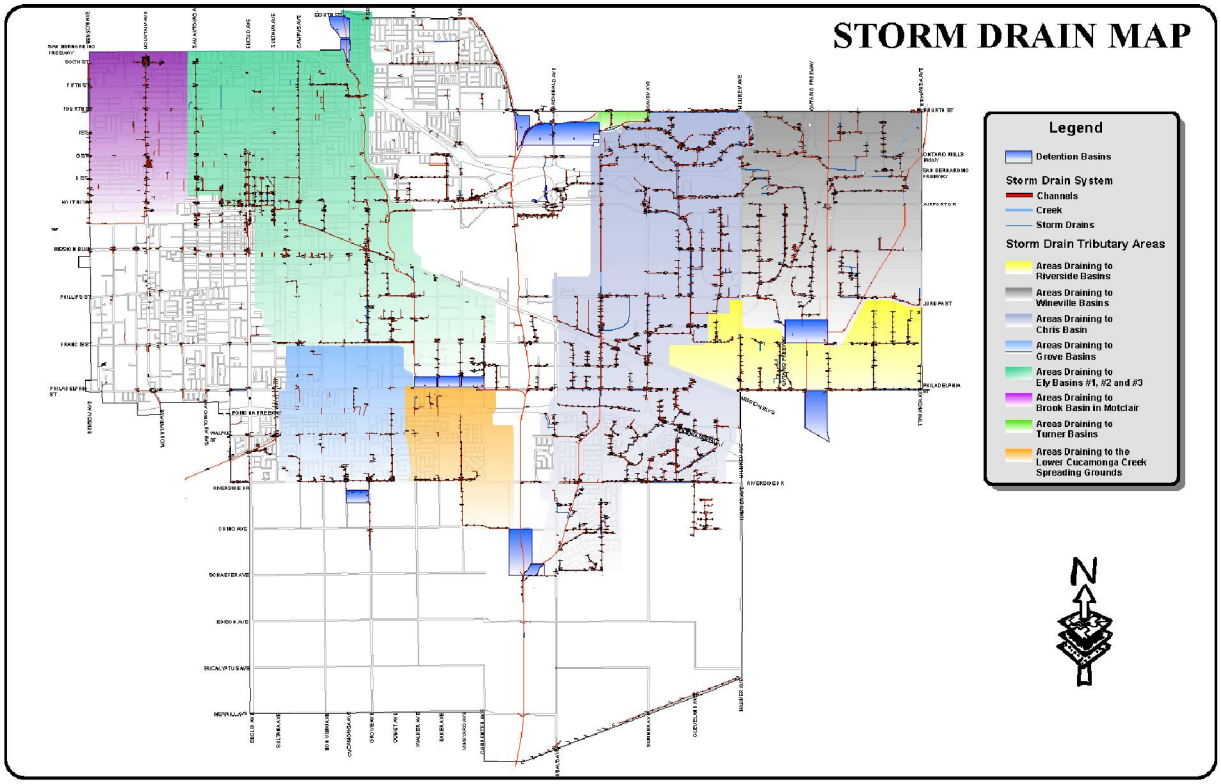
Utilities

Water Resources

Last Revision: February 2021

NAME	CITY PHONE #		
Assistant Utilities General Manager - Utilities Engineering & Operations			
Albert Gastelum	(909) 395-2770		
Water Resources & Regulatory Affiars Director			
Courtney Jones	(909) 395-2640		
Water Resources Manager			
Vacant			
Senior Associate Civil Engineer			
Chris Quach	(909) 395-2695		
Water Resources Coordinator			
Amy Bonczewski	(909) 395-2614		

Appendix Q – Flood Control Facility Map


STORM DRAIN MAP
Legend
Detention Basins
Storm Drain System
Channels
Creek
Storm Drains
Storm Drain Tributary Areas
Areas Draining to Riverside Basins
Areas Draining to Wineville Basins
Areas Draining to Chris Basin
Areas Draining to Grove Basins
Areas Draining to Ely Basins #1, #2 and #3
Areas Draining to Brook Basin in Motclair
Areas Draining to Turner Basins
Areas Draining to the Lower Cucamonga Creek Spreading Grounds
N

Appendix R – SSO Volume Estimation Worksheet

SSO Volume Estimation Worksheet

There are a variety of ways for estimating the volume of a sewer system overflow. This worksheet will examine four approaches that may be used for estimating that volume. There are other methods besides these that may be used. The person making the estimate shall use his or her discretion on the most appropriate method for estimating the volume of the spill. Every effort shall be made to produce the most accurate volume estimate.

First Method-Eyeball Estimate

The first method is known as the eyeball estimate, and it is useful for very small SSOs, perhaps less than a hundred (100) gallons in size. In this method, you visualize the volume of a known container size such as a five (5) gallon or a fifty-five (55) gallon size container, and what a spill might look like from one of these containers. This imaginary volume is then compared with the spill volume to make an estimate.

Second Method-Measured Volume

This method is appropriate for use during dry weather, when there is no precipitation, and is best applied to small SSOs. To utilize this method, you will need to be able to determine the shape, dimensions, and depth of the spilled sewage. The shape, dimensions, and depth are used to calculate the volume of the spilled sewerage. To perform this calculation, you should begin by completing the following steps:

1: Sketch the shape of the contained sewage.

2: Measure or pace off the dimensions.

3: Measure the depth in several locations.

4: Convert the dimensions, including depth to feet.

5: Calculate the area using the following formulas:

Rectangle Area = length x width

Circle Area = diameter x diameter x 0.785

Triangle Area = base x height x 0.5

6: Multiply the area times the depth.

7: Multiply the volume by 7.48052 to convert it to gallons

Third Method-Duration and Flow Rate

When it is impossible to determine the volume of an SSO by measuring its area and depth another method must be employed. In the duration and flow rate method, estimates of the volume can be made by determining the flow rate in conjunction with the duration of the overflow. You will need to know the methods which are commonly utilized in estimating duration and flow rate. These methods are detailed below.

The duration time of the spill is the period that has elapsed from the start of the overflow until its end. The start time is not always easy to determine. There are some approaches to how this can be done.

For very large overflows, changes in flow on a downstream flow meter can be utilized to identify the start time of an overflow, since it is expected that the flow downstream should decrease substantially as the result of a spill or break in a line that is located upstream from the meter. This daily flow "cut-off" or flattening as a result of the loss of flow may be identified through examining hourly flow data.

Conditions at the site of an SSO overflow are dynamic, changing with time. At first there will be limited deposits of grease, solids, and toilet paper. After some time, perhaps from a few days to a week, the grease forms a light-colored residue. After more time, perhaps from a few weeks to a month the grease turns dark. Additionally, the quantity of toilet paper, solids, and other materials can expect to increase in amount. These changes can be utilized in order to estimate the start time of the overflow in the absence of other information. In some cases, it may be impossible to estimate the start time.

The end time of the overflow is usually much easier to establish. Field crews arriving on-site observe the "blow down" when the blockage is removed. This change is also observed in downstream flow meters.

The flow rate is the average flow rate that is present in the sewer system during the time the SSO stopped. There are multiple ways of determining flow, three of which will be mentioned below.

1. A Manhole Flow Rate Reference Sheet: This sheet, presented on the following page, shows the sewage flowing from a manhole cover for a variety of flow rates. The observations of the field crew are used to select the approximate flow rate from the chart.

2. A Flow meter: Changes in flows in the downstream flow meters are used to estimate the flow rate during the spill (better for large SSOs).

3. Estimates based on up-stream connections: Once the location of the SSO is known, the number of upstream connections can be determined from system maps. Multiplying the number of connections by 200 to 250 gallons per day per connection, or 8 to 10 gallons per hour per connection, or other flow rates that are consistent with the City's data for its connections.

Once the duration and flow rate have been determined, the volume of the SSO is the product of the duration in hours or days times the flow rate in gallons per hour or gallons per day.