SEWER SYSTEM MANAGEMENT PLAN

City of Beverly Hills
Public Works Department
345 North Foothill Road
Beverly Hills, CA 90210

June 2023

Prepared by:

Cannon
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1.</td>
<td>Sewer System Management Plan Goal And Introduction</td>
</tr>
<tr>
<td>Section 1.1</td>
<td>Regulatory Context</td>
</tr>
<tr>
<td>Section 1.2</td>
<td>Sewer System Management Plan Update Schedule</td>
</tr>
<tr>
<td>Section 1.3</td>
<td>Sewer System Asset Overview</td>
</tr>
<tr>
<td>Definitions/Abbreviations/Acronyms</td>
<td></td>
</tr>
<tr>
<td>Section 2.</td>
<td>Organization</td>
</tr>
<tr>
<td>Section 3.</td>
<td>Legal Authority</td>
</tr>
<tr>
<td>Appendix 3-A.</td>
<td>City of Beverly Hills Ordinance – Article 3</td>
</tr>
<tr>
<td>Appendix 3-B.</td>
<td>Agreement with City of Los Angeles</td>
</tr>
<tr>
<td>Appendix 3-C.</td>
<td>Agreement with County of Los Angeles</td>
</tr>
<tr>
<td>Section 4.</td>
<td>Operation and Maintenance Program</td>
</tr>
<tr>
<td>Section 4.1</td>
<td>Updated Map of Sanitary Sewer System</td>
</tr>
<tr>
<td>Section 4.2</td>
<td>Preventive Operation and Maintenance Activities</td>
</tr>
<tr>
<td>Section 4.3</td>
<td>Training</td>
</tr>
<tr>
<td>Section 4.4</td>
<td>Equipment Inventory</td>
</tr>
<tr>
<td>Appendix 4-A.</td>
<td>City of Beverly Hills Sanitary Sewer Atlas System</td>
</tr>
<tr>
<td>Appendix 4-B.</td>
<td>30-60-90 Maintenance Schedule</td>
</tr>
<tr>
<td>Section 5.</td>
<td>Design and Performance Provisions</td>
</tr>
<tr>
<td>Section 5.1</td>
<td>Updated Design Criteria and Construction Standards and Specifications</td>
</tr>
<tr>
<td>Section 5.2</td>
<td>Procedures and Standards</td>
</tr>
<tr>
<td>Appendix 5-A.</td>
<td>Sewer Design Criteria</td>
</tr>
<tr>
<td>Appendix 5-B.</td>
<td>Standard Detail Drawings Standards</td>
</tr>
<tr>
<td>Section 6.</td>
<td>Spill Emergency Response Plan</td>
</tr>
<tr>
<td>Appendix 6-A.</td>
<td>Monitoring and Reporting Program</td>
</tr>
<tr>
<td>Appendix 6-B.</td>
<td>SSO Field Response</td>
</tr>
<tr>
<td>Appendix 6-C.</td>
<td>SSO Field Worksheet</td>
</tr>
<tr>
<td>Appendix 6-D.</td>
<td>SSO Flow Reference Sheet</td>
</tr>
<tr>
<td>Section 7.</td>
<td>Sewer Pipe Blockage Control Program</td>
</tr>
<tr>
<td>Appendix 7-A</td>
<td>Good Cleaning Practices Brochure</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Appendix 7-B</td>
<td>Trap the Grease Do's and Don'ts</td>
</tr>
<tr>
<td>Appendix 7-C</td>
<td>LA County Grease Trap Standard Detail Plans</td>
</tr>
<tr>
<td>Section 8.</td>
<td>System Evaluation, Capacity Assurance and Capital Improvement</td>
</tr>
<tr>
<td>Section 8.1</td>
<td>System Evaluation and Condition Assessment</td>
</tr>
<tr>
<td>Section 8.2</td>
<td>Capacity Assessment and Design Criteria</td>
</tr>
<tr>
<td>Section 8.3</td>
<td>Prioritization of Corrective Action</td>
</tr>
<tr>
<td>Section 8.4</td>
<td>Capital Improvement Plan</td>
</tr>
<tr>
<td>Section 9.</td>
<td>Monitoring Measurement and Plan Modifications</td>
</tr>
<tr>
<td>Section 10.</td>
<td>Internal Audits</td>
</tr>
<tr>
<td>Section 11.</td>
<td>Communication Program</td>
</tr>
</tbody>
</table>
SECTION 1. SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

1.1 Introduction

A Sewer System Management Plan (SSMP) is defined as a document that describes the activities an agency uses to effectively manage its wastewater collection system with the ultimate goal of protecting human health and the environment. Effective management of a wastewater collection system includes the following:

- Maintaining or improving the condition of the collection system infrastructure in order to provide reliable service into the future;
- Cost-effectively minimizing infiltration/inflow (I/I) and providing adequate sewer capacity to accommodate design storm flows; and
- Minimizing the number and impact of sanitary sewer overflows (SSO's) that occur.

In order to achieve these management objectives, the State Water Resources Control Board and its subsidiary Regional Water Quality Control Boards require that each wastewater collection system agency develop and implement its own unique SSMP.

The City of Beverly Hills has prepared the 2012 SSMP and the 2017 update SSMP in accordance with the guidelines of the California Water Environment Association (CWEA). These SSMPs followed the 2006 General Waste Discharge Requirements for Sanitary Sewer Systems and the amended General Order update by the State Water Resources Control Board Order. The City has now prepared the 2023 SSMP update to comply with the General Order for Sanitary Sewer System Order Number 2022-0103-DWQ dated December 6, 2022.

The structure (section numbering and nomenclature) of this SSMP follows the General Waste Discharge Requirements for Sanitary Sewer Systems, State Water Resources Control Board Order Number 2022-0103-DWQ dated December 6, 2022. In summary, the required elements of this SSMP are:

1. Collection system management goals.
2. Organization of personnel, including the chain of command and communications.
3. Legal Authority for permitting flows into the system, inflow/infiltration control, as well as enforcement for proper design, installation, and testing standards, and inspection requirements for new and rehabilitated sewers.
4. Operations and maintenance program to maintain the wastewater collection system.
5. Design and performance provisions.
7. Sewer Pipe Blockage Control Program.
10. Internal SSMP audits.
11. Communication program.

This section of the Sewer System Management Plan (SSMP) identifies goals the City has set for the management, operation, and maintenance of the sewer system and discusses the role of
the SSMP in supporting these goals. These goals provide focus for City staff to continue high-quality work and to implement improvements in the management of the City’s wastewater collection system. This section fulfills the Goals requirement of the General Waste Discharge Requirements (GWDR) of the State Water Resources Control Board (SWRCB) Element 1 SSMP Requirements.

1.2 Regulatory Context for Goals Section
The summarized requirements for the Goals section of the SSMP are:

GWDR (Element 1 - Goals) Requirement:
The collection system agency must develop goals to properly manage, operate, and maintain all parts of its wastewater collection system in order to reduce and prevent SSO’s, as well as mitigate any SSO’s that occur.

Each wastewater collection system agency shall develop goals for the Sewer System Management Plan as follows:

- To properly manage, operate, and maintain all parts of the Enrollee’s sanitary sewer system(s).
- To provide adequate capacity to convey peak flows.
- To reduce and prevent spills.
- To contain and mitigate spills that do occur.
- To prepare an SSMP update every 6 years and program audit every 3 years.

1.3 SSMP Goals
The goals of the City of Beverly Hills are to:
1. Properly manage, operate, and maintain the wastewater collection system;
2. Maintain design construction standards and specifications for the installation of new wastewater systems and upgrades to existing infrastructure;
3. Verify the wastewater collection system has adequate capacity to convey sewage during peak events;
4. Minimize the frequency of sanitary sewer overflows;
5. Respond to sanitary sewer overflows quickly and mitigate the impact of overflows;
6. Provide training on a regular basis for staff in collection system maintenance and operations;
7. Encourage and support participation in the California Water Environment Associations’ voluntary Wastewater Certification Program and on-going training programs;
8. Implement a regular, proactive Fats, Oil, and Grease (FOG) maintenance program to limit fats, oils, grease, and other debris that may cause blockages in the sewer collection system;
9. Identify and prioritize structural deficiencies and implement short-term and long-term maintenance and rehabilitation actions to address each deficiency;
10. Protect the environment and prevent public health hazards;
11. Use funds available for sewer operations in the most efficient manner;
12. Perform all operations in a safe manner to avoid personal injury and property damage;
13. Meet all applicable regulatory notification and reporting requirements;
14. Provide a fair and equitable method of imposing wastewater charges;
15. Facilitate the enactment of regulations for the wastewater system that are mandated by the Environmental Protection Agency and the State of California;
16. Maintain public education outreach in support of the SSMP program; and
17. Provide excellent customer service through efficient system operation and effective communication strategies.

This SSMP supplements and supports the City’s existing Operations & Maintenance program and goals by providing high-level, consolidated guidelines and procedures for all aspects of the City’s sewer system management. The SSMP will contribute to the proper management of the collection system and assist the City in minimizing the frequency and impacts of SSO’s by providing guidance for appropriate maintenance, capacity management, and emergency response.

1.4 Wastewater Collection System Background

The City of Beverly Hills (City) is located in Los Angeles County, California, west of the City of West Hollywood and surrounded on all other sides by the City of Los Angeles. The City covers approximately 5.71 square miles and has a population of approximately 35,000.

The City owns, operates, and maintains a gravity sewer system to serve all of the residents and businesses within the City limits. The City’s sewer system is a gravity flow system consisting primarily of vitrified clay pipe dating back from 1920s to the present. The local sewer collection pipelines are predominantly 8-inch in diameter, but range from 6-inch to 36-inch and is approximately 100 miles, and includes 2,178 manholes. Sewer system information is managed through ArcGIS system including as-built records. Sewer system maintenance data is managed using Infor asset management system. The general direction of flow in the City’s sewer system is from north to south. No sewer lift stations are required to convey flow. Table 1 below presents the approximate linear footage of the various pipe diameters in the City.

Wastewater generated in the City of Beverly Hills is conveyed through service laterals to the City-owned gravity sewer (mains) pipelines, then into the sewer system owned by the City of Los Angeles and finally into the Hyperion Treatment Plant in Playa del Rey.
Table 1: Collection System Components – Gravity Sewer Lines

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>Length (in feet)</th>
<th>Length (in miles)</th>
<th>Percent of System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unknown</td>
<td>12,533</td>
<td>2.37</td>
<td>2.4</td>
</tr>
<tr>
<td>6 inch</td>
<td>37,213</td>
<td>7.05</td>
<td>7.2</td>
</tr>
<tr>
<td>8 inch</td>
<td>329,071</td>
<td>62.3</td>
<td>63.7</td>
</tr>
<tr>
<td>10 inch</td>
<td>58,871</td>
<td>11.1</td>
<td>11.4</td>
</tr>
<tr>
<td>12 inch</td>
<td>23,328</td>
<td>4.42</td>
<td>4.5</td>
</tr>
<tr>
<td>15 inch</td>
<td>29,514</td>
<td>5.59</td>
<td>5.7</td>
</tr>
<tr>
<td>18 inch</td>
<td>11,384</td>
<td>2.16</td>
<td>2.2</td>
</tr>
<tr>
<td>21 inch</td>
<td>3,641</td>
<td>0.69</td>
<td>0.7</td>
</tr>
<tr>
<td>24 inch</td>
<td>6,974</td>
<td>1.32</td>
<td>1.4</td>
</tr>
<tr>
<td>27 inch</td>
<td>302</td>
<td>0.06</td>
<td>0.1</td>
</tr>
<tr>
<td>30 inch</td>
<td>2,205</td>
<td>0.42</td>
<td>0.4</td>
</tr>
<tr>
<td>32 inch</td>
<td>42</td>
<td>0.008</td>
<td>0.0</td>
</tr>
<tr>
<td>33 inch</td>
<td>597</td>
<td>0.11</td>
<td>0.1</td>
</tr>
<tr>
<td>36 inch</td>
<td>519</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>516,194</strong></td>
<td><strong>97.8</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The most recent up-to-date map of the City’s sewer system is in Section 4, Appendix A.

The percentage of residential, commercial, and industrial service connections for the City is the following:

- Residential: 82.7%
- Commercial: 9.7%
- Religious/Government/Education: 7.5%
- Industrial: 0.1%
SECTION 2. ORGANIZATION

2.1 Introduction
This section of the SSMP identifies City staff responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Authorized Representative to meet SWRCB requirements for completing and certifying spill reports. This section fulfills the Organization requirement of the GWDR Element 2 - Organization SSMP Requirements.

2.2 Regulatory Requirements for Organization Section
The summarized requirements for the Organization section of the SSMP are:

GWDR (Element 2 - Organization) Requirement:
The collection system agency’s SSMP must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organization chart or similar narrative documentation that includes:

- The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order;
- The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan elements;
- Organizational lines of authority; and
- Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county health officer, county environmental health agency, and State Office of Emergency Services.)

2.3 Organization
2.3.1 Reporting Structure
The City of Beverly Hills is operated under the City Council/City Manager form of government. The City Manager reports to the Council and is responsible for city-wide operations. The Director of Public Works reports to the City Manager and is responsible for all Public Works aspects ranging from utilities, environmental programs, and park maintenance and provides updates to the City Council on the status of wastewater operations.

Within Public Works, the Wastewater Division oversees the operation and maintenance of the system. The Environmental Compliance and Sustainability Programs Manager oversees the overall regulatory compliance and operations of the wastewater system. The Drainage System Supervisor evaluate the maintenance schedule and manage the wastewater supply and equipment. Sanitary Sewer Overflows are mitigated by the Wastewater Division.
The Environmental Compliance & Sustainability Manager serves as the *Legally Responsible Official* (LRO), for the implementation and administration of the City’s SSMP. The Utilities General Manager serves as the alternate LRO.

The Environmental Compliance and Sustainability Programs Manager leads the enforcement, education, public outreach, and staff training related to the sanitary sewer systems. The Drainage System Supervisor evaluate the collection system and schedules maintenance activities to the Drainage System Operators (Operators). The Operators consist of Lead Drainage System Workers and Drainage System Maintenance Workers. The Lead Drainage System Workers serve as secondary supervisors to the Drainage Maintenance Workers.

The organization chart for the management, operation, and maintenance of the City’s wastewater collection system is shown on Figure 2-1.
Figure 2-1. Organization Chart
2.3.2 Service Calls/Sanitary Sewer Overflow Reporting

Service Calls:
The City of Beverly Hills operates two main communication centers (Public Works Customer Service Center and Police/Fire Dispatch) that receive calls from the general public. During normal business hours (7:30 a.m. to 5:30 p.m., Monday through Thursday and 8:00 a.m. to 5:00 p.m. on Fridays) all wastewater-related phone calls are received by the City’s Central Customer Service Center and transferred to the Wastewater Division personnel to respond to service calls. For after business hours, the public can either call the Police/Fire Dispatch Center or the Public Works Customer Service Center to report an SSO or a service call. If the public calls the City’s Central Customer Service Center after normal business hours, they will be hearing a detailed message to call the Police/Fire Dispatch Center to receive a live person to report the issue. The Police/Fire Dispatch personnel will then call the Wastewater Stand-By list to report the issue.

The collection system is staffed from 6:30 a.m. to 4:00 p.m. Tuesday through Thursday, and 6:30 a.m. to 5:00 p.m. Friday through Monday. SSOs or service calls received during business hours are directed to the Environmental Compliance and Sustainability Bureau Manager (Manager) or the Drainage System Supervisor. When the Manager or the Supervisor receives service calls or SSO’s, they will assign all available Drainage System Workers, including Lead workers, to respond and mitigate the SSO or the service call.

For after business hours, the Wastewater Division has a Stand-By/On-Call list which is comprised of two Drainage System Workers that can respond to after-hours SSO or service calls. The Stand-By/On-Call list personnel are designated weekly and are given cellular telephones to receive calls for emergencies. In addition, the Environmental Compliance and Sustainability Programs Manager is also available to receive after-hour emergency calls from Police/Fire Dispatch. If the SSO event requires additional staffing, the manager, supervisor and the Stand-By/On-Call personnel will be contacting the rest of the drainage workers to respond to the emergency.
Sanitary Sewer Overflow Reporting:
Once notified, Drainage Maintenance Workers on duty will be dispatched to the location for immediate response. The Drainage Maintenance Worker on duty will evaluate the situation and determine if additional help is necessary.

All Wastewater personnel shall document all spills in the following reports and actions. The reports shall be forwarded to the Environmental Compliance and Sustainability Programs Manager and the Drainage System Supervisor for investigation and/or follow-up.

- SSO Field Reporting Form
- Phone calls to CAL-Office of Emergency System (CAL-OES), LACDPH, and RWQCB
- Complete online reporting to CIWQS by designated data entry staff and certified by an LRO.

2.3.3 Authorized Representative
The City’s Authorized Representative in all wastewater collection system matters is the Utility General Manager. The Environmental Compliance & Sustainability Bureau Manager is authorized to certify electronic spill reports submitted to the SWRCB.

The Environmental Compliance and Sustainability Programs Manager is authorized to act in the Utility General Manager’s absence. The Environmental Compliance and Sustainability Programs Manager and the Drainage Systems Supervisor are authorized to submit SSO reports to the appropriate government agencies.

2.3.4 Responsibility for SSMP Development, Implementation, and Maintenance
The Public Works Department is responsible for implementing all elements of this SSMP. The Environmental Compliance & Sustainability Programs Manager has the responsibility to lead and coordinate the development, periodically auditing and maintain the City’s SSMP.

2.3.5 SSO Reporting Chain of Communication
Figure 2-2 contains a flowchart depicting the chain of communication for responding to and reporting SSO’s, from observation of an SSO to reporting the SSO to the appropriate regulatory agencies. Table 2-1 lists contact phone numbers for the parties included in the chain of communication. The SSO Reporting process is described in more detail in Section 6: Overflow Emergency Response Plan.

2.3.6 Post SSO Review
The City staff will perform a CCTV inspection after every SSO to help determine the cause of the overflow. This footage, along with SSO reports and investigation results will be reviewed in detail during regularly scheduled Drainage Systems staff meetings. The City staff will evaluate their recent SSO event responses, discussing what worked and what improvements need to be made to mitigate future SSO events. The intent of this post SSO review is for the City to implement corrective actions what will prevent similar SSO’s from occurring in the future.
Table 2-1. Contact Numbers for SSO Chain of Communication

<table>
<thead>
<tr>
<th>POSITION</th>
<th>CONTACT</th>
<th>TELEPHONE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Manager</td>
<td>Nancy Hunt-Coffey</td>
<td>(310) 288-2210</td>
</tr>
<tr>
<td>Assistant City Manager</td>
<td>Ryan Gohlich</td>
<td>(310)285-1118</td>
</tr>
<tr>
<td>Public Works Director</td>
<td>Shana Epstein</td>
<td>(310) 285-2494</td>
</tr>
<tr>
<td>Assistant Director of Public Works/City Engineer</td>
<td>Daren Grilley, PE</td>
<td>(310) 285-2557</td>
</tr>
<tr>
<td>Utilities General Manager</td>
<td>Robert Welch, PE</td>
<td>(310) 285-2497</td>
</tr>
<tr>
<td>Environmental Compliance &amp; Sustainability Programs Manager</td>
<td>Josette Descalzo</td>
<td>(310) 285-2554</td>
</tr>
<tr>
<td>Drainage System Supervisor</td>
<td>Fausto Zagal</td>
<td>(310)285-2469</td>
</tr>
<tr>
<td>Lead Drainage System Worker</td>
<td>D’Andre Williams</td>
<td>(310)285-2467</td>
</tr>
<tr>
<td>Lead Drainage System Worker</td>
<td>Andrew Diaz</td>
<td>(310)285-2467</td>
</tr>
<tr>
<td>Lead Drainage System Worker</td>
<td>VACANT</td>
<td>(310)285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker II</td>
<td>Daniel S. Boyle</td>
<td>(310) 285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker II</td>
<td>Gardner McKay</td>
<td>(310) 285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker I</td>
<td>Paul Nguyen</td>
<td>(310) 285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker I</td>
<td>Lawrence Perez</td>
<td>(310) 285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker I</td>
<td>Nicholas Santos</td>
<td>(310) 285-2467</td>
</tr>
<tr>
<td>Drainage Maintenance Worker I</td>
<td>Vacant</td>
<td>(310) 285-2467</td>
</tr>
</tbody>
</table>
Figure 2-2. SSO Response Chain of Communication

1. **SSO Observer**
2. **CUSTOMER SERVICE (DURING BUSINESS HOURS)**
   - **DRAINAGE MAINTENANCE CREW Responds**
3. **POLICE DEPARTMENT DISPATCH CENTER (AFTER BUSINESS HOURS)**
   - **ON-CALL DRAINAGE MAINTENANCE CREW Responds**
   - **DRAINAGE MAINTENANCE CREW Completes Internal Forms**
4. **ENVIRONMENTAL COMPLIANCE & SUSTAINABILITY PROGRAMS MANAGER**
   - IS THIS A REPORTABLE SSO?
      - **No**: **ENVIRONMENTAL COMPLIANCE & SUSTAINABILITY PROGRAMS MANAGER follows up with spill as necessary**
      - **Yes**: **ENVIRONMENTAL COMPLIANCE & SUSTAINABILITY PROGRAMS MANAGER**
         - **SSO NOTIFICATION AND REPORTING TO APPROPRIATE AGENCIES**
SECTION 3. LEGAL AUTHORITY

3.1 Introduction
This section of the SSMP discusses the City’s Legal Authority, including the Municipal Code and agreements with other agencies. This section fulfills the Legal Authority requirement of the GWDR Element 3 – Legal Authority SSMP Requirements.

3.2 Regulatory Requirements for Organization Section
The summarized requirements for the Legal Authority section of the SSMP are:

GWDR (Element 3 – Legal Authority) Requirement:
The Plan must include copies or an electronic link to the Enrollee’s current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages;
- Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure;
- Require that sewer system components and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee;
- Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
- Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

3.3 Municipal Code
The City of Beverly Hills’ Municipal Code, Title 6, Chapter 1, Article 3, describes the City’s current legal authorities. The legal authorities provided by the Municipal Code and other sources that address the regulatory requirements are summarized on Table 3-1. A copy of the current version of Chapter 1, Article 3 is included in Appendix 3-A.
### Table 3-1. Summary of Legal Authority in Municipal Code and Other Sources

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>MUNICIPAL CODE REFERENCE</th>
<th>MEETS GWDR REQUIREMENTS?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prevent illicit discharges into the wastewater collection system</td>
<td>Section 6-1-304.B</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-307.K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Section 6-1-311.A</td>
<td></td>
</tr>
<tr>
<td>Limit the discharge of fats, oils, and grease and other debris that may cause blockages</td>
<td>Section 6-1-311.C</td>
<td>Yes</td>
</tr>
<tr>
<td>Require that sewer and connections be properly designed and constructed</td>
<td>Section 6-1-308.C</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-308.F.1-7</td>
<td></td>
</tr>
<tr>
<td>Require proper installation, testing, and inspection of new and rehabilitated sewers</td>
<td>Section 6-1-307.A,B,C</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-308.E</td>
<td></td>
</tr>
<tr>
<td><strong>Laterals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearly define City responsibility and policies</td>
<td>Section 6-1-306</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-307.A,B,C,D,E,F,G,H,I</td>
<td></td>
</tr>
<tr>
<td>Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the City</td>
<td>Section 6-1-307.C</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-308.E</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Section 6-1-315</td>
<td></td>
</tr>
<tr>
<td>Control infiltration and inflow (I/I) from private service laterals</td>
<td>Section 6-1-307</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>FOG Source Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements</td>
<td>Section 6-1-311.A</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-311.C</td>
<td></td>
</tr>
<tr>
<td></td>
<td>City Standard Plan (Industrial Waste Only)</td>
<td></td>
</tr>
<tr>
<td>Authority to inspect grease producing facilities</td>
<td>Section 6-1-307 A, B</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-315</td>
<td></td>
</tr>
<tr>
<td><strong>Enforcement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enforce any violation of its sewer ordinances</td>
<td>Section 6-1-305</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Section 6-1-316</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Sections 6-1-309 to 6-1-316 deal with industrial discharges.
3.4  Agreements with Other Agencies

1. **City of Los Angeles:** The City of Beverly Hills entered into an agreement with the City of Los Angeles on March 9, 1999 for the conveyance, treatment and disposal of wastewater. This agreement is included as Appendix 3-B in this SSMP.

2. **County of Los Angeles:** The City of Beverly Hills entered into an agreement with the County of Los Angeles on August 14, 1990 for the enforcement of the industrial waste provisions of the City’s Municipal code. These services include, but are not limited to providing inspections, filing of required reports, and issuing permits. The services shall also include the inspection of open sanitary spills only in the event that the City, by action of City Council, requests such services. This agreement is included as Appendix 3-C in this SSMP.
ARTICLE 3
WASTEWATER SYSTEM

6-1-301: Title
6-1-302: Purpose
6-1-303: Definitions
6-1-304: Applicability
6-1-305: Penalties For Violation Of Provisions
6-1-306: Record Keeping By City
6-1-307: Wastewater System; General Regulations
6-1-308: Sewer Connection Regulations
6-1-309: Permit Requirements And Regulations For Industrial Discharge
6-1-310: Industrial Discharge Fees
6-1-311: General Requirements For Industrial Discharge
6-1-312: Industrial Waste And Discharge Limits
6-1-313: Environmental Impact Report
6-1-314: Self-Monitoring And Reporting
6-1-315: Compliance Inspection And Reporting
6-1-316: Remedial Actions, Revocations, And Suspensions

6-1-301: TITLE:

This article shall be referred to as the WASTEWATER ORDINANCE OF THE CITY OF BEVERLY HILLS. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-302: PURPOSE:

The purpose of this article is to protect the environment and public health by providing for the regulation of the construction and operation of wastewater systems and the discharge of wastewater into the city of Beverly Hills wastewater system, to provide a fair and equitable method of imposing wastewater charges, and to facilitate enactment of regulations for the wastewater system that are mandated by the environmental protection agency and the state of California. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-303: DEFINITIONS:

For the purpose of this article, the following words and phrases shall be construed herein as set forth in this section:

ACT: The federal water pollution control act, also known as the clean water act, as amended, 33 USC 1251, et seq. (40 CFR 403.3(B)).
AVERAGE DAILY FLOW: The number of gallons of sewage discharged into the public sewers during a twenty four (24) hour period.

BOD OR BIOCHEMICAL OXYGEN DEMAND: The measure of decomposable organic material in domestic or industrial wastewaters as represented by the oxygen utilized over a period of five (5) days at twenty degrees centigrade (20°C) and as determined by the appropriate procedure in "standard methods".

BACKWATER VALVE OR DEVICE: A valve installed in a house or industrial connection sewer to prevent sewage backflows into the internal plumbing facilities.

CITY BUILDING OFFICIAL: The chief administrative official for the building and safety department of the city or his duly authorized representative.

CLARIFICATION: The process of removal and retention of turbidity, settleable solids, and deleterious, hazardous, or undesirable matter from wastes by sedimentation or flotation.

CLARIFIER: A device or structure which separates and retains suspended solids, settleable solids, deleterious, hazardous, or undesirable matter from wastes prior to discharge into public sewer.

COMMERCIAL USE: Any commercial or business establishment, office, hotel, motel, or hospital.

DIRECTOR OF PUBLIC WORKS AND TRANSPORTATION: The chief administrative official of the transportation and engineering department of the city or his duly authorized representative.

DISCHARGER: Any person who discharges or causes a discharge to a public sewer.

DOMESTIC WASTEWATER: The water-carried wastes not produced from commercial or industrial activity and which result from normal human living processes.

EPA: The United States environmental protection agency.

FACILITY: A pipe or structure constructed for the purpose of collecting, conveying, pumping, treating, and disposing of industrial wastewater and sewage.

GREASE TRAP: A device that separates grease or oil from wastewater flows prior to discharge to the industrial connection sewer.

GROSS FLOOR AREA: The area included within the exterior of the surrounding walls of a building or portions thereof, exclusive of courts.

HOUSE CONNECTION SEWER: That part of the sewer piping that connects to the internal structure plumbing and connects with the public sewer in the public right of way.
INDIRECT CHARGE (Into A Sewer): The introduction of pollutants into a POTW from any nondomestic source regulated under section 307 (B), (C) or (D) of the act (40 CFR 401.11 (C)).

INDUSTRIAL CONNECTION SEWER: A house connection sewer used primarily for the discharge of industrial waste.

INDUSTRIAL USER: A source of indirect discharge.

INDUSTRIAL WASTE: Liquid or solid waste, except domestic sewage, including radioactive substances and explosives, and noxious or toxic gas in the sewer system.

INDUSTRIAL WASTE PRETREATMENT OR TREATMENT FACILITY: Any works or device for the treatment of industrial waste, prior to discharge into the public sewer.

INDUSTRIAL WASTEWATER: All water-carried wastes and wastewater excluding domestic wastewater and uncontaminated water, and shall include all wastewater from commercial, manufacturing, institutional, agricultural, or other operations where it includes significant quantities of wastes of nonhuman origin.

INSPECTOR: A person authorized by the public works administrator to inspect wastewater facilities.

INTERFERENCE: A discharge with, or in conjunction with, a discharge or discharges from other sources: a) inhibits or disrupts the POTW, its treatment processes or operations or its sludge processes, use or disposal; and b) is therefore a cause of 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 a sewage sludge use or disposal in compliance with the following statutory provision and regulations or permits issued thereunder (or more stringent state or local regulation): section 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 (RCDA)), and including state regulations contained in any sludge management plan prepared pursuant to subtitle D of the SWDA, the clean air act, and the marine protection, research, and sanctuaries act (40 CFR 403.3 (I)).

LOT: Any parcel of land occupied or to be occupied for use permitted by this code.

NPDES PERMIT: A national pollution discharge elimination system permit issued pursuant to section 402 of the act (40 CFR 404.3 (K)).

NATIONAL CATEGORICAL PRETREATMENT STANDARD, NCPS, NATIONAL PRETREATMENT STANDARD, PRETREATMENT STANDARD, OR STANDARD: Any regulation containing pollutant discharge limits promulgated by the EPA in accordance with sections 307 (B) and (C) of the act which applies to industrial users. This term includes prohibitive discharge limits established pursuant to section 403.5 of title 40 of the code of federal regulations (40 CFR 404.3 (J)).
NEW SOURCE: Any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the publication of proposed pretreatment standards under section 307 (C) of the act applicable to such source.

OFF SITE DISPOSAL: The disposal or removal of industrial wastes or other materials regulated by this article to a site other than the premises where the wastes are generated, whether or not such site is under the control of the industrial waste disposal permittee.

ON SITE DISPOSAL: The management, treatment, control or disposal, other than to the public sewer system, of industrial wastes or other materials within the premises named in an industrial waste permit whether or not the wastes were generated at the permitted site or by the permittee.

PASS THROUGH: A discharge which exits the POTW into the waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) (40 CFR 403.3 (N)).

PEAK FLOW OR PEAK FLOW RATE: The maximum thirty (30) minute rate of sewage flow to be generated from the premises as estimated by the public works administrator.

POLLUTION OF UNDERGROUND OR SURFACE WATERS: Affecting the chemical, physical, biological and radiological integrity of such waters by manmade or man-induced activities.

PRETREATMENT OR TREATMENT: 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 into a POTW or disposal facility. The reduction or alteration can be obtained by physical, chemical, or biological processes or process changes by use of an industrial waste treatment facility or other means, except as prohibited by 40 CFR section 403.6 (D). (40 CFR 403.3 (Q).)

PUBLIC SEWER: A main line sanitary sewer, dedicated to public use and owned by the city.

PUBLIC WORKS ADMINISTRATOR: The chief administrative official of the public works department of the city or the duly authorized representative.

RESIDENTIAL USE: Any single-or multiple-family dwelling.

SEWAGE OR WASTEWATER: The wastewater of the community received by the sewer system consisting of the liquid and water-carried wastes from residences, commercial and industrial buildings, and institutions, and of such a character as to permit satisfactory disposal without special treatment into the public sewer system.

SEWER DISPOSAL: The disposal of industrial waste or other materials by means of a connection to the public sewer system from the premises named in an industrial waste permit.
SOLID WASTES: Wastes that are not water-carried and that are suitable for disposal with refuse at a sanitary landfill refuse disposal site.

STANDARD INDUSTRIAL CLASSIFICATION: A classification pursuant to the "Standard Industrial Classification Manual" issued by the Executive Office of the President, Office of Management and Budget, 1972, as amended.


SUSPENDED SOLIDS OR SS: The insoluble solid matter suspended in wastewater that is separable by filtration in accordance with the procedure described in "standard methods".

TAPPING: The forming of a connection to a public sewer after the sewer is in place.

TEE SADDLE: A short pipe fitting with a shoulder at one end to allow the application of the fitting to a hole tapped in the public sewer forming a ninety degree (90°) angle to the public sewer pipe.

UNCONTROLLED DISCHARGE: Any discharge, intentional or accidental, occurring in such a manner that the discharger is unable to determine or regulate the quantity, quality, or effects of the discharge.

WYE SADDLE: A short pipe fitting with a shoulder at one end to allow the application of a fitting to a hole tapped in the public sewer forming a forty five degree (45°) angle to the public sewer pipe. (1962 Code §§ 5-6.01 et seq., 6-1.301-6-1.304).

6-1-304: APPLICABILITY:

A. Facilities: This article shall apply to all sewer facilities in the city, including house connection sewers, industrial connection sewers, clarifiers, grease traps, and their appurtenances, except that nonconforming facilities may be continued in use as determined by the public works administrator in determining the best interests of the city.

B. Discharges: This article shall apply to the direct or indirect discharge of all liquid carried wastes to the sewer system of the city. Generally, liquid wastes originating within the city will be removed by the city sewer system, unless the wastes cause damage to structures, create nuisances such as odors, menace to public health, impose unreasonable collection, treatment or disposal costs on the city, violate quantity and quality requirements prescribed by state and federal laws, interfere with wastewater treatment processes, violate applicable state and federal laws, or detrimentally affect the environment.

C. Limitations On Effect Of Permit: Permits issued pursuant to this article and subsequent amendments do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from his liabilities under federal, state, or local law, nor guarantee the
discharger a capacity right in the receiving waters. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-305: PENALTIES FOR VIOLATION OF PROVISIONS:

A. Penalties: It shall be unlawful to violate any provision of this article, the conditions or limitations or any permit issued under this article, or any rule or regulation prescribed and adopted pursuant to this article.

B. Unlawful To Violate: Violation of this article or any condition or limitation of the permits issued pursuant to this article is a misdemeanor punishable by a fine not exceeding one thousand dollars ($1,000.00) or six (6) months in jail, and may be prosecuted as a misdemeanor unless prosecuted as a civil administrative matter pursuant to title 1, chapter 3, article 3 or 4 of this code. Each day that a violation continues is a separate violation of this article. Violations of limitations or regulations of industrial waste permits are also subject to civil damages up to one thousand dollars ($1,000.00) per day per violation. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304; amd. Ord. 00-O-2356, eff. 11-3-2000)

6-1-306: RECORD KEEPING BY CITY:

The Director of Public Works and Transportation shall keep complete records of all permit applications and permits issued for sewer construction. All permit applications and permits issued under this article for industrial discharges shall be maintained by the public works administrator or his duly authorized representative. All applications shall include location, plans and specific description of the use, and the names and addresses of applicants and permittees. All records of fee payments made in compliance with this article shall be maintained by the director of finance administration. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-307: WASTEWATER SYSTEM; GENERAL REGULATIONS:

A. Inspection: Inspection of every facility involved with the discharge of wastewater to the city sewer system may be made by the public works administrator, or a duly authorized representative, as often as is deemed necessary for the proper operation of the city sewer system. These facilities shall include, but not be limited to, sewers, clarifiers, grease traps, pollution control devices, all industrial processes, industrial wastewater generation, conveyance and pretreatment facilities, and similar facilities. Inspection may be made to determine whether such facilities comply with the provisions of this article.

B. Required Access For Inspection: No person shall interfere with, delay, or refuse entrance to authorized city personnel attempting to inspect any facility connected directly or indirectly to the city sewer system.

C. Authority To Enter In Emergency: If the public works administrator has reasonable cause to believe that there are violations of this article occurring that are so hazardous, unsafe, or dangerous as to require immediate inspection to protect the public health or safety, the public
works administrator shall have the right to immediately enter and inspect such property, and may use any reasonable means required to effect such entry and make such inspection, whether such property is occupied or unoccupied and whether or not permission to inspect has been obtained. If the property is occupied, he shall first present proper credentials, as authorized by the public works administrator, to the occupant and demand entry, explaining his reasons therefor and the purpose of his inspection. No person shall fail or refuse to permit reasonable inspection.

D. House Connection Sewers To Serve Only One Lot: No more than one lot shall be connected to any one house connection sewer.

E. Cesspools And Septic Tanks Prohibited: The disposal of sewage by means of septic tanks and cesspools or leach fields is a nonconforming sewer facility in the city and their use is to be discontinued within a time frame deemed reasonable by the city building official.

F. Maintenance Of Sewers, Clarifiers, Sewage Plants, And Appurtenances: All house connection sewers, house sewers, industrial connection sewers, clarifiers, sewage and industrial waste treatment facilities, private pretreatment plants, grease traps, and their appurtenances shall be maintained in good operating condition and in conformity with applicable law by the owner of the property to which such facilities serve.

G. Responsibility For Maintenance: Maintenance and repair of house connection sewers and industrial connection sewers from the point of connection with the internal facility plumbing to the connection to the public sewer shall be the sole responsibility of the property owner.

H. Disconnection Of Unlawful Connection: The Director of Public Works and Transportation may order disconnection of any house connection sewer installed or maintained in violation of the provisions of this article. Reconnection of such a disconnected sewer shall be made only upon issuance of a permit as provided in this article. Before such permit is issued or considered, the applicant shall reimburse the city for all cost resulting from the disconnection.

I. Cost Of Repair To A Public Sewer: Any person, who unlawfully obstructs, damages, destroys, or removes any public sewer, or appurtenance thereof, shall be liable for the reconstruction of the sewer and associated structures and/or the reasonable cost of necessary flushing, cleaning, and inspection.

J. Discharges Of Water On Streets Prohibited: No person shall negligently, willfully, or maliciously discharge, throw, or deposit water on any street or alley in such a manner as to obstruct or damage the street or alley, or to create a nuisance or hazard to persons or property, or to prevent or interfere with the free and uninterrupted use of the street by the public.

K. Unlawful Discharge Or Pollution: No person shall discharge any waste or sewage into any watercourse, flood control channel, or tributaries, or into the ground by percolation or injection.
Appendix 3-A

1. No person shall discharge or deposit waste or sewage which creates a public nuisance, a menace to the public safety, pollution or contamination of underground or surface waters, or impairs the use of any public sewer, storm drain channel, or public or private property.

2. Any person who unlawfully discharges or causes wastewater to be discharged into the public sewer or storm drain systems is in violation of this article and shall be deemed to be liable for all damages, costs, fines, or charges incurred. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-308: SEWER CONNECTION REGULATIONS:

A. Permit: No person shall connect to or tap a public sewer of the city or maintain a connection or tap to such sewer without obtaining a permit from the transportation and engineering department.

B. Easement Requirements: No permit shall be issued to connect a house sewer or house connection sewer to a public sewer if the connection or any portion thereof is in, under, or on a lot not owned by the person whose house is to be connected, and no recorded easements exists authorizing the connection of such lot.

C. Capacity Requirements For Discharge Of Sewage: No permit shall be issued to connect to or tap a public sewer unless said sewer has sufficient sewage capacity to receive the intended discharge. The Director of Public Works and Transportation may require the discharger to restrict the discharge until sufficient capacity is available, or to construct a public sewer to provide sufficient capacity. The Director of Public Works and Transportation may refuse service to persons locating facilities in areas where their proposed quantity or quality of sewage or industrial wastewater is unacceptable to the available treatment facility.

D. Tapping Public Sewer: When, in the opinion of the Director of Public Works and Transportation, a house connection sewer should be connected to a public sewer at a point where there is no connection facility, application for a public sewer tap shall be submitted and upon approval by the Director of Public Works and Transportation a permit will be issued for construction of the house connection sewer.

E. Tapping To Be Performed In The Presence Of A City Employee: All tapping of public sewers shall be made by a licensed sewer contractor in the presence of and to the satisfaction of an inspector acting under the authority of the Director of Public Works and Transportation.

F. Specifications And Grades: Connections to public sewers shall comply with the following:
1. House connection sewers shall be made with pipe of cast iron, clay or other material, approved by the city building official;

2. The pipe of the house connection sewer shall be laid in conformity with city specifications for public sewers as determined by the Director of Public Works and Transportation;
3. The pipe shall be laid in a straight alignment and at a uniform slope, and shall have a fall of at least one foot (1') in fifty feet (50') unless the Director of Public Works and Transportation determines that an exception is warranted;

4. The pipe must be at least three and one-half feet (31/2') below an established street or alley grade where it crosses the property line on the date of installation unless the Director of Public Works and Transportation determines that an exception is warranted;

5. A collar wye or tee saddle shall be installed in tapped public sewers by cutting a property proportioned hole in the public sewer and fitting the saddle tightly in place. Wye saddles shall be placed in the side of the public sewer with the wye branch so pointed as to direct the flow from the house connection sewer downstream at approximately a forty five degree (45°) angle with the public sewer, and tilted upward at approximately forty five degrees (45°) from the horizontal. Tee saddles shall be used for connections to twelve inches (12") diameter and larger public sewers and tilted upward at approximately forty five degrees (45°) from the horizontal or as approved by the Director of Public Works and Transportation;

6. No house or industrial waste connection to a public sewer shall be made, except through a wye or tee branch, without written permission from the Director of Public Works and Transportation;

7. The city building official may require the installation of a backwater valve by the property owner under conditions specified in the uniform plumbing code, section 409, or under other conditions that warrant installation as determined by the city building official.

G. Opening Manhole: No person shall open, enter, or allow to remain open, any manhole in any public sewer without a permit from the Director of Public Works and Transportation.

H. Disposal Of Effluent In Manhole; Prohibition: No person shall deposit cesspool effluent or any waste or sewage into a manhole. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-309: PERMIT REQUIREMENTS AND REGULATIONS FOR INDUSTRIAL DISCHARGE:

A. Purpose: The highest and best use of the city's wastewater system is the conveyance of domestic wastewater. The use of the city's wastewater system for the conveyance of industrial wastewater is subject to additional regulation and permits.

B. Industrial Waste Permit: No person shall discharge any industrial waste into any city sewer without first obtaining an industrial waste permit from the public works administrator.

C. Industrial Waste Disposal, Off Site: If a person chooses to dispose of industrial waste material by hauling said material to an authorized disposal site, they shall apply for an industrial waste permit as provided herein.

D. Industrial Waste Disposal, On Site: If a person chooses to operate a pretreatment facility for the disposal of industrial waste, they shall apply for an industrial waste permit as provided herein.
E. Application For Industrial Waste Permit: Applications for industrial waste permits shall be filed in writing with the public works administrator or his duly authorized representative and shall be supplemented by such additional information as he may require.

F. Permit Fee: Applications for industrial waste permits shall be accompanied by an application fee as set forth in section 6-1.310 of this article.

G. Review Of Applications: The public works administrator shall review all applications for industrial waste permits to determine that the proposed discharge of waste will not violate any provision of this article or state and federal laws.

1. Within thirty (30) days after the public works administrator receives an application for an industrial waste permit he shall, pursuant to this article, grant or deny the permit and notify the applicant of the action taken. Such time limit may be extended by mutual agreement between the public works administrator and the applicant.

H. Permit Conditions: The public works administrator, in granting a permit, may impose conditions consistent with the purpose of this article, including, but not limited to, pretreatment of wastewater before discharge, installation of clarifiers or grease traps, restriction of peak flow discharges or of discharge of certain substances, limitation of discharge to certain hours, and payment of additional charges to defray increased costs to the city created by the discharge. The public works administrator may establish a maximum permissible rate of discharge for each permittee.

1. Whenever the operators of the treatment facilities, through which effluent from the city's wastewater system is discharged, require any modification of the conditions or composition of the effluent, the public works administrator may impose conditions upon any industrial waste permit in order to conform with such requirements.

I. Permit Expiration: The public works administrator shall have the authority to impose a permit expiration date not to exceed a term of five (5) years, where he determines such a date is necessary to ensure compliance with all applicable laws and regulations governing the disposal of industrial wastes. Application for renewal of such a permit shall be made not later than one hundred eighty (180) days prior to the expiration date of the existing permit.

J. Permit Transfer Prohibited: Permits issued under this article are not transferable from one location to another.

K. Confidential Information; Public Access: Information and data concerning an industrial user obtained from reports, questionnaires, permit application, permits, monitoring programs and inspections shall be available to the public or other governmental agency without restriction unless the user specifically requests and is able to demonstrate to the satisfaction of the public works administrator that the release of such information would divulge information, processes, or methods of production entitled to protection as trade secrets of the user, as exempted by the California public records act or applicable federal regulations (40 CFR 403.14). Wastewater
Appendix 3-A

constituents and characteristics will not be recognized as confidential information. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-310: INDUSTRIAL DISCHARGE FEES:

A. Fees; General: The fees established in this article and subsequent amendments shall be set annually by council in the resolution of the council of the city of Beverly Hills amending comprehensive schedule of municipal fees and charges. All fees established in this article shall be applicable to all sewer connections within the city, except that, those portions of the city within the Los Angeles County sanitation district no. 4 shall not be subject to any of the fees set forth in the foregoing sections where a fee for similar service is imposed by the Los Angeles County sanitation district no. 4.

B. Industrial Waste Permit Fees: Each applicant for an industrial waste permit shall pay a fee, at the time of application, that shall be separate and apart from any fee or deposit collected for industrial waste plan review or imposed under any other provisions of this article, or other city ordinance or regulation or by reason of any license, agreement, or contract between the applicant and other public agency. Such application fee shall not be refundable even though the application is denied.

C. Industrial Waste Plan Review Fee: A plan review fee shall be paid to the city, at the time of submittal, for each set of plans received for any single site or location. Such fee shall be separate and apart from any fee or deposit collected for any permit or inspection or imposed by any other city ordinance or regulation. Such plan review fee shall be applied to any submittal required by the public works administrator and shall not be refundable even though the submittal may be rejected or project terminated.

1. The public works administrator may impose a reinstatement fee of one-half (1/2) of the plan review fee if the applicant fails to correct any plans or submittal upon written notice of correction or request for additional information by the public works administrator after three (3) attempts have been made to gain such correction.

D. Annual Inspection Fee: Every person granted an industrial waste permit under this article shall pay a fee to the city for inspection and control, and such fee shall be fixed and established from time to time by the city council.

1. Immediately upon issuance of a new permit, the permittee shall be billed a percentage of the inspection fee, determined by the days remaining in the billing period, as scheduled below:

<table>
<thead>
<tr>
<th>Days Remaining</th>
<th>Fee Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 60</td>
<td>0%</td>
</tr>
<tr>
<td>61 – 120</td>
<td>25%</td>
</tr>
<tr>
<td>121 – 210</td>
<td>50%</td>
</tr>
</tbody>
</table>
E. Inspection Classifications: The public works administrator may establish a classification system based on the minimum number of inspections per year which the public works administrator determines to be necessary for the property enforcement of this article and subsequent amendments.

F. Due Dates: The annual inspection fee shall be paid annually in advance of one of four (4) dates as follows:

<table>
<thead>
<tr>
<th>Permit Grant Date Range</th>
<th>Due Date of Annual Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1 and March 31, inclusive</td>
<td>April 1</td>
</tr>
<tr>
<td>April 1 and June 30, inclusive</td>
<td>July 1</td>
</tr>
<tr>
<td>July 1 and September 30, inclusive</td>
<td>October 1</td>
</tr>
<tr>
<td>October 1 and December 31, inclusive</td>
<td>January 1</td>
</tr>
</tbody>
</table>

G. Wastewater Sampling And Analysis Fee: The public works administrator may charge the discharger a fee for each analysis performed by or on behalf of the city on wastewater samples taken from the discharger. Said fee shall be set by city council and reflect the city's cost for sampling. The sampling and analysis fee shall be paid by the discharger within thirty (30) days of the statement date.

H. Quality Surcharge Fee: The city council may establish a charge for each pound of suspended solids and for each pound of biochemical oxygen demand. Every person granted an industrial waste permit under this article shall pay an annual quality surcharge fee for wastes discharged into the sanitary sewer system pursuant to the following formula:

\[
C = V \left[ a(SS - 250) + b(BOD - 230) \right] \times k
\]

Where:

- **C** is the quality surcharge fee.
- **V** is the chargeable volume of waste discharged in gallons, based on: 1) the volume of water supplied to the premises less an amount determined by the public works administrator to account for water not discharged into the sanitary sewer system, or 2) the metered volume of waste discharged into the sanitary sewer system according to a measuring device approved by the public works administrator, or 3) a figure determined by the public works administrator based on any other equitable method.
- **SS** is the suspended solids in the waste discharged, expressed in milligrams per liter.
BOD is the five (5) day biochemical oxygen demand of the waste discharged, expressed in milligrams per liter.

a is the cost assessed for each pound of suspended solids, and such cost shall be fixed and established from time to time by the city council.

b is the cost assessed for each pound of biochemical oxygen demand, and such cost shall be fixed and established from time to time by the city council.

k is a dimensional constant to convert C to dollars.

If the term containing SS or BOD is negative, a value of zero shall be used for that term.

SS and BOD analyses shall be made in accordance with "standard methods". In determining the quality surcharge fee, the public works administrator may use industrial averages for SS and BOD values. The public works administrator may group permit holders into discharge volume ranges where volume measurement at the premises of a permit holder is impractical for physical, economic or other reasons, these volume ranges may be used in establishing the quality surcharge fee.

I. Appeal From Quality Surcharge Fee: Any permit holder whose quality surcharge fee has been determined in the manner provided may appeal the fee amount by submission of engineering data to the public works administrator. If the public works administrator finds the discharge of the permit holder differs significantly from the volume range which was applied, he may adjust the fee.

J. Due Date For Quality Surcharge Fee: The quality surcharge fee will be a separate charge to be included in the bimonthly water/wastewater utility billing and due in full on the day the notice is received. Water/wastewater utility bills not paid within fifteen (15) days of receipt are delinquent.

K. Penalty For Delinquency: All fees required by this article shall be due and payable on the billing date established by the director of finance administration. Fees not paid within thirty (30) calendar days from the billing date shall be subject to a ten percent (10%) penalty fee for each thirty (30) day period beyond the billing date that the fee is due. Permits for which the inspection fee is delinquent for ninety (90) days or more are subject to suspension. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

**6-1-311: GENERAL REQUIREMENTS FOR INDUSTRIAL DISCHARGE:**

A. Unlawful Discharge Of Industrial Waste: No person shall directly or indirectly discharge industrial waste into the city sewer system unless the public works administrator has determined that the substance to be discharged will not violate the provisions of this article or the water quality standard for receiving waters established by other government agencies.
Appendix 3-A

B. Facility Maintenance: The discharger shall maintain in good working order and operate as efficiently as possible any pretreatment or monitoring facility or control system installed by the discharger to achieve compliance with the permit requirements.

1. Access to such pretreatment or monitoring facilities by authorized personnel will remain unobstructed at all times.

C. Facility Requirements: All permittees shall comply with the following regulations and restrictions:

1. The industrial waste discharger shall provide, install, and operate a clarifier or grease trap of adequate capacity and at a location, as determined by the public works administrator, prior to connection with the public sewer, unless it is waived by the public works administrator. Approval for the size, type, and location of clarifier shall be obtained from the public works administrator and the building official prior to installation.

2. Sanitary wastes from rest rooms, lavatories, drinking fountains, showers, etc., shall be segregated from the process wastewaters, until necessary pretreatment and/or clarification, flow, and quality monitoring steps are completed.

3. Cleansers utilized in wastes discharged into the public sewer shall be limited to soap, similarly acting biodegradable synthetic detergents, and/or sodium or potassium compounds of phosphates, polyphosphates, silicates, sulfates, carbonate, bicarbonate, or hydroxide. No organic solvents shall be discharged into the public sewers.

4. A copy of the industrial waste permit shall be maintained at the facility so as to be available at all times to operating personnel and inspectors.

5. Any change in the applicant's industrial process or an increase in volume of wastes to a level in excess of twenty five thousand (25,000) gallons per day shall require notification of the public works administrator before initiation of the proposed change in the waste discharge. The public works administrator may require a new application for the issuance of an industrial discharge permit pursuant to section 6-1-309 of this article.

6. In the event of any change in name, ownership, or control of the company, or any change referred to in subsection C5 of this section, the discharger shall notify the public works administrator of such change, and shall notify the succeeding owner or operator of the existence of this permit by letter, a copy of which shall be forwarded to the public works administrator, at least thirty (30) days prior to such change. The public works administrator may require a new application to be submitted and compliance with all applicable sections of this article.

7. The top of the pretreatment facilities, clarifier, and inspection chamber shall be at least one inch (1”) above the ground level when provided in an unroofed area. Provisions shall also be
made to divert storm water away from the pretreatment facilities, clarifier, and inspection chambers.

8. If changes should occur in plumbing layout subsequent to the issuance of an industrial waste permit, the discharger shall submit as built plumbing plans of the building showing clearly the origin of wastewater, identifying the process creating the wastewater, and listing accurately for each wastewater discharge point the total daily flow in gallons and the peak flow rate in gallons per minute, including the location and details of pretreatment facilities, clarifier, and its connection to the public sewer system for approval by the public works administrator and the building official.

9. A means shall be provided to effect immediate cessation of discharge of liquid chemicals, process solutions, or spent process solutions into the city sewer as a result of spills, overflows, leaks, failure of containers, or inadvertent discharges. Such means of cessation shall include, but not be limited to, installation of automatic valves, gates, or bypasses to impervious containers, which when activated will stop water supply to and the discharge from industrial processes. The discharger shall submit details of the proposed measures and drawings before installation and obtain approval from the public works administrator and the building official.

D. Uncontrolled Discharge: In the event of an uncontrolled discharge, the discharger or permittee shall immediately notify the public works administrator of the incident by telephone. The notification shall include the location of the discharge, type of material, concentration and volume, and corrective action.

1. Within ten (10) working days after the uncontrolled discharge, the discharger or permittee shall submit to the public works administrator a detailed written report describing the cause of the discharge, the corrective action taken and the measures to be taken to prevent future incidents. Such notification shall not relieve the discharger or permittee of liability or fines that may result from the uncontrolled discharge. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-312: INDUSTRIAL WASTE AND DISCHARGE LIMITS:

A. List Of Allowable Concentrations Of Certain Wastes: The public works administrator shall from time to time prepare a list of allowable quantities or concentrations of certain constituents in industrial wastewater flows and shall issue directions for meeting the requirements of this section.

B. Scope And Compliance: No person shall introduce wastewater in the sewer system or POTW that exceeds local limits, which have been developed by the treatment system NPDES permit holder. Said local limits shall not apply where more restrictive limitations are imposed by permit or NCPS limitations. Except as provided above, dischargers tributary to the Hyperion POTW operated by the city of Los Angeles shall comply with the following local limits:
## Constituent Value Units Existing Sources

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Value</th>
<th>Units</th>
<th>Existing Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic</td>
<td>mg/l</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>mg/l</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Chromium - total</td>
<td>mg/l</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>mg/l</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>mg/l</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>mg/l</td>
<td>Essentially none</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>mg/l</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Zinc</td>
<td>mg/l</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>mg/l</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Cyanide - total</td>
<td>mg/l</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cyanide - free</td>
<td>mg/l</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Oil and grease - total</td>
<td>mg/l</td>
<td>None visible</td>
<td></td>
</tr>
<tr>
<td>Dispersed</td>
<td>mg/l</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Floatable</td>
<td>mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>mg/l</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Chlorinated hydrocarbons</td>
<td>mg/l</td>
<td>Essentially none</td>
<td></td>
</tr>
<tr>
<td>Selenium</td>
<td>mg/l</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Dissolved sulfides</td>
<td>mg/l</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>pH ranges</td>
<td>5.5-11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperatures</td>
<td>140°F</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Values for phenol and selenium and other constituents not shown, such as fluoride, boron, aluminum, iron, tin, cobalt, etc., have been established for general application. They are not critical constituents at this time for existing sources. The board of public works of the city of Los Angeles will impose such limits as it may find necessary to ensure compliance with treatment plant discharge limits and more restrictive pretreatment standards for new sources prescribed by the environmental protection agency (EPA).

The above limitations shall not apply where more restrictive limitations are imposed by permit or national categorical pretreatment standards.

1. In addition to the concentration limits for heavy metals and toxicants in this subsection B of this section, the discharge shall also comply with the maximum allowable daily mass emission rate and the maximum allowable monthly mass emission rates.
C. Concentration Limits And Prohibitions: The total daily mass emission rate for effluent concentrations that are defined by this section shall be limited by the following:

1. The daily mass emission rate for each constituent shall be calculated from the total waste flow occurring in each specific day, and the maximum concentration limit. The mass emission rate of the discharge during any twenty four (24) hour period shall not exceed the product of the proposed daily average discharge in million gallons per day, maximum concentration limit, and a constant 8.34.

2. The monthly mass emission rate for each constituent shall be calculated from the total waste flow occurring in each specific month, and the average concentration limit or the maximum concentration limit, if average concentration limit is not prescribed. The mass emission rate of discharge during any month shall not exceed the product of proposed monthly average discharge in million gallons per month, average concentration limit, or the maximum concentration limit, if average concentration limit is not prescribed, and a constant 8.34.

3. The pH of wastes discharged shall at all times be within the range of 5.5 to 11. No person shall discharge acids or alkaline materials to the public sewers until the pH has been controlled to a level not less than 5.5 nor higher than 11.0. No discharge shall have any corrosive or detrimental characteristics that may cause injury to wastewater treatment, inspection, or maintenance personnel, or may cause damage to structures, equipment, or other physical facilities of the public sewer system.

4. The temperature of the wastes discharged shall not exceed one hundred forty degrees Fahrenheit (140°F), nor shall the temperature exceed one hundred four degrees Fahrenheit (104°F) at the point of entry into the POTW treatment facility.

5. Radioactivity in the effluent shall not exceed the limits specified in ordinance 17, chapter 5, subchapter 4, group 3, article 5, section 30287, of the California Code of Regulations.

6. Discharge of the following wastes into public sewer system is prohibited:

   a. Any solids or viscous substances of such size or in such quantity that may cause obstruction to the flow in the sewer or be detrimental to proper wastewater treatment plant operations. These objectionable substances include, but are not limited to, asphalt, dead animals, offal, ashes, sand, mud, straw, industrial process shavings, metal, glass, rags, feathers, plastics, wood, whole blood, bones, hair, coffee grounds, egg shells, seafood shells, fleshings, entrails, paper dishes, paper cups, milk containers, grease or fats, or other similar paper products either whole or ground.

   b. Any pollutant released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW.

   c. Any nonbiodegradable cutting oil, commonly called soluble oil, which forms persistent water emulsions.
d. Any wastes with excessively high BOD, COD or decomposable organic contents.

e. Any strongly odorous waste or waste which can create odors in receiving waters of the sewerage system.

f. Any excessive amounts of organic phosphorous type compounds.

g. Any excessive amounts of deionized water, steam condensate, or distilled water.

h. Any waste containing substances that may precipitate, solidify, or become viscous at temperatures between fifty degrees Fahrenheit (50°F) and one hundred forty degrees Fahrenheit (140°F).

i. Any waste producing excessive discoloration of wastewater or treatment plant effluent.

j. Any blow down or bleed off water from cooling towers or other evaporation coolers exceeding one-third (1/3) of the makeup water.

k. Any single pass cooling water.

l. Pollutants which create a fire or explosion hazard in the POTW, including, but not limited to, waste streams with a closed cup flashpoint of less than one hundred forty degrees Fahrenheit (140°F) or sixty degrees centigrade (60°C) using the test methods specified in 40 CFR 261.21.

m. Any rainwater, storm water, ground water, street drainage, surface drainage, roof drainage, yard drainage, water from the yard fountains, swimming pools or lawn sprays, or any other uncontaminated water.

7. The discharge of any radiological, chemical, or biological warfare agent or radiological waste is prohibited.

D. Compliance With Standards: The discharger shall comply with applicable toxic and pretreatment standards promulgated in accordance with sections 307 and 308 of the federal water pollution control act, or amendments thereto. The discharger shall submit periodic notices (over intervals not to exceed 3 months) of progress toward compliance with applicable toxic and pretreatment standards developed pursuant to the federal water pollution control act, or amendments thereto.

E. National Categorical Pretreatment Standards (NCPS): Upon promulgation of mandatory NCPS for any industrial subcategory, the NCPS, if more restrictive than limitations imposed by this section, shall apply. The public works administrator may impose a phased compliance schedule to ensure that affected industries meet the NCPS. Failure to meet the phased compliance schedule may result in permit suspension or revocation. Those dischargers subject to NCPS shall
Appendix 3-A

comply with all reporting requirements in accordance with the general pretreatment regulations for existing and new sources of pollution (title 40, code of federal regulations, part 403).

F. Prohibited Material Disposal: All wastes which are prohibited from being discharged into public sewers, including, but not limited to, chemical solutions, acids, caustic wastes, solvents, oil and grease, screenings, sludges, and other solids removed from liquid wastes, etc., shall be held in impervious containers and disposed of at a legal point of disposal, and in accordance with the provisions of division 7.5 of the California Water Code. For the purpose of this requirement, a "legal point of disposal" is defined as one for which waste discharge requirements have been prescribed by a regional water quality control board, and which is in full compliance therewith.

G. Off Site Disposal; Reporting: The discharger shall submit a hazardous waste manifest, as required by the public works administrator, by the fifteenth day of the month following the reporting period. A statement to that effect shall be submitted to the public works administrator.

H. New Standard Enforcement: If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under section 307(a) of the federal water pollution control act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized by the permit, and such standard or pollutant in the permit, the public works administrator shall revise or modify the permit in accordance with such toxic effluent standard or prohibition, and so notify the discharger. Compliance with the new standard or prohibition shall be in accordance with the prescribed timetables stated in such regulation or within a reasonable time as determined by the public works administrator.

I. Dilution Prohibited: No person shall discharge or cause to be discharged any water or other substance added for the purpose of diluting any industrial waste to achieve compliance with limitations imposed by the provision of this section. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304; amd. Ord. 05-O-2478, eff. 8-5-2005)

6-1-313: ENVIRONMENTAL IMPACT REPORT:

A. Requirements: No permit to connect to or tap a public sewer to discharge industrial wastes shall be issued if the proposed use of the public sewer may have a significant effect on the environment unless the environmental review process has been completed pursuant to the requirements of the California environmental quality act. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304)

6-1-314: SELF-MONITORING AND REPORTING:

A. Requirement For Reporting: Industrial waste permit holders must implement a self-monitoring and reporting program in compliance with 40 CFR section 403.12. The nature of sampling and frequency of analysis and reporting will be based on the size of discharge and type of industrial operation.
B. Requirement For Monitoring Equipment: The public works administrator may require the discharger to install, use, and maintain, at user expense, adequate continuous monitoring equipment or methods.

C. Record Maintenance By Discharger: The discharger shall retain for a minimum period of three (3) years records of monitoring activity and results including all original strip charts, calibration, and maintenance records. The public works administrator may require the discharger to submit such records for review.

D. Person Responsible To Report: Self-monitoring reports shall be signed by a duly authorized representative responsible for the overall operation of the facility from which discharge originates; in the case of a partnership, by the general partner, and in case of a sole proprietorship, by the proprietor.

Each report shall contain the following declaration:

I declare under penalty of perjury that the forgoing is true and correct.

Executed on the day of ___, at ___.

Signature

(1962 Code §§ 5-6.01 et seq., 6-1.301-6-1.304; amd. Ord. 05-O-2478, eff. 8-5-2005)

6-1-315: COMPLIANCE INSPECTION AND REPORTING:

A. Installation Of Control Manhole: The public works administrator may require a control manhole of a design approved by the public works administrator to be furnished and installed by any industrial wastewater discharger to facilitate inspection and sampling by the city or other governmental agencies. Such manholes shall be constructed at locations approved by the public works administrator and authorized city personnel shall have unrestricted access thereto at all times consistent with the provisions of this article. Access of others to such manholes shall be restricted by appropriate security measures.

B. Inspection: The public works administrator may, as herein provided, enter private property to exercise any power vested in the public works administrator by this article, including the power to inspect and copy records, sample, and determine:

1. The size, depth, and location of any connection with a public sewer or storm drain;

2. The quantity, quality, and nature of industrial waste, sewage, or surface waters being discharged into a public sewer, storm drain, or watercourse;

3. The effectiveness of any device used to prevent waste prohibited by this article from entering any sewer, storm drain, or watercourse;
4. The location of roof, swimming pool, and surface drains, and whether they are connected to a street gutter, storm drain, or sewer;

5. The nature of liquids and the condition of processing equipment which are a potential hazard to the city sewer system;

6. Whether there is compliance with the provisions of this article.

C. Reporting Requirements: Dischargers shall furnish additional reports to the public works department concerning the disposal of industrial wastes as required by the public works administrator.

D. Standard Methods: All wastewater constituents, including BOD and SS, shall be determined in accordance with the standard methods. (1962 Code §§ 5-6.01 et seq., 6-1.301_6-1.304; amd. Ord. 05-O-2478, eff. 8-5-2005)

6-1-316: REMEDIAL ACTIONS, REVOCATIONS AND SUSPENSIONS:

A. Notice To Correct Violations: The public works administrator shall serve notice of violation upon the person owning, occupying or operating premises which notice shall describe the conditions and require prompt correction thereof, when he finds that:

1. Industrial waste, effluent, or any other material is being maintained, discharged, or deposited in such a manner as to create one or more of the following conditions:

   a. A public nuisance;

   b. A menace to public health and safety;

   c. Pollution of underground or surface waters;

   d. Adverse effect or damage to any public sewer, storm drain, channel, or public or private property; or

2. The permittee had failed to conform with conditions or limitations of any permit issued in accordance with this article; or

3. The industrial waste permit was issued in error, or on the basis of incorrect information supplied, or in violation of ordinance, regulation, or law.

B. Injunctive Relief: The public works administrator may seek injunctive relief for noncompliance with any provision of this article or the conditions and limitations of any permit issued pursuant to this article.
Appendix 3-A

C. Suspension Of Permit: The public works administrator shall suspend the permit of any permit holder who fails to comply with the conditions of his permit or any provision, rule, or regulation of this article, which failure creates an emergency condition that is a threat to the health, welfare and safety of the community. Any person whose permit has been suspended shall immediately discontinue the discharge of industrial waste, until the public works administrator verifies that the permit holder is in compliance.

1. The public works administrator shall reinstate a suspended permit when all violations have been corrected and all new conditions have been met to alleviate the emergency. Before any revoked permit is reissued, all delinquent fees and additional charges due and owing to the city shall be paid. Any discharger notified of a suspension of that discharger’s industrial wastewater permit shall immediately cease and desist the discharge of all industrial wastewater to the sewer system.

2. In the event of a failure of the discharger to comply voluntarily with the suspension order, the public works administrator may take such steps as are reasonably necessary to ensure compliance. These include, but are not limited to, immediate blockage or disconnection of the discharger’s connection to the sewer system.

D. Appeals To The Suspension Of Permit: Any discharger suspended or served with a notice of an intended order of suspension may file with the city clerk a request for a city council hearing with respect thereto. Filing of such a request shall not stay a suspension. In the event of a suspension of a permit due to imminent hazard related to continued discharge, the discharger may request a hearing, and the city council or a hearing examiner designated by the city council for that purpose shall conduct a hearing within five (5) days of receipt of the request. In the event of hearing requests, for other than an imminent hazard suspension, the city council shall hold a hearing on the suspension within thirty (30) days of receipt of the request. At the close of the hearing, the city council shall make its determination whether to terminate, or conditionally terminate the suspension imposed by the public works administrator, or the city council may cause the permit to be revoked. Except in the case of a hearing within five (5) days being required as above provided, reasonable notice of the hearing shall be given to the suspended discharger in the manner provided for in this article.

E. Reinstatement Of Permit: The public works administrator shall reinstate the industrial wastewater permit upon proof of compliance which ends the emergency nature of the hazard created by the discharge that had been cause for the public works administrator to initiate the suspension, provided that the public works administrator is satisfied that all discharge requirements of this article and any city council order will be implemented.

F. Revocation Of Industrial Wastewater Permit: The city council may revoke an industrial wastewater permit by the following procedures:

1. A finding that the discharger has violated any provision of this article. No revocation shall be ordered until a notice and hearing on the question has been held by the council as provided in this section.
2. Any discharger whose industrial wastewater permit has been revoked shall immediately cease and desist all discharge of any wastewater covered by the permit. The public works administrator may disconnect or permanently block the discharger's connection if such action is necessary to ensure compliance with the order of revocation.

3. After revocation of a discharger's industrial waste permit, there shall be no further discharge of industrial wastewater by that discharger into the sewer system, the storm drain system, or the waters of the state unless there has been a new application filed, all fees and charges that would be required upon an initial application and all delinquent fees, charges, penalties and other sums owed by the discharger and/or the applicant to the city have been paid to the city, and a new industrial wastewater permit has been issued. Any costs incurred by the city, including administrative costs and investigative fees, in revoking the permit and disconnecting the connection, if necessary, shall also be paid for by the discharger before issuance of a new industrial wastewater permit.

4. Notice of the hearing shall be given to the discharger at least ten (10) days prior to the date of hearing. Unless otherwise provided herein, any notice required to be given by the public works administrator under this article shall be in writing and served in person or by registered or certified mail addressed to the addressee's last known address with request for return receipt. Where no address is known, service may be made upon the owner of record of the property upon which the alleged violation occurred or by posting the notice conspicuously on the property.

G. Emergency Remedial Measures: The public works administrator shall have full power and authority to take any necessary precautions 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 health, safety or welfare; or which either singularly or by interaction with other discharges, is an imminent hazard to the sewer system. The public works administrator may order cessation of water service to the property on which the hazardous condition exists and may order the sealing of the industrial sewer connection through which the hazardous discharge is conveyed. In the pursuit of such an operation, city personnel, or duly authorized representative of another government agency shall have immediate access to the premises.

H. Public Notice Of Violation: The public works administrator shall provide annual public notification, in the largest daily newspaper published in the municipality in which the POTW is located, of industrial users of the POTW which during the previous twelve (12) months, were significantly violating applicable standards or other pretreatment requirements, as provided in 40 CFR 403.8. (Ord. 90-O-2092, eff. 4-26-1990)
APPENDIX 3-B. AGREEMENT WITH CITY OF LOS ANGELES
AGREEMENT
BETWEEN THE CITY OF LOS ANGELES
AND THE CITY OF BEVERLY HILLS
FOR THE CONVEYANCE, TREATMENT
AND DISPOSAL OF WASTEWATER
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGREEMENT</td>
<td>1</td>
</tr>
<tr>
<td>RECITALS</td>
<td>1</td>
</tr>
<tr>
<td>DEFINITIONS</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Agency&quot; or &quot;Agencies&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Amalgamated System&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Amalgamated System Expenses&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Amalgamated System Revenues&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Amalgamated System Sewerage Facilities Charge&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Amalgamated System Sewerage System Charge&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Available Treatment Plant Effluent&quot;</td>
<td>2</td>
</tr>
<tr>
<td>&quot;Biochemical Oxygen Demand&quot; or &quot;BOD&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Boundary Line Connection&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;By-product&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Capital Improvement Program&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Commercial Discharger&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Contracting Entity&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Date of Execution&quot; or &quot;Execution&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Default&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Entity&quot; or &quot;Entities&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Fiscal Year (FY)&quot;</td>
<td>3</td>
</tr>
<tr>
<td>&quot;Flow Year&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;General Fund Reimbursement Charge&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Incremental Cost Approach&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Industrial Discharger&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Local System&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Los Angeles&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Los Angeles' Wastewater Treatment and Collection System&quot; or &quot;System&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Amalgamated System&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;Local System&quot;</td>
<td>4</td>
</tr>
<tr>
<td>&quot;MGD-miles&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Net Amalgamated System Expenses&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Nonpayment Charge&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Original Contracting Entities&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Party&quot; or &quot;Parties&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Pass Through Flow&quot;</td>
<td>5</td>
</tr>
<tr>
<td>&quot;Point of Discharge&quot;</td>
<td>6</td>
</tr>
<tr>
<td>&quot;Prime Rate&quot;</td>
<td>6</td>
</tr>
<tr>
<td>&quot;Proportionate Share&quot;</td>
<td>6</td>
</tr>
<tr>
<td>&quot;Reclaimed Water&quot;</td>
<td>6</td>
</tr>
<tr>
<td>&quot;Revenue Program&quot;</td>
<td>6</td>
</tr>
</tbody>
</table>
# Table of Contents

"Standard Methods" .................................................................................. 6
"Strength" ................................................................................................. 6
"Surface Water Runoff" ........................................................................... 6
"Suspended Solids" or "SS" ..................................................................... 7
"System Buy-in Approach" ...................................................................... 7
"System Buy-out Approach" .................................................................... 7
"Universal Terms" .................................................................................. 7
"Unpaid Amount" .................................................................................... 7
"Value Engineering" ............................................................................... 7

**CHARGE SYSTEM** ............................................................................... 7
      General ............................................................................................ 7
      Amalgamated System Sewerage System Charge .............................. 8
         Allocation of Expenses & Revenues .............................................. 8
         Amalgamated System Expenses ............................................... 9
         Amalgamated System Revenues ............................................. 12
         Reclaimed Water ....................................................................... 13
      Amalgamated System Sewerage Facilities Charges ...................... 15
         Requirements for Amalgamated System Sewerage Facilities Charges 15
         Net Increase in Anticipated Discharge ................................... 15
         Amalgamated System Sewerage Facilities Charge .................. 16
         Rate Calculation ......................................................................... 17
      General Fund Reimbursement Charge ........................................... 20
      Nonpayment Charges ..................................................................... 21
      Surface Water Runoff .................................................................... 21
         Privilege to Discharge ............................................................... 21
         Limitation of Discharge .......................................................... 21
         Amalgamated System Sewerage System Charges ..................... 22
         Amalgamated System Sewerage Facilities Charge ................... 22

**ADMINISTRATION** ........................................................................... 23
      Amalgamated System Sewerage System Charge Rate Development .... 23
         Expense and Revenue Allocation ............................................. 23
         Amalgamated System Loadings .............................................. 24
         Rate Adoption Ordinance ....................................................... 25
         Modification of Adopted Rates .............................................. 26
      Billing .............................................................................................. 26
      Payment ........................................................................................... 28
      Amalgamated System Sewerage Facilities Charge Payment .......... 28
      Late Payment ............................................................................... 29
      Discharge Flow and Strength ....................................................... 30
      MGD - miles ................................................................................. 33
# Table of Contents

**DISCHARGE MEASUREMENT**  
- Responsibility for Monitoring, Estimating, Evaluating, and Reporting ........................................... 36  
- Criteria for Measurement ........................................... 37  
- Flow and Strength Reporting ........................................... 38  
- Flow and Strength Measurement ........................................... 38  
  - Frequency ........................................... 38  
  - Physical Requirements ........................................... 38  
  - Weather ........................................... 39  
- Flow Monitoring ........................................... 39  
- Verification of Procedures ........................................... 39  
- Missing Flow Data ........................................... 40  
- Missing Strength Data ........................................... 41  
- Conditions for Waiver of Penalties ........................................... 42  
- Implementation ........................................... 42

**MEETINGS** ........................................... 43  
- Contracting Entity/Los Angeles Meetings ........................................... 43  
- Value Engineering ........................................... 44  
- Financial Auditing ........................................... 45

**OPERATION, LIABILITY, AND COMPLIANCE** ........................................... 45  
- Ownership and Operation ........................................... 45  
- Liability ........................................... 46  
  - Regulatory Liability ........................................... 46  
  - General Liability ........................................... 46  
  - Liability Related to Non-Amalgamated System Facilities ........................................... 46  
  - Gross Negligence ........................................... 46  
  - Notification of Claims ........................................... 47  
- Compliance with State and Federal Regulatory Requirements ........................................... 47

**TERM OF AGREEMENT** ........................................... 48  
- Reasons to Initiate Renegotiations ........................................... 48  
- Initial Time Prohibitions on Negotiations ........................................... 49  
- Negotiation Completion Requirements ........................................... 49  
- Negotiations at Expiration of the Term ........................................... 49  
- Conditions for Modification Proposals ........................................... 50  
- Requirement for Good Faith Renegotiations ........................................... 50  
- Non-binding Mediation ........................................... 50  
- Termination Restriction ........................................... 51  
- Month to Month Relationship ........................................... 51  
- Termination of the Month to Month Relationship ........................................... 51  
- Penalties for Violation of the Month to Month Relationship Conditions ........................................... 52  
- Contracting Entity Capital Investment Buyout ........................................... 52
# Table of Contents

**CONFLICTS** ................................................................. 54
  Default ................................................................. 54
    Events Constituting a Default by Contracting Entity ............. 54
    Events Constituting a Default by Los Angeles ...................... 54
  Remedies ............................................................... 54
    Specific Performance ................................................ 55
    Cumulative Rights and Remedies .................................... 55
    Attorneys' Fees ..................................................... 55
  Dispute Resolution .................................................... 56
    Scope of Dispute Resolution ........................................ 56
    Exclusions ........................................................... 56
    Procedures for Disputes Regarding Invoices ....................... 56
    Other Disputes ........................................................ 57

**GENERAL PROVISIONS** .................................................... 58
  Supersedence ........................................................... 58
  Applicability To Others ............................................... 58
    Future Wastewater Service Contracts or Agreements ............... 58
    Copies of New Agreements ........................................... 59
  Revenue Program ........................................................ 59
  Admissions by Parties ................................................ 59
  Construction of Agreement ............................................. 59
  Each Party Bears Own Costs ............................................ 60
  Waiver of Breach ...................................................... 60
  Awareness of Contents/Legal Effect .................................. 60
  Agreement Binding on All .............................................. 60
  Counterparts ............................................................ 60
  Severability ........................................................... 61
  Captions ................................................................. 61
  Choice of Law ........................................................... 61
  Authority to Enter into This Agreement ................................ 61
  Notice ................................................................. 61
  Amendments and/or Changes to Agreement ............................. 62

**EFFECTIVE DATE** ............................................................. 63
AGREEMENT

THIS AGREEMENT ("Agreement") is made and entered into this 9th day of March 1999, by and between the CITY OF LOS ANGELES ("Los Angeles") and the CITY OF BEVERLY HILLS ("Contracting Entity") (collectively referred to herein as the "Parties" or individually as "Party").

RECITALS

WHEREAS, Contracting Entity currently contracts with Los Angeles for the conveyance, treatment, and disposal of wastewater; and

WHEREAS, disputes have arisen between Los Angeles and Contracting Entity in regard to a number of matters pertaining to the conveyance, treatment, and disposal of wastewater as well as charges regarding the same. Some of these disputes have resulted in a lawsuit, which has been consolidated with lawsuits between Los Angeles and other entities receiving wastewater service into a single case, LASC Case No. BC 034185 ("Consolidated Action"), and a related case, LASC Case No. BC 128412 (collectively "Pending Actions"); and

WHEREAS, Los Angeles and Contracting Entity desire to resolve these issues and enter into a new contract for conveyance, treatment, and disposal of wastewater; and

WHEREAS, under the existing contracts, Contracting Entity is authorized to discharge wastewater up to a specified flow. Under the existing contracts, the charges imposed on Contracting Entity for operation and maintenance are based on actual volume of discharge and for capital are based on allowable volume of discharge; and

WHEREAS, Los Angeles acknowledges that the wastewater system currently has unused system capacity; and

WHEREAS, Los Angeles and Contracting Entity desire to eliminate discharge entitlements and make all unused capacity in the wastewater system available to either of the Parties as that Party’s discharge increases, subject to the requirements and limitations set forth in this Agreement; and

WHEREAS, Los Angeles and Contracting Entity desire to eliminate discharge entitlements in return for proportionally sharing future Sewerage Facility Charges, as hereinafter defined below, and for proportionally sharing in the capital costs for both the upgrade of existing facilities and the construction of new facilities; and

WHEREAS, Los Angeles acknowledges that it is operating a regional wastewater system and is obligated to assess charges on a fair and equitable basis because Los Angeles has received state and federal grant funding; and
WHEREAS, Los Angeles and Contracting Entity desire to base all treatment and disposal charges on actual discharge and to comply with federal and state requirements by measuring discharge in terms of flow and strength; and

WHEREAS, Los Angeles and Contracting Entity desire to base all conveyance charges on actual flow and distance; and

WHEREAS, Los Angeles and Contracting Entity desire to have all wastewater dischargers of the Amalgamated System, as more fully described herein below, pay equivalent rates for all fees and charges related to the Amalgamated System;

NOW, THEREFORE, in consideration of the mutual promises specified herein and for other good and valuable consideration, Los Angeles and the Contracting Entity agree as follows:

I. DEFINITIONS

"Agency" or "Agencies" means any Entity(ies), other than Los Angeles, that is(are) signatory to an agreement or contract for wastewater services that complies with the Universal Terms.

"Amalgamated System" (See "Los Angeles' Wastewater Treatment and Collection System")

"Amalgamated System Expenses" means those expenses used to determine the Amalgamated System Sewerage System Charge pursuant to Section II.B.2.

"Amalgamated System Revenues" means those revenues used to determine the Amalgamated System Sewerage System Charge pursuant to Section II.B.3 of this Agreement.

"Amalgamated System Sewerage Facilities Charge" means the charge, as determined in Section II.C.3, levied on new or expanding dischargers to recover the full cost of constructing Amalgamated System capacity to accommodate the anticipated increase in wastewater discharge.

"Amalgamated System Sewerage System Charge" means the charge levied on an Entity to recover that Entity's Proportionate Share of the Net Amalgamated System Expenses.

"Available Treatment Plant Effluent" means all treatment plant effluent that meets all applicable discharge standards and is not committed for the maintenance or preservation of a biological habitat as mandated by a county, state, or federal agency.
"Biochemical Oxygen Demand" or "BOD" means the measure of the biochemically decomposable material in wastewater as represented by the oxygen uptake as determined by the procedures specified in Standard Methods.

"Boundary Line Connection" means any wastewater discharge that is generated within the territorial boundaries of one Entity but is directly discharged to the sewer system of another Entity, and ultimately is treated by the Amalgamated System.

"By-product" means any product, excluding Reclaimed Water, produced incidental to the process of treating wastewater. By-products may include, but are not limited to, electricity, digester gas, and biosolids products.

“Capital Improvement Program” means Los Angeles’ planned expenditures for capital projects in the Los Angeles Wastewater Treatment and Collection System.

“Commercial Discharger” means any commercial user as defined in Appendix G, Revenue Program Guidelines of the Policy for Implementing the State Revolving Fund for the Construction of Wastewater Treatment Facilities published by the California State Water Resources Control Board, dated February 21, 1996 or as it may be revised from time to time.

"Contracting Entity" means the City of Beverly Hills.

"Date of Execution" or "Execution" means the date the last Original Contracting Entity executes an agreement complying with the Universal Terms or the date Los Angeles executes an agreement complying with the Universal Terms with the last of the Original Contracting Entities, whichever occurs last.

“Default” means those actions as specified in Section VIII.A.

“Entity” or “Entities” means Los Angeles or any local governmental organization(s), whether a city or a sanitation district, any state or federal jurisdiction, or any other jurisdiction or organization, public or private, which is located outside Los Angeles’ jurisdictional boundaries and receives wastewater conveyance, treatment, and disposal services from the Los Angeles Wastewater Treatment and Collection System pursuant to a contract with Los Angeles, except as provided in Section IX.B.1.b.

"Fiscal Year (FY)" means the 12-month period beginning on July 1 of one calendar year and ending on June 30 of the following calendar year or any other 12 month period mutually agreed to by the Parties. The designation for the Fiscal Year shall be based on the two partial calendar years included in the Fiscal Year (e.g. 1998-99).
"Flow Year" means the fourth quarter of one Fiscal Year and the first three quarters of the next Fiscal Year. The designation of the Flow Year (e.g. 1998-99) shall be the same as that of the Fiscal Year from which the three quarters are utilized.

"General Fund Reimbursement Charge" means the charge levied pursuant to Section II.D for reimbursement of the costs of emergency response services that are provided to the Amalgamated System but are paid for by Los Angeles' General Fund, separate and apart from costs that are reimbursed pursuant to Section II.B.2.a.(3).

"Incremental Cost Approach" means the method of calculating the Amalgamated System Sewerage Facilities Charge in which the rate is based on the sum of (a) the value of that capacity of the Amalgamated System facilities that is unused and therefore available to provide service to new customers and (b) the present value of projected future costs within any Los Angeles' Capital Improvement Plan that are related to expanding the Amalgamated System capacity, all divided by the sum of the unused capacity plus the future capacity of the projects identified in any Los Angeles' Capital Improvement Plan.

"Industrial Discharger" means any industrial user as defined in Appendix G, Revenue Program Guidelines of the Policy for Implementing the State Revolving Fund for the Construction of Wastewater Treatment Facilities published by the California State Water Resources Control Board, dated February 21, 1996 or as it may be revised from time to time.

"Local System" (See "Los Angeles' Wastewater Treatment and Collection System").

"Los Angeles" means the City of Los Angeles, a municipal corporation and the individual organizational components thereof.

"Los Angeles' Wastewater Treatment and Collection System" or "System" means all present and future facilities, including but not limited to plants, pipelines, pump stations, structures, tanks, valves, support facilities such as laboratories and maintenance yards, and other appurtenances owned by Los Angeles to manage, operate, maintain, collect, convey, treat, store, distribute, and dispose of wastewater, treatment plant effluent, and By-products.

"Amalgamated System" means that portion of the Los Angeles' Wastewater Treatment and Collection System exclusive of the Local System.

"Local System" means the following facilities:

a. One half of the Los Angeles-Glendale Water Reclamation Plant, the costs of which are paid by the City of Glendale.
b. Pumping stations, pipelines, and other facilities needed to distribute Reclaimed Water to the extent that the facilities are not also needed to discharge treatment plant effluent to the ocean, Los Angeles River, or other receiving water in the event that the treatment plant effluent is not reused.

c. Sewers less than 30 inches in diameter.

d. Pumping plants and associated force mains, siphon structures and piping, diversion structures and junction structures with single influent sewers less than 30 inches in diameter, or, in the case of multiple influent sewers, where the equivalent single influent sewer is less than 30 inches in diameter as set forth in Section II.B.2.d.

e. The Los Angeles Zoo treatment plant.

f. The Japanese Garden at the Donald C. Tillman Water Reclamation Plant.

"MGD-miles" means the product of the quantity of flow of an area of Los Angeles as set forth in Section III.G.7, Contracting Entity, or other Entity discharging wastewater to the Amalgamated System and the distance between the Point of Discharge, as hereinafter defined, of that area of Los Angeles, Contracting Entity, or other Entity into the Amalgamated System and the point(s) of treatment as more fully described in Section III.G.

"Net Amalgamated System Expenses" means the difference between the Amalgamated System Expenses and the Amalgamated System Revenues.

"Nonpayment Charge" means the charge levied on an Agency to collect its share, as determined pursuant to Section II.E, of any Unpaid Amounts.

"Original Contracting Entities" means collectively all of the following Entities which execute a contract for wastewater service complying with the Universal Terms, as herein defined, with Los Angeles by April 1, 1999: the City of Beverly Hills, the City of Culver City, County Sanitation Districts Nos. 4, 5, 9, 16, and 27 of Los Angeles County, the City of El Segundo, the City of San Fernando, and the City of Santa Monica.

"Party" or "Parties" means Contracting Entity and/or Los Angeles.

"Pass Through Flow" means any wastewater discharge other than Boundary Line Connections, either measured or estimated, that is generated within one Entity’s jurisdiction and is subsequently included in another Entity’s measured discharge.
"Point of Discharge" means either (a) the population centroid of Contracting Entity or (b) the population centroid of a drainage area within Los Angeles, of an Agency other than Contracting Entity, or of an Entity not signatory to an agreement complying with the Universal Terms.

"Prime Rate" means the base rate on corporate loans posted by at least 75% of the nation's 30 largest banks, as published in the Wall Street Journal or its successor publication.

"Proportionate Share" means (a) for treatment/disposal, the quantity of wastewater discharged directly or indirectly by an Entity into the Amalgamated System measured in terms of flow and Strength, as calculated pursuant to Section III.F, divided by the total quantity of wastewater discharged into the Amalgamated System comprised of the same parameters, calculated pursuant to Section III.A.2, and (b) for conveyance, the quantity of wastewater discharged directly or indirectly by an Entity into the Amalgamated System measured in terms of MGD-miles, calculated pursuant to Section III.G, divided by the total MGD-miles from all Entities discharging wastewater to the Amalgamated System. Proportionate Share for the City of Glendale shall include the flow, Strength and MGD-miles for its share of sludge from the Los Angeles/Glendale Water Reclamation Plant.

"Reclaimed Water" means Available Treatment Plant Effluent that is put to beneficial reuse in accordance with applicable laws and regulations.

"Revenue Program" means the rate schedule and analysis that demonstrates that each class of wastewater discharger is paying its fair and equitable share of the cost of operating and maintaining the Amalgamated System, complying with the Revenue Program Guidelines of the Policy for Implementing the State Revolving Fund for the Construction of Wastewater Treatment Facilities published by the California State Water Resources Control Board, dated February 21, 1996 or as it may be revised from time to time.

"Standard Methods" means the most recent edition of "Standard Methods for the Examination of Water and Wastewater," published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation or their successors, or the successor publication which establishes the standards in the wastewater disposal industry.

"Strength" means, upon Execution of this Agreement, the parameters of Biochemical Oxygen Demand and Suspended Solids, and, subsequently, as these parameters are modified or augmented pursuant to Section II.B.1.d.

"Surface Water Runoff" means water contained in publicly-owned streambeds, channels or other catchments located on the ground surface or in publicly-owned storm sewers. Surface Water Runoff does not include groundwater, except for groundwater that has seeped
into publicly-owned streambeds, channels or other catchments located on the ground surface or into publicly-owned storm sewers.

"Suspended Solids" or "SS" means the insoluble solid matter in wastewater that is separable by laboratory filtration as determined by the procedures specified in Standard Methods.

“System Buy-in Approach” means the method of calculating the Amalgamated System Sewerage Facilities Charge in which the rates are based on the value of the Amalgamated System capital facilities, whether in service or still to be placed into service, calculated pursuant to Section II.C.4.a, divided by the total Amalgamated System flow and Strength capacity.

“System Buy-out Approach” means the method of calculating the payment to an Agency for completely removing its wastewater from the Amalgamated System in which the rates are based on the value of the Amalgamated System facilities constructed subsequent to June 30, 1984, whether in service or still to be placed into service, calculated pursuant to Section II.C.4.a, divided by the total Amalgamated System flow and Strength.

"Universal Terms" means those terms and conditions of this Agreement that were negotiated between Los Angeles and the Original Contracting Entities or, in the case of federal entities, provides the same cost recovery of Net Amalgamated System Expenses. These terms and conditions are set forth in detail in the Sections I through IX of this Agreement and as those terms and conditions may be amended pursuant to Sections VII and IX.P.

“Unpaid Amount” means the difference between what Los Angeles has billed an Entity for Net Amalgamated System Expenses under its wastewater services contract or agreement, including any month-to-month charges levied pursuant to Section VII.I, and what the Entity actually has paid.

"Value Engineering" means the process by which an independent engineer or group of engineers reviews and evaluates plans, specifications, and supporting engineering documents for a capital project, including the project’s cost effectiveness.

II. CHARGE SYSTEM

A. General

Los Angeles agrees to implement and Contracting Entity agrees to abide by a new charge system. The new charge system will:
1. allow Los Angeles to equitably recover, from each Agency, that Agency's Proportionate Share of the Net Amalgamated System Expenses by implementation of an Amalgamated System Sewerage System Charge,

2. provide for the collection and crediting of Amalgamated System Sewerage Facilities Charges,

3. provide for the collection of General Fund Reimbursement Charges, and

4. provide for the collection of Nonpayment Charges.

B. Amalgamated System Sewerage System Charge

The Amalgamated System Sewerage System Charge shall be based on the operation and maintenance (O&M) costs and capital costs of the Amalgamated System for the Fiscal Year in which service is provided. The charge shall include credits for all Amalgamated System Revenues as discussed in Section II.B.3.

1. Allocation of Expenses & Revenues

The Net Amalgamated System Expenses shall be allocated to either conveyance or treatment/disposal as more fully defined in Section III.A.1. The allocated expenses shall then be divided by the appropriate Amalgamated System loading(s) to determine unit rates.

a. The unit rate for conveyance shall be equal to the net conveyance expense divided by the Amalgamated System MGD-miles as calculated pursuant to Section III.A.2.c.

b. The treatment/disposal expenses shall be further allocated among the parameters of flow and Strength in accordance with the procedures set forth in Section III.A.1. The unit rate for each parameter shall be equal to the portion of the Net Amalgamated System Expenses allocated to that parameter divided by the total Amalgamated System loading for that parameter.

c. The total Amalgamated System quantities and loadings for MGD-miles, flow and Strength shall be determined in accordance with the procedures set forth in Section III.A.2.

d. The Strength parameters shall be modified or augmented by Los Angeles as necessary to conform with state and federal requirements or, upon mutual consent of the Parties, to account for a constituent that causes the
Amalgamated System to incur a significant cost that would otherwise not be incurred.

2. Amalgamated System Expenses

a. The Amalgamated System Expenses, projected for the forthcoming Fiscal Year, used to determine the Amalgamated System Sewerage System Charge shall include the following:

(1) The direct O&M costs of the Amalgamated System, including direct salary costs incurred by Los Angeles General Fund on behalf of the Amalgamated System and later charged to the Amalgamated System.

(2) The direct capital costs of the Amalgamated System, whether for the purpose of upgrading existing facilities or for providing new and expanded facilities, including direct salary costs incurred by the General Fund on behalf of the Amalgamated System and later charged to the Amalgamated System.

(3) Costs of administrative, management and support activities at the program, bureau, department and city-wide levels which are directly charged or allocated as overhead to the Amalgamated System, including the costs of administering any agreement for wastewater services that complies with the Universal Terms.

(4) The costs associated with support facilities such as laboratories and maintenance yards to the extent that those facilities are used to support the Amalgamated System.

(5) The costs of portable equipment, such as vehicles and computers, to the extent that the equipment is used to support the Amalgamated System.

(6) Compensated time off, retirement and fringe benefits added to the labor component of O&M and capital costs, to the extent that they are not already included in either the direct O&M or capital costs or in the overhead allocated to the Amalgamated System.

(7) Costs associated with the operation, maintenance and construction of capital facilities relating to the processing, distribution or sale of By-products, which costs are incurred by Los Angeles and are related to the Amalgamated System, including the associated administrative and overhead costs.
(8) Principal and interest payments on and the costs of obtaining any loan that is attributable to the Amalgamated System, the proceeds of which are Amalgamated System Revenues pursuant to Section II.B.3.a.(4).

(9) Costs resulting from compliance with any program mandated by another governmental agency, or a court decree, settlement agreement or consent decree with a regulatory agency that are related to the Amalgamated System provided that Los Angeles shall make good faith efforts to make any such program available to Contracting Entity. However, the costs shall not be included if that program is mandated to be separately implemented and locally funded by any of the Agencies.

(10) Liability as provided in Sections VI.B and C.

(11) Costs of preparing Los Angeles’ Wastewater Revenue Program, developing charging and billing procedures and ordinances, calculating the charges and preparing the invoices pursuant to the provisions of this Agreement, and investigating adjustments and providing customer service related to service charges. Those activities which are related to Los Angeles’ internal customers that were being performed by the Los Angeles Department of Water and Power as of the Date of Execution of this Agreement shall not be included regardless of who shall perform those activities in the future.

(12) The capital and O&M costs of the Moss Avenue Pumping Station and portions of the Coastal Interceptor Sewer owned, managed, operated, maintained, and controlled by the City of Santa Monica at its sole and exclusive discretion, as set forth in Exhibit A.

(13) Any fee or charge that is legally levied by an Agency on Amalgamated System sewers or pumping plants that are located within that Agency.

(14) The compensation paid to an Agency removing its wastewater discharge from the Amalgamated System pursuant to Section VII.L, including any interest paid by Los Angeles for late payment pursuant to Section VII.L.

b. The expenses used to determine the Amalgamated System Sewerage System Charge shall not include the following:
(1) Costs related to the Local System.

(2) Costs of issuance, interest and retirement of principal related to the Los Angeles capital financing program, except as identified in Section II.B.2.a.(8).

(3) Costs related to the inspection, monitoring and enforcement programs for the Industrial Dischargers either located in Los Angeles or monitored by Los Angeles on behalf of another Entity, including associated administrative and laboratory services.

(4) Costs of billing, collection, and enforcement activities which are related to Los Angeles' internal customers that were being performed by the Los Angeles Department of Water and Power as of the Date of Execution of this Agreement regardless of who shall perform those activities in the future.

c. The conveyance portion of the capital and O&M costs included as Amalgamated System Expenses shall be equal to the sum of the total cost of all facilities 30 inches in diameter and greater and the total cost of all facilities 36 inches in diameter and greater, divided by two.

d. For purposes of determining the conveyance costs included in the Amalgamated System Expenses pursuant to Section II.B.2.c and for inclusion as an Amalgamated System facility, the diameter of a pump station and associated force main, siphon structure and piping, diversion structure, junction structure, or sewage storage facility shall be considered to be equal to the diameter of the influent sewer to the pump station, siphon, diversion structure, junction structure, or sewage storage facility. The diameter of a vent station, manhole, or other appurtenance to a sewer shall be equal to the diameter of the sewer to which the appurtenance is connected. A pump station and force main, diversion structure, junction structure, or siphon structure and piping with multiple influent sewers shall be considered to have an equivalent single influent sewer of 30 inches or greater if:

\[ \sum_{i=1}^{n} d_i^{8/3} \geq 8,689 \]

and shall be considered to have an equivalent single influent sewer of 36 inches or greater if:

\[ \sum_{i=1}^{n} d_i^{8/3} \geq 14,130 \]
Where \( d_i \) is the diameter of the \( i^{th} \) influent sewer, in inches, and \( i = 1, 2, \ldots, n \) influent sewers.

e. The treatment portion of the capital and O&M costs included in the allowable expenses set forth in Sections II.B.2.a shall include only one-half of the costs related to the Los Angeles-Glendale Water Reclamation Plant.

3. Amalgamated System Revenues

a. The revenues to be credited against expenses in determining the Amalgamated System Sewerage System Charge shall include the following:

(1) Amalgamated System Sewerage Facilities Charges - The Amalgamated System Sewerage Facilities Charges received from all Agencies and determined for Los Angeles pursuant to Section III.D.2 as new or anticipated burdens are placed on the Amalgamated System.

(2) Any of the following penalties or interest:

(a) Reimbursement for any liability for non-compliance with state or federal regulatory requirements included as an Amalgamated System Expense for which a Party is solely responsible pursuant to Section VI.C.

(b) Penalties paid by an Agency for violating the conditions of the month-to-month relationship pursuant to Section VII.K.

(c) Interest paid by an Agency for late payment of amounts owed to Los Angeles in excess of compensation for the Agency’s past capital payments pursuant to Section VII.L.

(d) Proceeds of any penalty not otherwise allocated pursuant to this Agreement.

(3) Any grant receipts, FEMA funds, or other state or federal appropriations that offset Amalgamated System Expenses.

(4) Any receipts of loans from the federal and/or state governments (e.g. from the State Revolving Fund) that are used to offset Amalgamated System Expenses, provided that Contracting Entity does not separately receive loans to offset its share of Amalgamated System Expenses.

(5) Revenue from the sale of By-products.
b. The revenues used to determine the Amalgamated System Sewerage System Charge shall exclude the following:

(1) Proceeds from the Los Angeles capital financing program, including any bonds, certificates, commercial paper or other securities, except as included pursuant to Section II.B.3.a.(4).

(2) Interest and penalties for late payments pursuant to Section III.E.

(3) Interest from a joint account established because an Agency disputes a portion of a bill pursuant to Section VIII.C.3.

Amalgamated System Sewerage System Charges related to monitoring penalty amounts, imposed pursuant to Sections IV.A.2, IV.F, and IV.G, shall not be considered as Amalgamated System Revenues because the penalty amounts are used to adjust the Proportionate Shares attributable to each Agency and Los Angeles.

4. Reclaimed Water

Los Angeles and Contracting Entity shall share in the Available Treatment Plant Effluent produced by the Amalgamated System, as expressly set forth herein.

a. Los Angeles shall have a proportionate right to all Available Treatment Plant Effluent produced by the Amalgamated System. The quantity of Available Treatment Plant Effluent to which Los Angeles has a right shall be equal to the total Available Treatment Plant Effluent produced by the Amalgamated System multiplied by the proportion its quantity of flow discharged into the Amalgamated System for the latest completed Flow Year, calculated pursuant to Section III.F.1.b, bears to the total Amalgamated System flow for the latest completed Flow Year calculated pursuant to Section III.A.2. For purposes of determining Los Angeles' proportionate right to Available Treatment Plant Effluent produced by the Amalgamated System, the quantity of flow discharged by Los Angeles shall include any flow discharged by an organization not having an agreement or contract that complies with the Universal Terms pursuant to Section IX.B.1.b.

b. Contracting Entity shall have a proportionate right to Available Treatment Plant Effluent produced by the Amalgamated System. The quantity of Available Treatment Plant Effluent to which Contracting Entity has a right shall be equal to the total Available Treatment Plant Effluent produced by the Amalgamated System multiplied by the proportion its quantity of flow discharged into the Amalgamated System for the latest completed Flow
Year, calculated pursuant to Section III.F.1.a, bears to the total Amalgamated System Flow for the latest completed Flow Year, calculated pursuant to Section III.A.2.

c. The maximum amount of Available Treatment Plant Effluent which a Party may obtain from any individual Amalgamated System facility shall be limited to its proportionate right to Available Treatment Plant Effluent produced by the entire Amalgamated System, determined pursuant to Section II.B.4.a or b, multiplied by the total Available Treatment Plant Effluent produced at that Amalgamated System facility and divided by the total Available Treatment Plant Effluent produced by the entire Amalgamated System, except as allowed by Section II.B.4.e.

d. In no event shall a Party have a right to more Available Treatment Plant Effluent from a combination of all treatment facilities in the Amalgamated System than its proportionate right to Available Treatment Plant Effluent produced by the entire Amalgamated System, determined pursuant to Section II.B.4.a or b. This limitation on a Party’s right shall not restrict a Party’s ability to acquire Available Treatment Plant Effluent from any other Entity that has a right to Available Treatment Plant Effluent.

e. Any Available Treatment Plant Effluent to which a Party has a right, but is not being utilized by that Party, may be utilized by the other Party at no cost until such time as the first Party utilizes the Available Treatment Plant Effluent or, if the first Party sells its share, until such time as the buyer of the first Party’s share utilizes the Available Treatment Plant Effluent.

f. Los Angeles shall provide Contracting Entity access to the Available Treatment Plant Effluent supply, as set forth above, at no cost to Los Angeles. Contracting Entity shall be responsible for acquiring any easements, rights-of-way, and permits as necessary and for constructing any facilities necessary for the Contracting Entity to receive Available Treatment Plant Effluent from any Amalgamated System facility. Los Angeles shall not unreasonably withhold the approval of nor unreasonably charge for any easements, rights-of-way, or permits requested by Contracting Entity.

g. Los Angeles may impose reasonable conditions on granting access to the Available Treatment Plant Effluent supply as are necessary to ensure that such access does not interfere with its treatment operations.
C. Amalgamated System Sewerage Facilities Charges

1. Requirements for Amalgamated System Sewerage Facilities Charges

   a. Each Party shall be responsible, pursuant to Section III.D, for Amalgamated System Sewerage Facilities Charges for any net increase in anticipated wastewater discharge, as determined pursuant to Section II.C.2, arising from new development, changes in land use, or increases in discharges from Industrial Dischangers within its jurisdiction or within jurisdictions for which it has assumed full responsibility.

   b. Although a Party is responsible for Amalgamated System Sewerage Facilities Charges, it is not obligated to levy the same or any charge upon individual dischargers within its jurisdiction.

   c. Surface Water Runoff discharged directly or indirectly to the Amalgamated System may be exempted from the Amalgamated System Sewerage Facilities Charge requirement pursuant to Section II.F.4.

2. Net Increase in Anticipated Discharge

For purposes of determining whether an Amalgamated System Sewerage Facilities Charge will be required of a Party, the net increase in anticipated wastewater discharge shall be determined on a parcel by parcel basis, except where more than one parcel has been consolidated into a single development. In this case, the net increase will be based on the entire development. The net increase in anticipated wastewater discharge for any parcel or development shall be equal to the difference between the anticipated discharge and the baseline discharge for the parcel or development.

   a. Anticipated Discharge

   For Industrial Dischangers, the anticipated discharge shall be based on the new permitted flow and the anticipated discharges of Strength. If the Industrial Discharger’s discharge permit does not contain more accurate information, the anticipated discharges of Strength shall be equal to the discharges contained in the Los Angeles Sewage Generation Factor Table, established in accordance with Section III.F.4.a, proportioned by the amount of flow.

   For residential parcels and for Commercial Dischangers, the anticipated discharge shall be equal to the theoretical quantities of discharge for each of the parameters of flow and Strength based on the total square footage or
other unit of measure, as adopted pursuant to Section III.F.4.a, and the intended use of the proposed project.

b. Baseline Discharge

The baseline discharge shall be the greater of:

(1) For an Industrial Discharger, the highest annual flow, BOD, and SS measured during the five Flow Years preceding the Date of Execution of this Agreement.

For residential parcels and for Commercial Dischargers, the theoretical quantity of discharge, established in accordance with Section III.F.4.a, for each of the parameters of flow, BOD, and SS at the time this Agreement is executed, or

(2) the theoretical or permitted discharge that has been acquired through the payment of Amalgamated System Sewerage Facilities Charges pursuant to this Agreement.

c. Future Strength Parameters

Any future Strength parameter will be established for baseline discharge at the time the parameter is adopted pursuant to Section II.B.1.d.

3. Amalgamated System Sewerage Facilities Charge

The Amalgamated System Sewerage Facilities Charges shall be calculated as follows:

\[
ASFC = [TSFCR_Q + (CSFCR_Q)(D_{Miles})](ID_Q) + \sum(TSFCR_{Strength})(ID_{Strength})
\]

Where:

\[
ASFC = \text{The Amalgamated System Sewerage Facilities Charge;}
\]

\[
TSFCR_Q, \quad \text{The Amalgamated System Sewerage Facilities Charge rates for flow related to treatment, calculated in terms of dollars per million gallons per day pursuant to Section II.C.4;}
\]
The Amalgamated System Sewerage Facilities Charge rates for each Strength parameter related to treatment, calculated in terms of dollars per 1000 pounds per day pursuant to Section II.C.4;

The Amalgamated System Sewerage Facilities Charge rate related to conveyance, calculated in terms of dollars per MGD-mile pursuant to Section II.C.4;

Party’s net increase in anticipated annual average flow, and annual average Strength loading for each parameter, in terms of million gallons per day and 1000 pounds per day, respectively; and

Party’s total MGD-miles for the latest completed Flow Year, calculated pursuant to Section III.G, divided by the Party’s flow for the latest completed Flow Year, calculated pursuant to Section III.F.1.

4. Rate Calculation

The Amalgamated System Sewerage Facilities Charge rates levied upon a Party shall be based on the System Buy-in Approach as described below. Pursuant to the provisions of Section VII.A, following the initial ten year non-renegotiation period, either Party may initiate renegotiations to change the basis of the Amalgamated System Sewerage Facilities Charge to the Incremental Cost Approach provided that the conditions of Section VII.E are met.

a. Value of Facilities

(1) The value of any Amalgamated System facility in service shall be equal to the full cost of that facility inflated to reflect present costs and then depreciated.

(2) The value of any Amalgamated System facility under construction or not yet in service, also known as “Construction Work In Progress” shall be equal to the full cost of that facility inflated to reflect present costs but not depreciated.
(3) The remaining principal on any loan from the federal and/or state
governments that was used to offset the cost of an Amalgamated
System facility, pursuant to Section II.B.3.a.(4) shall be subtracted
from the value of that facility.

(4) The full cost shall be equal to the original acquisition cost, including
all direct and indirect costs and all design and construction
management costs, of those Amalgamated System facilities contained
in Los Angeles’ wastewater fixed asset register and Los Angeles’
wastewater Construction Work in Progress.

(5) Inflation to present worth shall be calculated using the Engineering
News Record Construction Cost Index or its equivalent.

(6) Depreciation shall be calculated using the straight-line depreciation
method with the same asset lives used by Los Angeles in its
accounting reports.

b. Design Capacity of Amalgamated System Facilities

(1) Treatment-related Facilities

The design capacities for flow and strength used to calculate the
Amalgamated System Sewerage Facilities Charge rate shall be equal
to:

(a) the sum of the average influent flow and strength capacities,
respectively, of the Donald C. Tillman Water Reclamation
Plant, the Terminal Island Treatment Plant, the Hyperion
Treatment Plant, and any other reclamation or treatment plant
that is incorporated into the Amalgamated System, plus

(b) one-half of the average influent flow and strength capacities,
respectively of the entire Los Angeles-Glendale Water
Reclamation Plant, less

(c) the sum of the design flow and strength, respectively, of the
sludge returned to the Amalgamated System conveyance system
from the Donald C. Tillman Water Reclamation Plant and any
other reclamation plant that is incorporated into the
Amalgamated System, less
(d) one-half of the design flow and Strength, respectively, of the sludge returned to the Amalgamated System conveyance system from the entire Los Angeles-Glendale Water Reclamation Plant.

The average influent flow and Strength capacities for the treatment and reclamation plants shall be the design values as adopted by Los Angeles' Board of Public Works or any revised values adopted by Los Angeles' Board of Public Works where the revised values reflect changes in regulation by a county, state, or federal agency or where the revised values more accurately reflect the true capacities of the plants as demonstrated by Los Angeles. The standard flow and Strength loadings in the sludge returned to the Amalgamated System conveyance facilities from the reclamation plants shall be the values used in the planning and/or design of the Amalgamated System facilities as adopted by Los Angeles' Board of Public Works or any revised values adopted by Los Angeles' Board of Public Works where the revised values more accurately reflect the average flow and Strength loadings of the sludge produced by the reclamation plants when they are operated at their influent capacities, as demonstrated by Los Angeles.

(2) Conveyance-related Facilities

The capacity of conveyance-related facilities, measured in terms of MGD-miles, shall be equal to the Amalgamated System flow capacity, calculated pursuant to Section II.C.4.b.(1), multiplied by the average distance of the Amalgamated System. The average distance of the Amalgamated System shall be equal to the sum of the MGD-miles of Los Angeles, Contracting Entity, and all other Entities discharging wastewater to the Amalgamated System, calculated pursuant to Section III.G, divided by the total flow in the Amalgamated System, calculated pursuant to Section III.A.2. The MGD-miles and total flow in the Amalgamated System shall be determined using data for the latest Flow Year completed prior to the adoption of the Amalgamated System Sewerage Facilities Charge rates pursuant to Section III.A.3.

c. Rates

(1) The value of each facility that is part of the Amalgamated System, either by its inclusion in the fixed asset register or the Construction Work In Progress, shall be allocated to conveyance and to treatment flow and Strength by cost centers and using the same allocation factors adopted by Los Angeles pursuant to Section III.A.1.b.
(2) The Amalgamated System Sewerage Facilities Charge rates shall be calculated by dividing the allocated costs of all capital facilities that are part of the Amalgamated System by the Amalgamated System design conveyance and treatment flow and Strength capacities as determined pursuant to Section II.C.4.b.

D. General Fund Reimbursement Charge

1. Contracting Entity shall pay a General Fund Reimbursement Charge to compensate the Los Angeles general fund for the Contracting Entity’s share of providing emergency response services to the Amalgamated System. The General Fund Reimbursement Charge shall be calculated based on the formula (“Formula”) set forth in Exhibit B, which is attached hereto and is incorporated herein by this reference as if it were set forth fully herein.

In no case shall the General Fund Reimbursement Charge exceed an amount equal to the O&M portion of the Amalgamated System Sewerage System Charge levied upon Contracting Entity times the lesser of: (1) 5%, or (2) the percentage of operating revenues levied upon the Los Angeles’ wastewater enterprise fund as general fund reimbursement, pursuant to Los Angeles Municipal Code Section 64.60 and as that Section may be amended from time to time.

Los Angeles shall not initiate any action to revise or invalidate the Formula. The Formula may only be amended or revised under the following circumstances: (a) the State Water Resources Control Board or the Environmental Protection Agency, on its own initiative, requires or mandates the change; or (b) a court of competent jurisdiction rules in final, binding judgment that the Formula is invalid or illegal. Prior to any change in the Formula, and before implementation of any revised Formula, Los Angeles must obtain the written approval of the State Water Resources Control Board or the Environmental Protection Agency, or their successor agencies, stating that the proposed change and the revised Formula comply with the Revenue Program Guideline requirements.

2. Provided that Contracting Entity interpleads or otherwise names Los Angeles in any court challenge, Contracting Entity shall not be responsible for any General Fund Reimbursement Charge that is held to be invalid or illegal, or any amount that is held to be excessive for Los Angeles or any Agency by a court of competent jurisdiction.

3. If, in finding that the General Fund Reimbursement Charge is invalid, illegal, or excessive, a court of competent jurisdiction rules that monies collected for this purpose must be returned, Los Angeles shall within 90 days return or credit all General Fund Reimbursement Charges paid by Contracting Entity that are ordered to be returned by the court.
E. Nonpayment Charges

As of October 1 following the end of each Fiscal Year, Los Angeles shall determine all of the Unpaid Amounts which have became more than 120 days delinquent since the previous October 1. Contracting Entity shall pay a Nonpayment Charge equal to the Unpaid Amounts multiplied by Contracting Entity’s Proportionate Share of the Net Amalgamated System Expenses for the Fiscal Year and divided by the total Proportionate Shares of the Net Amalgamated System Expenses for the Fiscal Year for Los Angeles and all Agencies without any Unpaid Amounts.

F. Surface Water Runoff

1. Privilege to Discharge

   a. Either Party may discharge Surface Water Runoff, directly or indirectly, to the Amalgamated System, subject to the conditions set forth in Section II.F.

   b. Discharge of Surface Water Runoff during the period of November 1 through March 31 shall be prohibited.

   c. Discharge of Surface Water Runoff shall be prohibited unless Los Angeles has obtained a waiver from the U.S. Environmental Protection Agency or has otherwise demonstrated that the discharge of Surface Water Runoff complies with the state and federal revenue program guidelines.

2. Limitation of Discharge

   a. The total Surface Water Runoff discharge to all treatment and reclamation plants in the Amalgamated System from all dischargers shall not exceed 5% of the Amalgamated System flow capacity, as defined in Section II.C.4.b.

   b. The Surface Water Runoff discharge to any treatment or reclamation plant other than the Hyperion Treatment Plant shall be limited to an aggregate amount from all dischargers that does not exceed 5% of the flow capacity of that treatment or reclamation plant, as defined in Section II.C.4.b.

   c. The Surface Water Runoff discharge to any treatment or reclamation plant shall not exceed the difference between the flow capacity at that treatment or reclamation plant, as defined in Section II.C.4.b, and the influent flow, exclusive of Surface Water Runoff, at that treatment or reclamation plant.
3. Amalgamated System Sewerage System Charges

Any Party who discharges Surface Water Runoff to the Amalgamated System shall be responsible for the full Amalgamated System Sewerage System Charge for the total amount of Surface Water Runoff discharged by the Party to the Amalgamated System.

4. Amalgamated System Sewerage Facilities Charge

a. Treatment Facilities

(1) If the aggregate amount of Surface Water Runoff discharged by all Agencies and Los Angeles does not cause any of the limitations as set forth in Section II.F.2 to be violated, no payment of Amalgamated flow System Sewerage Facilities Charges shall be required.

(2) If the aggregate amount of Surface Water Runoff discharged by all Agencies and Los Angeles causes any of the limitations as set forth in Section II.F.2 to be violated, the discharges shall be divided into categories and prioritized as follows:

Category 1 - Mandated by a responsible agency of the County of Los Angeles, the State of California, or the United States

Category 2 - Voluntary discharge

Beginning with all of the dischargers in Category 2 and then moving to Category 1, the full Amalgamated System Sewerage Facilities Charge must be paid or the flow removed from the Amalgamated System until the remaining Surface Water Runoff no longer causes the limitations as set forth in Section II.F.2 to be violated. The portions of their discharges for which the dischargers shall be required to pay the Amalgamated System Sewerage Facility Charge or remove flow from the Amalgamated System shall correspond to the proportions of the total Surface Water Runoff in their respective categories that they discharge. For purposes of this calculation, any Surface Water Runoff for which an Amalgamated System Sewerage Facilities Charge has been paid shall not be included. Once any discharger within a given category has been required to pay the Amalgamated System Sewerage Facilities Charge, all subsequent dischargers in that category shall also be required to pay the Amalgamated System Sewerage Facilities Charge.
(3) For purposes of this Section, the flow capacities of the treatment or reclamation plants and of the Amalgamated System shall be as determined pursuant to Section II.C.4.b, the plant influent flow shall be the average plant influent flow for the most recently completed Flow Year, and the amount of Surface Water Runoff shall be the average discharge. The average discharge shall be defined as the total discharge during a Flow Year divided by the number of days of actual discharge during that same Flow Year.

b. Conveyance Facilities

(1) Each Fiscal Year before discharging Surface Water Runoff into a conveyance system owned by the other Party, a Party wishing to discharge Surface Water Runoff shall first obtain permission from the other Party.

(2) If the individual Surface Water Runoff discharge from any given point of diversion of a Party causes the total peak dry weather flow in the receiving conveyance system to exceed the capacity of any part of the system, the Party owning the receiving conveyance system with insufficient capacity may deny the other Party the right to discharge that portion of the Surface Water Runoff which causes the exceedence. For purposes of this paragraph, the capacity of any sewer within the receiving conveyance system shall be that peak dry weather flow which causes the sewer to flow at three-quarters (3/4) of its full depth. The capacity of any pumping station within the receiving conveyance system shall be ninety (90) percent of the rated capacity of the plant.

III. ADMINISTRATION

A. Amalgamated System Sewerage System Charge Rate Development

1. Expense and Revenue Allocation

a. The allocation of O&M costs to flow and Strength shall be determined by using updated cost accounting information for individual cost centers, typically unit processes, and distribution of the O&M expenditures utilizing process-specific O&M distribution factors adopted by the Los Angeles Board of Public Works for each cost center. The cost accounting information shall be updated for the first full Fiscal Year following completion of secondary treatment facilities under construction at the Hyperion Treatment Plant as of the Date of Execution of this Agreement.
Thereafter, this information shall be updated not less than once every two years using the average O&M expenditures from the two most recently completed Fiscal Years. Plant-wide allocation percentages shall be calculated by dividing the distributed O&M costs by the total costs and shall be used to allocate anticipated O&M costs in Los Angeles' Revenue Program.

b. The allocation of capital costs to flow and Strength shall be determined by assigning anticipated capital expenditures for the forthcoming Fiscal Year to individual cost centers, typically unit processes, and distribution of these anticipated expenditures utilizing process-specific distribution factors adopted by the Los Angeles Board of Public Works for each cost center and shall be incorporated into Los Angeles' Revenue Program.

2. Amalgamated System Loadings

a. The Amalgamated System flow and Strength loadings, respectively, shall be equal to:

(1) the sum of the influent flow and Strength loadings, respectively, at the Donald C. Tillman Water Reclamation Plant, the Terminal Island Treatment Plant, the Hyperion Treatment Plant, the entire Los Angeles-Glendale Water Reclamation Plant and any other reclamation or treatment plant that is incorporated into the Amalgamated System, less

(2) the sum of the flow and Strength loadings, respectively, in the sludge returned to the Amalgamated System conveyance system from the Donald C. Tillman Water Reclamation Plant, the entire Los Angeles-Glendale Water Reclamation Plant and any other reclamation plant that is incorporated into the Amalgamated System, less

(3) the City of Glendale's share of the influent flow and Strength loadings, respectively, at the Los Angeles-Glendale Water Reclamation Plant, plus

(4) the flow and Strength loadings, respectively, in Glendale's share of the sludge that is returned to the Amalgamated System conveyance system from the Los Angeles-Glendale Water Reclamation Plant.

Glendale's share of the influent flow at the Los Angeles-Glendale Water Reclamation Plant shall be equal to one-half (½) of the total influent flow at the plant. Glendale's share of the influent Strength loadings, measured in pounds per day, shall be equal to Glendale's share of the influent flow,
measured in million gallons per day, multiplied by the average concentrations of Strength discharged from Glendale, measured in milligrams per liter, and multiplied by 8.34, a conversion factor.

Glendale's share of the sludge flow from the Los Angeles-Glendale Water Reclamation Plant shall be equal to one-half (½) of the total sludge flow from the Los Angeles-Glendale Water Reclamation Plant for the latest completed Flow Year. Glendale's share of the Strength loadings in the sludge from the Los Angeles-Glendale Water Reclamation Plant shall be equal to the Strength loadings in Glendale's share of the influent to the plant multiplied by the Strength loadings in the sludge of the plant, and divided by the total Strength loadings in the plant influent.

b. For purposes of calculating the Amalgamated System Sewerage System Charge rates and for determining the flow and Strength loadings from Los Angeles pursuant to Section III.F.1.b, the Amalgamated System flow and Strength loadings shall be equal to the quantities determined in Section III.A.2.a plus the sums of any penalty amounts determined pursuant to Sections IV.A.2, IV.F.2.a, IV.F.3.b, IV.G.2.a, and IV.G.3.b.

c. The Amalgamated System MGD-miles shall be equal to the sum of the MGD-miles for all areas as set forth in Section III.G.

3. Rate Adoption Ordinance

Los Angeles shall annually adopt, by ordinance, in conformance with the requirements and provisions of this Agreement, the rates to determine the Amalgamated System Sewerage System Charges and Amalgamated System Sewerage Facilities Charges for the use of the Amalgamated System. This rate setting process will begin with the first full Fiscal Year following Execution of the Agreement and continue every Fiscal Year thereafter. The rates for the first partial year, if any, after Execution of the Agreement shall be those that were mutually agreed to by the Parties prior to Execution of this Agreement.

a. Rate Adoption Time Frame - Los Angeles shall adopt rates for service to be provided in the next Fiscal Year prior to the start of that Fiscal Year. To allow sufficient time for the Contracting Entity to adopt corresponding rates for its own jurisdiction, Los Angeles shall provide the adopted rates no later than four (4) months prior to the start of the Fiscal Year for which they are to become effective. If there are less than four (4) months between the Execution of this Agreement and the start of the next Fiscal Year, Los Angeles shall provide preliminary rates within one (1) month of Execution of this Agreement and shall adopt rates within four (4) months of the Execution of this Agreement.
b. Breakdown of Charges to O&M and Capital - The rate adoption ordinance shall provide a breakdown of the Amalgamated System Sewerage System Charge rates into the categories of O&M and capital.

c. At the same time that Los Angeles submits information on the forthcoming annual rates, Los Angeles shall provide an estimate of Amalgamated System Sewerage Service Charges for the following five year period. This estimate shall not be binding and shall only be used by the Agencies for planning purposes.

4. Modification of Adopted Rates

If during a given Fiscal Year it becomes apparent that the actual expenditures in that Fiscal Year will exceed the anticipated expenditures used to establish the rates for the Amalgamated System Sewerage Service Charge in that Fiscal Year, Los Angeles may adopt a new rate ordinance to reflect the increased costs and subsequent payments will be based on the newly adopted rates. If Los Angeles adopts new rates pursuant to this Section, Los Angeles shall also prepare new invoices pursuant to Sections III.B.1, 2 and 3 for any remaining periods within the Fiscal Year for which the new rates will apply.

B. Billing

1. Los Angeles shall prepare an annual estimated bill containing bimonthly installments for the Amalgamated System Sewerage System Charge and the General Fund Reimbursement Charge to the Contracting Entity. The bill shall be postmarked to Contracting Entity no later than 30 days prior to the start of the Fiscal Year for which the bill applies.

2. The Amalgamated System Sewerage System Charge portion of the bimonthly installments shall be calculated as follows:

\[
\text{Bimonthly Amount} = [(R_0 \times D_0) + \sum (R_{\text{Strength}} \times D_{\text{Strength}}) + (R_c \times D_c)] \times \frac{F}{6}
\]

where:

\[R_0 = \text{The Amalgamated System Sewerage System Charge rate for the Fiscal Year which is attributable to flow in terms of dollars per million gallons;}\]
\[ R_{\text{Strength}} = \text{The Amalgamated System Sewerage System Charge rate for the Fiscal Year which is attributable to each Strength parameter in terms of dollars per 1000 pounds}; \]

\[ R_C = \text{The Amalgamated System Sewerage System Charge rate for the Fiscal Year which is attributable to MGD-miles in terms of dollars per MGD-mile}; \]

\[ D_Q = \text{The wastewater flow, including any treatment sludge, discharged by Contracting Entity during the latest completed Flow Year}; \]

\[ D_{\text{Strength}} = \text{The quantity of each Strength parameter, including any treatment sludge, discharged by Contracting Entity during the latest completed Flow Year}; \]

\[ D_C = \text{The MGD-miles attributable to Contracting Entity for the latest completed Flow Year, calculated pursuant to Section III.G}; \]

\[ F = \text{Payment factor equal to the ratio of actual expenditures to budgeted expenditures, averaged over the three most recently completed Fiscal Years, multiplied by 0.9}. \]

3. The General Fund Reimbursement Charge portion of the bimonthly installments shall be calculated pursuant to Section II.D.

4. Within six months following the conclusion of a Fiscal Year, Los Angeles shall submit to Contracting Entity a reconciliation invoice for the Amalgamated System Sewerage System Charge and the General Fund Reimbursement Charge for services provided during that Fiscal Year. For purposes of calculating the reconciliation invoice, the Proportionate Share shall be determined using quantities for the Flow Year with the designation corresponding to the same Fiscal Year for which service is provided and for which the reconciliation invoice applies. The reconciliation invoice shall include the following:

a. the Contracting Entity’s reconciled Amalgamated System Sewerage System Charge which shall be calculated as its Proportionate Share of the actual Net Amalgamated System Expenses for that Fiscal Year, including credit for all Amalgamated System Sewerage Facilities Charges paid by the Agencies and determined for Los Angeles, although not paid by Los Angeles, pursuant to Section III.D.2, less any payments already made pursuant to Section III.C.1. This part of the bill will also break the total actual Net Amalgamated Expenses for the Fiscal Year into expenses
attributable to O&M and expenses attributable to capital in accordance with Los Angeles’ adopted policy on capitalization.

b. the Contracting Entity’s reconciled General Fund Reimbursement Charge for that Fiscal Year which shall be calculated pursuant to Section II.D.1, less any General Fund Reimbursement Charge payments already made by Contracting Entity during the Fiscal Year pursuant to Section III.C.

c. any Nonpayment Charge for the past Fiscal Year pursuant to Section II.E.

d. a statement of the flow and Strength, including any penalty amounts, of each Entity discharging into the Amalgamated System.

e. a statement of the final Amalgamated System rates.

C. Payment

1. Contracting Entity shall make the payments for the bimonthly installments of the Amalgamated System Sewerage System Charge and the General Fund Reimbursement Charge, prepared pursuant to Section III.B.1, for each Fiscal Year in a timely manner so that they are postmarked by the last business day of July, September, November, January, March, and May, respectively, or within 30 days of receipt of the annual bill by Contracting Entity, which ever comes later.

2. Contracting Entity shall pay the reconciliation invoice within 30 days of its receipt.

D. Amalgamated System Sewerage Facilities Charge Payment

1. Beginning on the Date of Execution of this Agreement, Contracting Entity and Los Angeles shall be responsible for Amalgamated System Sewerage Facilities Charges in accordance with Section II.C.1.

2. All of Contracting Entity’s Amalgamated System Sewerage Facilities Charges for its increased flow and strength during each bimonthly billing period shall be calculated by Contracting Entity and submitted along with the next bimonthly payment made pursuant to Section III.C.1. The Amalgamated System Sewerage Facilities Charges for which Los Angeles is responsible shall be calculated by Los Angeles after the end of each Fiscal Year. Los Angeles’ and Contracting Entity’s Amalgamated System Sewerage Facilities Charge shall be calculated pursuant to Section II.C using rates adopted pursuant to Section III.A.3. These amounts are Amalgamated System Revenues and shall be subtracted from the Net
Amalgamated System Expenses when determining the reconciliation invoices pursuant to Section III.B.4.a.

3. Within 60 days following the end of each Fiscal Year, Contracting Entity shall submit a report to Los Angeles listing all new development, changes in land use, or increases in discharges from Industrial Dischargers which could result in a net increase in wastewater discharge during the Fiscal Year or partial Fiscal Year following the Date of Execution. The report shall total the increased flow, Strength loadings and MGD-miles resulting from the development, changes in land use and increases in discharges from Industrial Dischargers listed in the report. Within 60 days following the end of each Fiscal Year, Los Angeles shall submit to Contracting Entity a report listing all of the new development, changes in land use and increases in discharges from Industrial Dischargers in the areas for which Los Angeles has responsibility and which could result in a net increase in wastewater discharge during the Fiscal Year or partial Fiscal Year following the Date of Execution. The report shall total the increased flow, Strength loadings and MGD-miles resulting from the development, changes in land use and increases in Industrial discharges listed in the report for Los Angeles. Either Party may, at its own cost, audit the other Party's records to assess compliance with the foregoing requirement.

4. Los Angeles shall notify Contracting Entity in writing if Contracting Entity's wastewater discharges are increasing at a rate that exceeds the growth rate upon which Los Angeles' long-range capacity plans for the System are based. If Los Angeles' wastewater discharges are increasing at a rate greater than the growth rate upon which the long-range capacity plans are based, Los Angeles shall notify Contracting Entity in writing.

5. By February 1 of each year, Contracting Entity shall provide Los Angeles with an estimate of the long-term increased flow and Strength loadings arising from new development, changes in land use and increases in discharges from Industrial Dischargers within its jurisdiction during the forthcoming Fiscal Year. This information shall be used for planning purposes only; there is no implied warranty as to its accuracy.

E. Late Payment

1. Any payments of Amalgamated System Sewerage System Charges, General Fund Reimbursement Charges, Nonpayment Charges or Amalgamated System Sewerage Facilities Charges that are late shall be subject to interest on the original amounts due at the Prime Rate in effect when the payment first became due plus one (1) percent for payments that are 1 to 30 days late, the Prime Rate in effect when the payment first became due plus five (5) percent for payments 31 to 60 days late, and the Prime Rate in effect when the payment first became
due plus ten (10) percent for payments more than 60 days late, not to exceed the maximum rate allowed by law. As long as payment, including applicable interest and penalties, is made within 120 days, Contracting Entity shall not be deemed to be in Default.

2. Los Angeles shall credit Contracting Entity for any Unpaid Amount that is subsequently paid by an Agency other than Contracting Entity, provided that Contracting Entity has paid a Nonpayment Charge corresponding to its share of the original Unpaid Amount. Los Angeles shall notify Contracting Entity of the credit within ten (10) business days of receiving the payment of the Unpaid Amount. Contracting Entity shall deduct the amount of the credit from its next bimonthly payment of Amalgamated System Sewerage System Charges, provided the payment of the Unpaid Amount was received no less than ten (10) days before the due date of the next bimonthly payment. If the payment of the Unpaid Amount is received less than ten (10) days before the due date of the next bimonthly payment, Contracting Entity shall deduct the credit from its second bimonthly payment of the Amalgamated System Sewerage System Charges following the payment of the Unpaid Amount. Noticing shall be pursuant to the requirements of Section IX.O. The credit shall be equal to:

a. The amount of the previous Nonpayment Charge, plus

b. Any related interest and penalties paid by the delinquent Agency over the period of time from when Contracting Entity is billed the Nonpayment Charge to when the Unpaid Amount is recovered, multiplied by Contracting Entity’s Proportionate Share of the Net Amalgamated System Expenses for the Fiscal Year divided by the total Proportionate Shares of the Net Amalgamated System Expenses for the Fiscal Year for Los Angeles and all Agencies without any late or delinquent payments.

3. If Los Angeles does not notify Contracting Entity within ten (10) days of receipt of the payment of an Unpaid Amount by an Agency, Los Angeles shall credit Contracting Entity with interest at a rate equal to the Prime Rate in effect when the credit first became due plus ten (10) percent over the period of time from when the Unpaid Amount was paid to the date that Los Angeles notifies Contracting Entity of the credit.
F. Discharge Flow and Strength

1. Discharge Quantities

The quantity of wastewater flow and Strength discharged by each Party, including any wastewater treatment sludge and Surface Water Runoff, shall be calculated at the end of each Flow Year as follows:

a. The total quantity of flow and Strength discharged from Contracting Entity shall be equal to:

(1) the sum of all quantities measured, pursuant to Sections III.F.2 and IV.B, at gauging stations located on sewers discharging from Contracting Entity either directly or indirectly to the Amalgamated System, less

(2) any quantities from Surface Water Runoff, Pass Through Flows, and Boundary Line Connections which originate from any Entity besides Contracting Entity that pass through a gauging station located on sewers discharging from Contracting Entity, less

(3) any wastewater or Surface Water Runoff that is generated within the territorial boundaries of jurisdictions or organizations for which Los Angeles has assumed responsibility pursuant to Section IX.B.1.b that passes through a gauging station located on sewers discharging from Contracting Entity, plus

(4) the quantities, pursuant to Section III.F.3, that are generated in Contracting Entity’s ungauged areas and discharged either directly or indirectly to the Amalgamated System, including Boundary Line Connections.

b. The total quantity of flow and Strength discharged by Los Angeles shall be equal to:

(1) the total Amalgamated System flow and Strength loadings, calculated as set forth in Section III.A.2, less

(2) the sum of all quantities discharged by the Agencies and other Entities to the Amalgamated System.
2. Measurement Methodology

a. The measurement of the quantity of flow or Strength of any discharge pursuant to Section IV.B shall be performed in accordance with the requirements of Section IV.D. Strength shall be measured following the sampling and analysis protocols recommended in Standard Methods. All analyses of Strength samples shall be performed by a laboratory certified to conduct such analyses by the California State Department of Health Services pursuant to the Environmental Laboratory Act of 1988, and as that Act may be amended from time to time.

b. The total mass emission of Strength at any given monitoring station shall be equal to the daily average pounds per day of Strength measured at the monitoring station multiplied by the number of days in the Flow Year. The daily average pounds per day shall be equal to the straight average of the samples taken, as follows:

(1) For the first three years following Execution of this Agreement, it shall be based on all samples taken from the Date of Execution through the end of the Flow Year.

(2) After the first three years following Execution of this Agreement, it shall be based on samples taken only during the three most recently completed Flow Years.

3. Estimation Methodology

The quantity of flow or Strength of any discharge that is not measured pursuant to Section IV.B, including the discharge from Boundary Line Connections and Pass Through Flows, shall be equal to the sum of the estimated discharges from each of the individual dischargers within the ungauged area, except that Los Angeles need not estimate the quantities of Pass Through Flows or Boundary Line Connections if they are tributary to unmeasured areas for which the discharges are estimated. However, if requested by Contracting Entity for purposes of its facilities planning, Los Angeles shall make this information available to Contracting Entity.

a. The flow and Strength discharges for residential customers shall be estimated using the theoretical factors adopted pursuant to Section III.F.4.b.

b. Where a Party bases its service charges to Commercial/Industrial Dischargers on their metered water usage, the flows for those dischargers shall be estimated based on their metered water usage and the percentage
of water usage that is discharged to the sewer, which percentage is as adopted by Los Angeles for use in charging the dischargers within its corporate limits and included in its Wastewater Revenue Program. Where a Party monitors Industrial Dischargers’ flows directly, those dischargers’ estimated flows shall be based on the monitored flows. Where a Party does not base its service charges to Commercial/Industrial Dischargers on metered water usage or monitored flows, the flows for those dischargers shall be estimated using the theoretical factors adopted pursuant to Section III.F.4.b.

c. The Strength discharged by Commercial/Industrial Dischargers shall be estimated using the theoretical factors adopted pursuant to Section III.F.4.b, except where Strength concentrations are monitored. Where a Party monitors Industrial Dischargers’ Strength concentrations, those customers’ estimated Strength shall be based on the monitored concentrations.

4. Estimation Factors

a. For purposes of determining estimated discharges for the calculation of Amalgamated System Sewerage Facilities Charges, Los Angeles’ Board of Public Works shall adopt a list of user categories and assumed loadings per unit of usage for each category. This list of user categories and assumed loadings shall be known as the Los Angeles Sewage Generation Factor Table.

b. For purposes of determining estimated discharges for ungauged areas and Boundary Line Connections, Los Angeles’ Board of Public Works shall adopt another list of user categories and an assumed flow and Strength per unit of usage for each category. This list of user categories and assumed loadings shall be based on the Los Angeles Sewage Generation Factor Table, however, the number of user categories shall be condensed to conform with the classifications set forth in the Los Angeles County Assessor’s tax roll or as may otherwise be mutually agreed to by the Parties. This list shall be known as the Amalgamated System Sewage Generation Factor Table.

G. MGD - miles

Until Contracting Entity and Los Angeles can develop a more accurate method of allocating the costs of the conveyance portion of the Amalgamated System, the MGD-miles shall be based on a straight-line centroidal approach. Los Angeles shall use the following formulas and procedures to determine the centroidal MGD-miles for
Contracting Entity, Los Angeles, other Agencies and any other Entities discharging wastewater to the Amalgamated System:

1. For an area whose flow is tributary to the Donald C. Tillman Water Reclamation Plant but not tributary to any future treatment or water reclamation plant that may be operated by Los Angeles, that area's MGD-miles shall be equal to the sum of:

   a. the portion of that area’s flow that is treated at the Donald C. Tillman Water Reclamation Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that may be operated by Los Angeles, multiplied by the straight-line distance from the area’s Point of Discharge to the Donald C. Tillman Water Reclamation Plant, plus

   b. the portion of that area’s flow that is treated at the Los Angeles-Glendale Water Reclamation Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that is operated by Los Angeles, multiplied by the straight-line distance from the area’s Point of Discharge to the Los Angeles-Glendale Water Reclamation Plant, plus

   c. the portion of that area’s flow that is treated at the Hyperion Treatment Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that is operated by Los Angeles, multiplied by the sum of the straight-line distance from the area’s Point of Discharge to the Valley Spring Forman Diversion Structure and the straight-line distance from the Valley Spring Forman Diversion Structure to the Hyperion Treatment Plant.

2. For an area whose flow is tributary to the Valley Spring Forman Diversion Structure but not tributary to the Donald C. Tillman Water Reclamation Plant or any future treatment or water reclamation plant that may be operated by Los Angeles, that area's MGD-miles shall be equal to the sum of:

   a. the portion of that area’s flow that is treated at the Los Angeles-Glendale Water Reclamation Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that may be operated by Los Angeles, multiplied by the straight-line distance from the area’s Point of Discharge to the Los Angeles-Glendale Water Reclamation Plant, plus

   b. the portion of that area’s flow that is treated at the Hyperion Treatment Plant, including the area’s share of sludge returned to the sewer from any
upstream treatment or water reclamation plant that is operated by Los Angeles, multiplied by the sum of the straight-line distance from the area's Point of Discharge to the Valley Spring Foreman Diversion Structure and the straight-line distance from the Valley Spring Foreman Diversion Structure to the Hyperion Treatment Plant.

3. For an area whose flow is tributary to the Los Angeles-Glendale Water Reclamation Plant, but not tributary to the Donald C. Tillman Water Reclamation Plant, the Valley Spring Foreman Diversion Structure or any future treatment or water reclamation plant that may be operated by Los Angeles, that area's MGD-miles shall be equal to the sum of:

a. that portion of that area's flow that is treated at the Los Angeles-Glendale Water Reclamation Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that may be operated by Los Angeles, multiplied by the straight-line distance from that area’s Point of Discharge to the Los Angeles-Glendale Water Reclamation Plant, plus

b. the portion of that area's flow that is treated at the Hyperion Treatment Plant, including the area’s share of sludge returned to the sewer from any upstream treatment or water reclamation plant that is operated by Los Angeles, multiplied by the straight-line distance from the area’s Point of Discharge to the Hyperion Treatment Plant.

For the City of Glendale, the area’s flow shall include its share of sludge from the Los Angeles-Glendale Water Reclamation Plant, calculated pursuant to Section III.A.2.a.

4. For an area whose flow is tributary to the Hyperion Treatment Plant, but not tributary to the Donald C. Tillman Water Reclamation Plant, the Valley Spring Foreman Diversion Structure, the Los Angeles-Glendale Water Reclamation Plant or any future treatment or water reclamation plant that may be operated by Los Angeles, that area’s MGD-miles shall be equal to that area’s flow multiplied by the straight-line distance from that area’s Point of Discharge to the Hyperion Treatment Plant.

5. For an area whose flow is tributary to the Terminal Island Treatment Plant but not tributary to any future treatment or water reclamation plant that may be operated by Los Angeles, that area’s MGD-miles shall be equal to that area’s flow multiplied by the straight-line distance from that area’s Point of Discharge to the Terminal Island Treatment Plant.
6. For an area whose flow is tributary to any future treatment or water reclamation plant that may be operated by Los Angeles, that area's MGD-miles shall be equal to the MGD-miles calculated in Sections III.G.1 through 5, as applicable, plus the amount of that area's flow that is treated at the future treatment or reclamation plant multiplied by the straight-line distance from that area's Point of Discharge to the future treatment or reclamation plant.

7. In order to determine the MGD-miles attributable to Los Angeles, Los Angeles shall first be divided into sub-areas tributary to the Donald C. Tillman Water Reclamation Plant, the Valley Spring Forman Diversion Structure, the Los Angeles-Glendale Water Reclamation Plant, the Hyperion Treatment Plant, the Terminal Island Treatment Plant and any future treatment or water reclamation plant that may be operated by Los Angeles, respectively. The sub-area tributary to the Terminal Island Treatment Plant shall be further subdivided into the Harbor, Terminal Island and Wilmington areas. The MGD-miles for each sub-area shall be determined using the same procedures in Sections III.G.1 through 6, as applicable. The total MGD-miles attributable to Los Angeles shall be equal to the sum of the MGD-miles attributable to each of the sub-areas.

8. In calculating MGD-miles pursuant to Section III.G.1 through 7, each area's flow shall consist of the total wastewater generated within the area, including infiltration and inflow and the sludge from any treatment facility operated by the Entity that is not included in the Amalgamated System, which sludge is discharged by the Entity into the Amalgamated System.

IV. DISCHARGE MEASUREMENT

A. Responsibility for Monitoring, Estimating, Evaluating, and Reporting

1. The discharging Party, i.e. the Party discharging wastewater to the other Party, shall be responsible for all monitoring, evaluating, and reporting of wastewater discharge measurements at the locations required by Section IV.B. The discharging Party shall also be responsible for estimating, evaluating and reporting flow and Strength where estimation is allowed pursuant to Section IV.B.

2. The receiving Party, i.e. the Party receiving the wastewater discharge from the other Party, shall have the option of monitoring, evaluating, and reporting of discharge measurements when the discharging Party fails to execute its responsibility pursuant to Sections IV.A.1 and IV.E. In this case, the cost of monitoring, estimating, evaluating, and reporting shall still be the sole responsibility of the discharging Party and not attributable to the Amalgamated System. If the receiving Party exercises its option due to the discharging Party's
failure, the data shall not be considered missing, but penalty amounts equal to 5% of the quantities measured by the receiving Party shall be added to the measured quantities.

3. If the receiving Party exercises its option for monitoring, evaluating, and reporting, the discharging Party may resume its responsibility after it demonstrates compliance with the monitoring, evaluating, and reporting requirements for a period of 30 days. During the demonstration period, the receiving Party shall still have the right to monitor the discharge at the expense of the discharging Party, but no penalty amounts shall apply.

B. Criteria for Measurement

1. The flow and Strength shall be measured for any discharge that meets one of the following criteria:

a. The discharge is Surface Water Runoff.

b. The wastewater discharged through a single sewer, excluding Pass Through Flow, Surface Water Runoff, and Boundary Line Connections from another Entity, exceeds 0.5 cfs for the prior three consecutive flow years.

2. All flow and Strength not measured pursuant to Section IV.B.1 shall be estimated pursuant to Section III.F.3, except as follows:

a. The receiving Party, at its discretion, may measure flow and Strength from a discharging Party with a discharge less than 0.5 cfs, provided that the cost of such measurement will be the sole responsibility of the receiving Party and not be attributable to the Amalgamated System.

b. The discharging Party may elect to measure the flow and Strength of any discharge in lieu of estimating the flow and Strength. The discharging Party shall inform the receiving Party of its election before the Flow Year in which it will begin such measurement or within two months after the Date of Execution, whichever comes later. The discharging Party may also elect to begin estimating the flow and Strength of any discharge it has previously elected to measure, but is not required to measure, in which case it shall inform the receiving Party of this election before the Flow Year in which it will begin such estimation. Whether it elects to estimate or measure the discharge, the discharging Party shall use the elected method to determine the flow and strength it reports to the receiving Party pursuant to Section IV.C for the entire Flow Year.
C. Flow and Strength Reporting

1. Quarterly reports of all measured flow and Strength data collected during a quarter shall be submitted within 30 days of the end of the quarter.

2. Annual reports of the estimated flow and Strength, including all Boundary Line Connections, and the last quarterly report of measured flow and Strength data shall be submitted within 30 days of the end of the Flow Year.

3. Submission of quantity measurements and estimates shall constitute the discharging Party's verification that such data is an accurate representation of the Party's wastewater flow and Strength and acknowledgment that such data will be used to calculate a Party's total quantity of wastewater pursuant to Section III.F.1.

D. Flow and Strength Measurement

1. Frequency

   a. Flow shall be monitored continuously.

   b. Strength shall be sampled monthly for the first two years after Execution of this Agreement and then quarterly thereafter. Strength samples shall be collected for 24 uninterrupted hours each month or quarter such that each day of the week is represented over a seven sample period and no day of the week is represented in more than four out of twelve consecutive 24-hour samples. Each 24-hour composite sample shall consist of 24 individual samples which are combined such that each sample represents the volume of wastewater discharged during the time between samples.

2. Physical Requirements

   a. A permanent and continuous flow metering station shall be installed at each location where flow and Strength is measured pursuant to Section IV.B and at each location where Surface Water Runoff is discharged to the sanitary sewer system.

   b. A temporary flow metering device may be used to measure flow while the permanent station is being repaired or replaced. If a temporary flow metering device is used, the Party shall make reasonable efforts to ensure the timely repair or replacement of the permanent flow metering device.

   c. All Strength samples shall be taken at the same location as the flow measurement station using an automatic sampling device.
3. Weather

No strength samples shall be collected within 72 hours of a rainfall event which records more than ½ inch of rain within a 24 hour period.

4. Flow Monitoring

a. Flow metering equipment installed at each station shall be of a type that will accurately measure the range of flows passing the gauging station.

b. Flow metering equipment shall include redundant measuring techniques over the entire range of flows for which the station is intended to measure.

c. Procedures for the measurement, data collection, and flow calculation shall be documented for each gauging station.

d. If multiple methods of measurement can be utilized, the most accurate method for the particular device being used and the quantity of flow being measured shall be consistently utilized and reported. In the event of a measurement sensor failure, an alternate method of measurement and flow calculation may be utilized until such time as the sensor failure is corrected.

E. Verification of Procedures

1. The discharging Party shall provide the receiving Party with its flow database via computer disk or other electronic means. The database shall include all of the discharging Party’s unprocessed data for each measuring technique employed in measuring its flows pursuant to Section IV.D.4.b. The discharging Party shall provide the data collected each month within fifteen (15) working days after the end of the month. If the discharging Party fails to provide the data within the fifteen day period, the receiving Party shall have the option of monitoring the flow itself at the expense of the discharging Party pursuant to Section IV.A. Any data not submitted within thirty (30) days following the end of each quarter shall be considered missing pursuant to Sections IV.F and G. Provision of the database to the receiving Party does not release the discharging Party of its obligation to evaluate the data pursuant to Section IV.A.

2. If the receiving Party desires to conduct an audit of the discharging Party’s quantity measurements and/or estimations, it shall notify the discharging Party of its intent to audit within 30 days of receiving the measured or estimated quantities. The receiving Party’s costs of performing the audit shall be borne by the receiving Party. The discharging Party shall provide the receiving Party access to all monitoring data and records within 15 days of the notice of intent to audit. The receiving Party shall notify the discharging Party of the results of
the audit within 45 days of the notice of intent to audit. If the receiving Party's audit of the data and records reveals discrepancies in the discharging Party's data and records, the Parties shall meet for the purpose of resolving, to the mutual satisfaction of both Parties, the discrepancy in the data and records. If the Parties cannot arrive at a satisfactory resolution, the Parties shall resolve the issue via the dispute resolution process set forth in Section VIII.C. Routine questions regarding quantity measurement and estimation shall not be considered to be audits for purposes of this Section and shall be considered to be an expense of the Amalgamated System.

3. A representative of the receiving Party, at its own cost, shall be authorized to accompany the discharging Party and observe the discharging Party's practice in setting the Strength sampling device, in retrieving the device and in compositing the samples, for one sampling each year and at all locations discharging Party is required to sample. Discharging Party shall notify receiving Party of the date, time and location(s) of the next sampling after being notified of receiving Party's desire to observe the sampling.

4. The discharging Party shall split each composite sample and shall make available a preserved half to the receiving Party within six hours of retrieval of the sampling device if so requested by the receiving Party at no cost to the discharging Party.

5. If the Parties cannot arrive at a satisfactory solution to any disputes over sampling and measurement, the Parties shall resolve the issue via the dispute resolution process set forth in Section VIII.C. Routine questions shall not be considered audits for purposes of this Section and shall be considered expenses of the Amalgamated System.

F. Missing Flow Data

1. If no more than 30 days are missed during any Flow Year and no more than 14 days are missed during any 30 day period at any individual monitoring station, then:

   a. No penalty shall apply.

   b. The data for the missing days shall be assumed to be equal to the average of all measured days.

   c. A letter shall be submitted explaining the cause for any missed data that exceeds 7 consecutive days.
2. If the number of missed days is between 30 and 90 days during any Flow Year, is no more than 30 days during any 45 day period, or is no more than 20 consecutive days at any individual monitoring station, then:

a. The data for the missing days shall be assumed to be equal to the average of all measured days. To this amount shall be added a penalty equal to 10% of the assumed amount.

b. A letter shall be submitted explaining the cause for any missed data that exceeds 7 consecutive days.

3. If the number of missed days exceeds 90 days during any Flow Year, is more than 30 days during any 45 day period, or is more than 20 consecutive days at any individual monitoring station, then:

a. The Party will be deemed to be in Default upon compliance with the noticing requirements of Section VIII.A.1.c or Section VIII.A.2.b.

b. The missing data shall be assumed to be equal to either (1) the average of all measured days, if at least 200 days were measured or (2) the average of the preceding Flow Year, if less than 200 days were measured. To this amount shall be added a penalty equal to 25% of the assumed amount.

c. The receiving Party shall have the right to measure the flow at the expense of the discharging Party. The receiving Party shall have the right to continue to meter the flow at the expense of the discharging Party until the discharging Party has shown, to the reasonable satisfaction of the receiving Party, that it can and will comply with all of the flow metering requirements.

G. Missing Strength Data

1. If no more than 2 non-consecutive months of sampling are missed during the first two Fiscal Years and no quarterly samples thereafter at any individual monitoring station, then:

a. No penalty shall apply.

b. The data for the missing months or quarters shall be assumed to be equal to the average of all measured months or quarters.

c. A letter shall be submitted explaining the cause for any missed data.
2. If the number of missed samples is between 2 and 4 months and no more than 2 consecutive months during the first two Fiscal Years and no more than one quarterly sample thereafter at any individual monitoring station, then:

a. The data for the missing months or quarters shall be assumed to be equal to the average of all measured months or quarters. To this amount shall be added a penalty equal to 10% of the assumed amount.

b. A letter shall be submitted explaining the cause for any missed data.

3. If the number of samples missed is more than four months or more than two consecutive months during the first two Fiscal Years or more than one quarterly sample thereafter at any individual monitoring station, then:

a. The Party will be deemed to be in Default upon compliance with the noticing requirements of Section VIII.A.1.c or Section VIII.A.2.b.

b. The missing data shall be assumed to be equal to either (1) the average of all measured months or quarters or (2) the average of the preceding year, whichever is higher. To this amount shall be added a penalty equal to 25% of the assumed amount.

c. The receiving Party shall have the right to measure Strength at the expense of the discharging Party. The receiving Party shall have the right to continue to measure the strength at the expense of the discharging Party until the discharging Party has shown, to the reasonable satisfaction of the receiving Party, that it can and will comply with all of the Strength measuring requirements.

H. Conditions for Waiver of Penalties

If conditions beyond the reasonable control of a discharging Party prevents that Party from meeting any of the measurement requirements, the discharging Party may petition the receiving Party for a waiver of the penalty provisions. The discharging Party shall provide documentation of the reasons that caused the problems and the steps being taken to correct the problems. The receiving Party shall not unreasonably deny the petition for waiver.

I. Implementation

1. Each discharging Party shall have 12 months from the Execution of this Agreement to install and operate the flow monitoring stations required under the terms of this Agreement. Each discharging Party shall report the completion of
the flow monitoring stations. Upon notification of completion, the flow monitoring requirements shall become effective.

2. For locations that meet the requirements for measuring flow pursuant to Section IV.B.1 or where the discharging Party elects to measure the flow and Strength of its discharge pursuant to Section IV.B.2.b subsequent to the Date of Execution, the discharging Party shall have one year from the date that the location meets the requirements or from the date that the discharging Party notifies the receiving Party of its election to install the appropriate flow metering equipment. Each discharging Party shall report the completion of the flow monitoring stations. Upon notification of completion, the flow monitoring requirements shall become effective.

3. The provisions for the collection of flow data in the agreements in effect prior to the Date of Execution of this Agreement shall continue in effect until the new flow measurement stations are operable.

V. MEETINGS

A. Contracting Entity/Los Angeles Meetings

1. Within 30 days of a written request of Contracting Entity, but in no case less than semi-annually, Los Angeles shall meet with a representative or representatives of Contracting Entity to discuss issues of mutual interest relative to this Agreement, including but not limited to:

   a. The operation and maintenance costs pertaining to the Amalgamated System;

   b. The capital program pertaining to the Amalgamated System;

   c. Written policies pertaining to the administration of the charge system;

   d. Disputes between Los Angeles and the Agencies, pursuant to Section VIII of this Agreement;

   e. The risk management practices pertaining to the Amalgamated System;

   f. Regulatory updates.

At any such meeting, two representatives from Los Angeles shall be present. One Los Angeles representative shall be an employee from Los Angeles with knowledge of the Amalgamated System and the second Los Angeles
representative shall be appointed by the President of the City Council. The representative from Contracting Entity must be an Assistant Manager, Division Head, City Manager, Department Head or their duly authorized representative. In no case shall the representative(s) from either Party be legal counsel. The foregoing requirements, however, shall not prevent either Party from designating other representatives to be present at any such meeting, including additional staff, consultants and attorneys. Los Angeles' costs of preparing for and attending any such meeting shall be considered a contract administration cost and shall be included as Amalgamated System Expenses pursuant to Section II.B.2.a.(3).

2. In submitting the Revenue Program and annual Capital Improvement Program to the Council and the Mayor for approval, Los Angeles Staff shall identify and summarize any issues where the Contract Entity disagrees with the proposed Revenue Program or Capital Improvement Program and shall expressly state the reasons for those disagreements.

3. If matters are deemed to be of general interest to all Agencies who have wastewater conveyed and treated by Los Angeles, Los Angeles shall have the right to meet with the representatives of the Agencies collectively to discuss the issues of common interest. If Los Angeles meets with the Agencies collectively, this shall not preclude either Contracting Entity or Los Angeles from requesting a meeting to discuss an issue or issues limited in scope to the interest of Contracting Entity and Los Angeles.

4. If requested by two or more Agencies, those Agencies shall have the right to meet collectively with Los Angeles. If Los Angeles meets collectively with the Agencies, this shall not preclude either Contracting Entity or Los Angeles from requesting a meeting to discuss an issue or issues limited in scope to the interest of the Contracting Entity and Los Angeles.

B. Value Engineering

1. The Agencies have the right, collectively, to meet at least once with any Value Engineering team hired by Los Angeles to review a proposed capital project for the Amalgamated System. For each project, Los Angeles' cost of the first of any such meeting shall be considered to be an Amalgamated System Expense. Contracting Entity shall pay the cost incurred by the Value Engineering team as a result of any subsequent meetings in proportion to its flow discharged to the Amalgamated System divided by the total flow discharged to the Amalgamated System by those Agencies requesting the subsequent meetings. The first meeting shall take place, if at all, within 30 days of the date of the letter requesting such meeting and at a mutually convenient time and place.
2. Los Angeles shall provide the Agency representatives with a copy of any Value Engineering study for an Amalgamated System project within 30 days of the completion of the study.

C. Financial Auditing

1. The Agencies have the right, collectively, to meet at least once each auditing cycle with the auditor of the System's financial statement. The meeting shall take place, if at all, within 30 days of the date of the letter requesting such meeting and at a mutually convenient time and place. The cost of a single meeting shall be considered to be an Amalgamated System Expense. Contracting Entity may have further meetings with the auditors of the Amalgamated System's financial statement, provided that Contracting Entity reimburses Los Angeles for any additional auditor's cost incurred as a result of the additional meetings, in proportion to its flow discharged to the Amalgamated System divided by the total flow discharged to the Amalgamated System by those Agencies requesting the subsequent meetings. Los Angeles may require that the auditors bill the Agencies directly for the additional costs.

2. Contracting Entity shall have the right to audit those System financial records that are made available to the auditor of the System's financial statements for audit purposes and to review the audit work papers at its own expense.

VI. OPERATION, LIABILITY, AND COMPLIANCE

A. Ownership and Operation

1. Los Angeles is recognized as the sole owner and sole operating authority of the Amalgamated System. As such, Los Angeles shall exercise reasonable care and skill and shall act as a prudent manager of the Amalgamated System to ensure compliance with all federal, state, and local laws, regulations, and rules pertaining to the discharge of wastewater, including without limitations all applicable pretreatment standards and effluent limits, if any.

2. With regard to the inspection, maintenance, and operation of the Local System or of facilities owned by either Los Angeles or Contracting Entity and all discharges within each Party's respective jurisdiction or territorial boundaries, each Party shall exercise reasonable care and skill and shall act as a prudent manager to ensure compliance with all federal, state, and local laws, regulations, and rules pertaining to the discharge of wastewater, including without limitation, all applicable pretreatment standards and effluent limitations, if any.
3. Contracting Entity hereby waives any present and future claims to any equity interest in the Amalgamated System. Los Angeles agrees that any future agreement or contract with any other Entity shall not give that Entity any equity interest in the Amalgamated System.

B. Liability

1. Regulatory Liability

Liability, federal or state, whether related to water or air, including fines, penalties, increased costs due to more stringent regulations as a result of the regulatory liability, and/or the cost of any alternative project in lieu of, or in addition to, any fine or penalty shall be treated as an expense of the Amalgamated System if said liability results from the construction or operation of the Amalgamated System. This would include, but not be limited to: operator error, negligence, sewage spills or other discharges resulting from clogs, breaks in pipes, lack of capacity, or electrical outages, equipment failure or breakdown, discharges into the air in violation of any SCAQMD rule or regulation, or any other action or inaction by Los Angeles in constructing or operating the Amalgamated System which results in liability assigned to any portion of the Amalgamated System.

2. General Liability

Unless otherwise stated in this Agreement, third party liability, including compensatory damages, shall be treated as an expense of the Amalgamated System if said liability results from the operation of the Amalgamated System.

3. Liability Related to Non-Amalgamated System Facilities

Contracting Entity will not be responsible for liability which results solely from construction and operation of the Local System. Similarly, Los Angeles will not be responsible for liability which results solely from construction and operation of Contracting Entity’s wastewater collection system. If liability results from a combination of activities involving the Amalgamated System and other wastewater facilities, the Net Amalgamated System Expenses shall include the costs related to that portion of the liability attributable to the activities involving the Amalgamated System which is the basis for the liability.

4. Gross Negligence

Liability which results from gross negligence and/or the willful and/or intentional acts of an individual or individuals charged with the operation of a facility which is part of the Amalgamated System shall not be chargeable as an expense of the
Amalgamated System but shall be borne by Los Angeles or the successor jurisdiction responsible for the operation of the Amalgamated System.

5. Notification of Claims

Los Angeles shall provide written notification to all Agencies of any and all claims and Notices of Dispute submitted to Los Angeles which refer, relate, or pertain to the Amalgamated System within thirty (30) days of receipt of such claim, provided that such claims are for amounts exceeding $500,000, excluding construction claims. Notification of construction claims shall only be required if so requested by Contracting Entity.

C. Compliance with State and Federal Regulatory Requirements

1. The Parties shall satisfy all state or federal requirements for preparing and updating their Revenue Programs.

2. In any circumstance where (i) Los Angeles as owner of the System is mandated by a state or federal requirement to establish a program, prepare a study, or undertake some other action and (ii) such action would require Los Angeles to enter Contracting Entity’s jurisdiction, Contracting Entity shall be responsible for complying with such requirement and shall report to Los Angeles all actions undertaken to comply.

   a. Los Angeles shall provide written notification to Contracting Entity of any state or federal requirements that are applicable to Contracting Entity in the foregoing circumstances.

   b. If Contracting Entity fails to take the necessary action after having been duly notified of its obligations by Los Angeles and if Contracting Entity’s failure to take the necessary action would result in any liability payable from the Amalgamated System, then Los Angeles shall have the authority to enter Contracting Entity’s jurisdiction to perform the required actions on behalf of Contracting Entity and to directly charge Contracting Entity for any costs necessarily incurred to achieve compliance.

   c. If Contracting Entity’s failure to take the actions necessary to comply with the state or federal requirements results in any liability payable from the Amalgamated System, Contracting Entity shall bear full financial responsibility for any fines or penalties that are levied as a result of Contracting Entity’s failure to comply.

   d. If Los Angeles and Contracting Entity are both required to take actions to comply with state and federal requirements and Los Angeles fails to take
the necessary actions to comply with the state and federal requirements and if Los Angeles’ failure to take the necessary actions results in any liability payable from the Amalgamated System, Los Angeles shall bear full financial responsibility for any fines or penalties that are levied as a result of Los Angeles’ failure to comply.

VII. TERM OF AGREEMENT

The term of this Agreement is thirty (30) years unless it is modified in writing by mutual consent of the Parties and shall commence upon full Execution.

A. Reasons to Initiate Renegotiations

During the unexpired term of this Agreement, either Party may request that the other Party negotiate, in good faith, modifications of the Agreement which the requesting Party believes are necessary because of any of the following changed circumstances:

1. There is a material change in the regulatory framework for wastewater that renders one or more of the terms or conditions of the Agreement to no longer be fair and equitable;

2. There is a proposed change in the physical configuration of the Amalgamated System that the existing terms or conditions of the Agreement do not adequately address;

3. There is a material change in the financial framework of Los Angeles’ wastewater conveyance and/or treatment system which either renders any of the terms or conditions of the Agreement to no longer be fair and equitable or creates a condition that the existing terms or conditions cannot accommodate;

4. There is any change in the regulatory, operating or financial framework of Los Angeles’ wastewater conveyance and/or treatment system, which in the view of either Party, will or has caused the charge system described in Section II of this Agreement to no longer be fair and equitable.

5. If, after ten (10) years from the Date of Execution of this Agreement, Los Angeles requests the Contracting Entity to contribute money towards capital facilities or improvements for the Amalgamated System which are valued at $100 million or more, including direct and indirect costs, in any one fiscal year and whose useful life is greater than the length remaining on the term of the then existing Agreement.
B. Initial Time Prohibitions on Negotiations

Notwithstanding the provisions of Section VII.A above, and excepting the provisions within this Agreement concerning Reclaimed Water and Surface Water Runoff, the Parties hereby knowingly and expressly waive the right to renegotiate any provision of this Agreement for a period of ten (10) years from the Date of Execution, irrespective of the cause, rationale or circumstances. The Parties further acknowledge and agree that the existing charge system will be used to recover the Amalgamated System Expenses during the initial ten (10) years of this Agreement even if either Party believes that the charge system may not be fair and equitable. The Parties acknowledge and agree that they have reached this Agreement following a period of lengthy and complicated negotiations and they are unwilling and further find it imprudent to revisit the subject-matter herein for a period of ten (10) years. With respect to the renegotiation of the Reclaimed Water and Surface Water Runoff provisions, the Parties knowingly and expressly waive the right to renegotiate these provisions for a period of five (5) years from the Date of Execution of this Agreement. Thereafter, either Party may seek to renegotiate Reclaimed Water and Surface Water Runoff provisions at any time. However, if after two years of good faith negotiations, the Parties fail to agree on new Reclaimed Water and Surface Water Runoff provisions, this Agreement shall not terminate within the initial ten (10) years of this Agreement.

C. Negotiation Completion Requirements

If after two years of good faith negotiations concerning any of the above proposed changes to a then existing Agreement, pursuant to Sections VII.A and B, the Parties have been unable to reach a mutual agreement on any proposed changes to a then existing Agreement, the then existing Agreement shall, unless otherwise stated, terminate and the relationship of the Parties shall be governed by Section VII.I below.

D. Negotiations at Expiration of the Term

At least two calendar years prior to the expiration date of a then existing Agreement, the Parties shall begin good faith negotiations to extend the relationship of the Contracting Entity with Los Angeles for the conveyance and treatment of the Contracting Entity's wastewater. If, at the time set for expiration of the then existing Agreement, the Parties have not been able to reach a new agreement or have not agreed to extend the then existing Agreement, the Agreement shall, unless otherwise stated in Sections VII.A or B, terminate and the relationship of the Parties shall be governed by Sections VII.I and L below.
E. Conditions for Modification Proposals

In the renegotiation of any provision in this Agreement pursuant to Section VII.A or in the negotiation of any extension to this Agreement or any new agreement pursuant to Section VII.D, all Los Angeles proposals to the Contracting Entity shall include a restatement of this Section VII.E in its entirety and shall comply with the following:

1. The charge system must be fair and equitable to Los Angeles and Contracting Entity;

2. The charge system for the Contracting Entity within the Amalgamated System must be substantially similar to and consistent with the charge system for the internal users of Los Angeles' wastewater conveyance and/or treatment system within the Amalgamated System;

3. There shall be a fair and equitable cost recovery methodology to fully reimburse Los Angeles and the Contracting Entity for capital payments for the Amalgamated System capacity needed to serve new dischargers; and

4. There shall be a fair and equitable term (period of years) as measured by the capital needs and revenue requirements of the Contracting Entity.

F. Requirement for Good Faith Renegotiations

Los Angeles' obligation to, in good faith, negotiate an extension of its relationship with the Contracting Entity pursuant to Section VII.D or renegotiate any matter under this Agreement pursuant to Section VII.A shall not be discharged unless and until it has presented in good faith a proposal which complies with the requirements set forth in Section VII.E above.

G. Non-binding Mediation

It shall be the right of either Party to request, in writing, a formal, non-binding mediation concerning the renegotiation of any provision of this Agreement or negotiation of any extensions hereto up to and including the one hundred eightieth (180th) calendar day prior to termination of this Agreement pursuant to Sections VII.C and D above. The non-requesting Party must accept a timely written request for non-binding mediation. The good faith negotiations shall not be deemed complete until the formal, non-binding mediation process has concluded by written statement of the mediator or the term of this Agreement has terminated pursuant to Sections VII.C and D above.
H. Termination Restriction

In the event Los Angeles fails to propose provisions or an extension pursuant to Sections VII.C and D above that satisfy the requirements of Section VII.E or fails to participate in a formal, non-binding mediation process upon timely request by the Contracting Entity, the then existing Agreement shall not terminate and it shall continue in full force and effect until Los Angeles presents, in good faith, a proposal to the Contracting Entity that satisfies the requirements of Section VII.E.

I. Month to Month Relationship

The Parties recognize that withdrawal from the Amalgamated System is a serious and complex undertaking and as such agree to follow the procedure for such withdrawal as set forth herein. If the Parties are unable to reach a mutual agreement on changes to the then existing Agreement proposed pursuant to Section VII.C above and the then existing Agreement is terminated as provided, or if the term of the then existing Agreement expires as described in Section VII.D above, or if a Party remains in Default for more than ninety (90) days, the result in any of these instances shall be a month to month relationship between the Parties wherein Los Angeles agrees to transport and treat the wastewater of the Contracting Entity provided that the Contracting Entity:

1. pays its fair and equitable share of the wastewater conveyance and treatment costs, including O&M and capital, in an amount and according to a charge system as determined by Los Angeles consistent with the requirements of Section VII.E above;

2. complies with all then existing regulatory requirements, rules, regulations, laws and directives of the federal and state government concerning wastewater, including all Industrial Waste pretreatment requirements, rules, regulations and laws; and

3. actively and in good faith works towards extricating its wastewater discharge from the Amalgamated System.

J. Termination of the Month to Month Relationship

The month to month relationship shall terminate if:

1. the Parties agree to a written agreement which supersedes the month to month relationship;

2. the Contracting Entity removes its wastewater discharge from the Amalgamated System;
3. the Contracting Entity violates one of the provisions of the month to month relationship set forth above; or

4. five years expires from the date that the month to month relationship commences. However, this five year cap on the month to month relationship may be extended by mutual written agreement of the Parties.

K. Penalties for Violation of the Month to Month Relationship Conditions

If the Contracting Entity violates the terms and conditions of the month to month relationship, the Contracting Entity shall move, with all due deliberate speed, to remove its wastewater discharge from the Amalgamated System and shall be liable to pay the Amalgamated System a 10% penalty on all wastewater conveyance and treatment provided by the Amalgamated System from the time the Contracting Entity violates the terms of the month to month relationship to the time that the Contracting Entity no longer discharges wastewater to the Amalgamated System. If the Contracting Entity takes longer than one year from the date that it violates the month to month relationship to remove its wastewater from the Amalgamated System, then the penalty for conveyance and treatment of the Contracting Entity’s wastewater shall increase to 15% and shall increase 5% each year until the Contracting Entity’s wastewater is removed from the Amalgamated System.

L. Contracting Entity Capital Investment Buyout

If the Contracting Entity removes its wastewater discharge from the Amalgamated System pursuant to any of the scenarios set forth above, then the Amalgamated System will reimburse the Contracting Entity for the remaining value of it’s past capital payments for the Amalgamated System. The compensation for the past capital payments shall be based on the System Buy-out Approach as described below:

1. The values of Amalgamated System facilities in service or included in Construction Work in Progress from Fiscal Year 1984-85 forward shall be determined using the procedure contained in Section II.C.4.a.

2. The value of each facility determined pursuant to Section VII.L.1 shall be allocated to conveyance and to treatment flow and Strength by cost centers and using the same allocation factors adopted by Los Angeles pursuant to Section III.A.1.b.

3. The compensation rates shall be calculated by dividing the totals of the values allocated pursuant to Section VII.L.2 by the Amalgamated System MGD-miles and flow and Strength loadings determined pursuant to Section III.A.2 for the latest completed Flow Year. Los Angeles shall calculate the compensation rates
and include the rates in its Revenue Program whenever it prepares and adopts a Revenue Program.

4. The amount of compensation shall be calculated by multiplying Contracting Entity’s MGD-miles and flow and Strength discharges for the latest completed Flow Year by the compensation rates and summing the results.

5. Los Angeles shall subtract the following from Contracting Entity’s compensation for its past capital payments calculated pursuant to Section VII.L.1 through 4:

a. Any Amalgamated System Sewerage System Charges, General Fund Reimbursement Charges, and Amalgamated System Sewerage Facilities Charges owed by Contracting Entity pursuant to Sections III.C and D.

b. Any interest owed for late payments pursuant to Section III.E.

c. Any surcharges owed for wastewater service provided to Contracting Entity after it is required to remove its wastewater from the Amalgamated System pursuant to Section VII.K.

d. Any amounts owed by Contracting Entity for meetings with any Value Engineering team or the System’s financial auditor beyond the first such meeting, pursuant to Sections V.B.1 and V.C.1.

6. Contracting Entity shall pay to Los Angeles any negative net amount calculated above within 90 days of removing its flow. Los Angeles shall pay to Contracting Entity any positive amount calculated above within 90 days of Contracting Entity removing its flow. If payment is made after 90 days but before 120 days, interest shall be added at the Prime Rate in effect at the time Contracting Entity removes its flow plus one (1) percent. If payment is made after 120 days but before 150 days, interest shall be added at the Prime Rate in effect at the time Contracting Entity removes its flow plus five (5) percent. If payment is made after more than 150 days, interest shall be added at the Prime Rate in effect at the time Contracting Entity removes its flow plus ten (10) percent. In no case shall interest exceed the maximum rate allowed by law.
VIII. CONFLICTS

A. Default

1. Events Constituting a Default by Contracting Entity

Each of the following constitutes a "Default" by Contracting Entity under this Agreement.

a. Contracting Entity fails to pay any amount of an undisputed invoice, including any applicable interest and penalties, within 120 days of the due date.

b. Contracting Entity fails to pay at least eighty-five (85) percent of the total amount due on any disputed invoice by the due date and to place the withheld amount into a joint account within ten (10) business days from the due date, as required pursuant to Section VII.C.3.a.

c. Contracting Entity fails to perform or observe any term, covenant, or undertaking in this Agreement that it is to perform or observe and such failure continues for ninety (90) days from a Notice of Default being sent in the manner prescribed in Section IX.O.

2. Events Constituting a Default by Los Angeles

Each of the following constitutes a "Default" by Los Angeles under this Agreement.

a. Los Angeles fails to accept and treat the wastewater discharged into the Amalgamated System by Contracting Entity.

b. Los Angeles fails to perform or observe any term, covenant, or undertaking in this Agreement that it is to perform or observe and such failure continues for ninety (90) days from a Notice of Default being sent in the manner prescribed in Section IX.O.
B. Remedies

In the event of a Default, the Parties shall have the following rights and remedies:

1. Specific Performance

Contracting Entity and Los Angeles agree and recognize that the rights and obligations set forth in this Agreement are unique and of such a nature as to be inherently difficult or impossible to value monetarily. If one Party does not perform in accordance with the specific wording of any of the provisions in this Agreement applicable to that Party, Defaults, or otherwise breaches this Agreement, an action at law for damages or other remedies at law would be wholly inadequate to protect the unique rights and interests of the other Party to the Agreement. Accordingly, in any court controversy concerning this Agreement, the Agreement’s provisions will be enforceable in a court of equity by specific performance, including a month to month relationship and termination thereof as provided in Sections VII.1 and J. This specific performance remedy is not exclusive and is in addition to any other remedy available to the Parties.

2. Cumulative Rights and Remedies

The Parties do not intend that any right or remedy given to a Party on the breach of any provision under this Agreement be exclusive; each such right or remedy is cumulative and in addition to any other remedy provided in this Agreement or otherwise available at law or in equity. If the non-breaching Party fails to exercise or delays in exercising any right or remedy, the non-breaching Party does not thereby waive that right or remedy. Furthermore, no single or partial exercise of any right, power, or privilege precludes any further exercise of a right, power, or privilege granted by this Agreement or otherwise.

3. Attorneys’ Fees

In any adversarial proceedings between the Parties other than the dispute resolution procedure set forth below, the prevailing Party shall be entitled to recover their costs, including reasonable attorneys’ fees. If there is no clear prevailing party, the Court or arbitrator shall determine the prevailing party and provide for the award of costs and reasonable attorneys’ fees. In considering the reasonableness of either Party’s request for attorneys’ fees as a prevailing party, the Court or arbitrator shall consider the quality, efficiency, and value of the legal services and similar/prevaling rate for comparable legal services in the local community. If Los Angeles is awarded its legal fees/costs, then any proceeds therefrom shall first be applied so as to reduce legal fees/costs, if any, incurred by the Amalgamated System and then, to the extent there is any remaining balance, to the legal fees/costs incurred by Los Angeles.
C. Dispute Resolution

1. Scope of Dispute Resolution

Disputes ("Disputes") between the Parties other than those constituting a "Default", or "Exclusion" (defined below), shall be resolved pursuant to the provisions of this Section.

2. Exclusions

a. Emergency

An emergency event which, if not promptly resolved, may result in imminent danger to the public health, safety or welfare shall not be subject to dispute resolution.

b. Complete Discretion

Those matters reserved to the complete discretion of Los Angeles or Contracting Entity under this Agreement shall not be subject to dispute resolution.

3. Procedures for Disputes Regarding Invoices

a. Contracting Entity may dispute any portion of a bill for service provided by Los Angeles only because it disagrees with the methodology or calculation of such charges. When disputing a bill, Contracting Entity shall tender the undisputed amount, but in no case less than 85% of the total amount billed, to Los Angeles when the payment is due, along with a written notice stating the amount of the bill which is being disputed, explaining the reason for the disputed amount and identifying the proposed banking institution for the joint account. Contracting Entity shall deposit the withheld amount in an interest bearing joint account within 10 business days of the date of the Contracting Entity's written notice. The joint account shall be at a banking institution selected by both Parties and shall be in the joint names of Contracting Entity and Los Angeles. Disbursements from the joint account shall be made only at the written direction of an authorized representative of each Party. The withheld funds shall remain in the joint account until such time as the dispute is resolved. Failure to pay at least 85% of the total amount billed by the due date and to place the withheld amount into a joint account shall invalidate the dispute and shall be considered a failure to make payment.

b. Within 30 calendar days of receipt of a written notice of the amount being disputed and the explanation for the dispute, Los Angeles shall notify Contracting Entity in writing that it: (1) agrees that Contracting Entity is correct in its assertion concerning the disputed amount; (2) disagrees with
Contracting Entity’s assertion concerning the disputed amount and shall provide an explanation for its disagreement; or (3) needs an additional 15 calendar days to investigate the assertion by Contracting Entity. If requesting an additional 15 days, Los Angeles must provide an explanation as to why the additional time is required to complete its investigation. Failure to respond in writing within 30 calendar days, or within 45 days if an extension is requested, of receipt of Contracting Entity’s written notice will result in Los Angeles being deemed to have agreed with the assertion of Contracting Entity.

c. If Los Angeles notifies Contracting Entity that it disagrees with Contracting Entity’s position on the disputed amount, Los Angeles shall simultaneously provide written notification to Contracting Entity of a date and time for a meet and confer. The dispute resolution process described in this Section and in Section VIII.C.4 may only be initiated if Contracting Entity has paid at least 85% of the invoice and deposited any remaining disputed amounts into an interest bearing joint account. Any costs or attorney’s fees associated with pursuit of a billing dispute will be borne by the Party incurring said costs or attorney’s fees.

d. Contracting Entity and Los Angeles shall receive interest from the joint account in proportion to the amount of principal of the joint account that they receive upon resolution of the dispute. The Parties agree to provide written authorization for release of the funds within 30 days following the resolution of the amount in dispute in accordance with the agreement. If the disputed amount was greater than the 15% withheld pursuant to Section VIII.C.3.a above, Los Angeles shall return any amounts due to Contracting Entity within 30 days following the resolution of the dispute together with interest at the same rate that the joint account was earning.

4. Other Disputes

a. Each Party to this Agreement may submit any Dispute related to or arising under this Agreement to non-binding mediation by delivering a Notice of Dispute to the other Party.

b. The written Notice of Dispute prepared by the Party shall be delivered to the other Party in accordance with Section IX.O. The Notice of Dispute shall clearly describe the basis of the Dispute and the Sections of the Agreement under which the Dispute arises.

c. The non-binding mediation shall be conducted by Judicial Arbitration Mediation Services (JAMS) or an equivalent mediation service agreed to by the Parties.

d. Unless otherwise agreed, a mediator shall be appointed within forty-five (45) days of the date the Notice of Dispute is delivered to hear the Dispute and provide a written determination. The mediator shall be chosen jointly by the Parties. If the Parties cannot agree, the Los Angeles County
Superior Court shall appoint the mediator. Employees or agents of Los Angeles or Contracting Entity are ineligible to serve as the mediator.

e. The mediation shall be held within ninety (90) days of the date the Notice of Dispute is delivered.

f. Any statute of limitations applicable to any claims, rights, causes of action, suits, or liabilities of whatever kind or nature, in law, equity or otherwise, whether known or unknown, shall be tolled during the mediation process. For purposes of this Section, the mediation process shall commence upon the service of a Notice of Dispute to the other Party pursuant to Section VIII.C.4.a above. For purposes of this Section, the mediation process shall be deemed complete ten (10) days after service of the mediator’s written notice of the conclusion of the mediation.

IX. GENERAL PROVISIONS

A. Supersedence

Upon execution of this Agreement, any and all existing agreements or contracts between Los Angeles and Contracting Entity concerning the use of the Amalgamated System are hereby rescinded, except for a settlement agreement relating to the Pending Actions and for those provisions relating to flow monitoring pursuant to Section IV.I.3.

B. Applicability To Others

1. Future Wastewater Service Contracts or Agreements

a. After the Date of Execution, Los Angeles agrees that any other agreement or contract relating to wastewater service entered into by and between Los Angeles and any Entity shall comply with the Universal Terms, the Federal Clean Water Act, the Clean Water Grant Revenue Program, and the State Revolving Fund Loan Program requirements, and as they may be amended from time to time, or any other such statutes or regulations as mutually agreed by the Parties, except as otherwise provided in Section IX.B.1.b.

b. Los Angeles may enter into wastewater service agreements or contracts with jurisdictions or organizations that do not comply with the Universal Terms provided that:

(1) all flow originating from any jurisdiction or entity signing such an agreement shall be considered to have originated from Los Angeles,

(2) any jurisdiction or entity signing such an agreement shall be billed an equivalent General Fund Reimbursement Charge unless otherwise prohibited by law, and
(3) there will be no additional costs to the Contracting Entity.

c. Los Angeles shall not authorize or permit any Entity which is not signatory to a wastewater service agreement or contract that complies with the Universal Terms to acquire or use any capacity in excess of the amount said Entity is expressly authorized to use by virtue of its wastewater service agreement or contract with Los Angeles in effect on the Date of Execution of this Agreement. If an Entity which is not signatory to a wastewater service agreement or contract complying with the Universal Terms discharges in excess of the amount of flow or Strength to which it is entitled by the wastewater service agreement or contract in effect on the Date of Execution of this Agreement, Los Angeles will undertake legal proceedings to invalidate the existing agreement or contract and/or force the Entity to return their flow to within the contract limits and/or remove their wastewater discharge from the Amalgamated System.

2. Copies of New Agreements

If Los Angeles, after the Date of Execution, proposes to enter into any new wastewater service agreement or contract or to supplement, revise, or add an addendum to any existing wastewater service agreement or contract, then Los Angeles shall provide Contracting Entity with a copy of the same, in its final form, at least thirty (30) days prior to either the date the matter is presented to the governing body of Los Angeles or the date of execution by Los Angeles, whichever is earlier.

C. Revenue Program

Each Party shall prepare a Revenue Program as required by state and federal requirements. Following the initial approval of the Party’s Revenue Program by the State Water Resources Control Board, or the successor agency, subsequent revisions or modifications shall only be required to maintain compliance with state and/or federal requirements.

D. Admissions by Parties

Nothing in this Agreement constitutes an admission of liability by either Party. This Agreement and any documents prepared in connection herewith may not be used as evidence in any litigation, except as necessary to interpret or enforce the terms of this Agreement.
E. Construction of Agreement

Each Party, with the assistance of competent legal counsel, has participated in the drafting of this Agreement and any ambiguity should not be construed for or against any Party on account of such drafting.

F. Each Party Bears Own Costs

Each Party is to bear its own costs, expenses, and attorneys' fees arising out of or in connection with the subject matter of this Agreement and the negotiation, drafting, and execution of this Agreement. Each of the Parties understands that this Agreement includes all claims for loss, expense and attorneys' fees, taxable or otherwise, incurred by it or arising out of the Pending Actions.

G. Waiver of Breach

No waiver or indulgence of any breach or series of breaches of this Agreement shall be deemed or construed as a waiver of any other breach of the same or any other provision hereof or affect the enforceability of any part or all of this Agreement. No waiver shall be valid unless executed in writing by the waiving Party.

H. Awareness of Contents/Legal Effect

The Parties expressly declare and represent that they have read the Agreement and that they have consulted with their respective counsel regarding the meaning of the terms and conditions contained herein. The Parties further expressly declare and represent that they fully understand the content and effect of this Agreement and they approve and accept the terms and conditions contained herein, and that this Agreement is executed freely and voluntarily.

I. Agreement Binding on All

This Agreement shall be binding upon and shall inure to the benefit of each of the Parties, and each of their respective agents, employees, directors, officers, attorneys, representatives, principals, shareholders, sureties, parents, subsidiaries, affiliates, successors, predecessors, assigns, trustees or receivers appointed to administer their assets, and attorneys of any and all such individuals and entities. All the covenants contained in this Agreement are for the express benefit of each and all such persons described in this Section. This Agreement is not intended to benefit any third parties.

J. Counterparts

This Agreement may be executed in counterparts. This Agreement shall become operative as soon as one counterpart hereof has been executed by each Party. The counterparts so executed shall constitute one Agreement notwithstanding that the signatures of all Parties do not appear on the same page.
K. Severability

Should any non-material provision of this Agreement be held invalid or illegal, such invalidity or illegality shall not invalidate the whole of this Agreement, but, rather, the Agreement shall be construed as if it did not contain the invalid or illegal part, and the rights and obligations of the Parties shall be construed and enforced accordingly.

L. Captions

The captions contained herein are included solely for convenience and shall not be construed as part of this Agreement or as full or accurate descriptions of the terms hereof.

M. Choice of Law

This Agreement shall be construed and enforced pursuant to the laws of the State of California.

N. Authority to Enter into This Agreement

Each Party represents and warrants that its respective obligations herein are legal and binding obligations of such Party, that each Party is fully authorized to enter into this Agreement, and that the person signing this Agreement hereinafter for each Party has been duly authorized to sign this Agreement on behalf of said Party.

O. Notice

1. Any notice required under this Agreement shall be written and shall be served either by personal delivery, mail or fax.

2. In the case of service by personal delivery or fax, no additional time, in days, shall be added to the time in which a right may be exercised or an act may be done.

3. In the case of service by mail, notice must be deposited in a post office, mailbox, subpost office, substation, or mail chute, or other like facility regularly maintained by the United States Postal Service, in a sealed envelope, with postage paid, addressed to the representative(s) of the Party on whom it is to be served, at the office set forth in Section IX.O.4 below. The service is complete at the time of deposit. Any period of notice and any right or duty to do any act or make any response within any period or on a date certain after service of notice by mail shall be extended five days. Any period of notice and any right or duty to do any act or make any response within any period or on a date certain
after service of notice by Express mail or other method of delivery providing for overnight delivery shall be extended by two court days.

4. Any notice required by this Agreement shall be served on the following representative(s) of the Parties:

City of Los Angeles:

City of Los Angeles
Bureau of Sanitation
433 S. Spring Street, Fourth Floor
Los Angeles, CA 90014

Attention: Financial Management

Contracting Entity:

City of Beverly Hills
342 North Foothill Rd.
Beverly Hills, CA 90210

The Parties may, upon written notice, add or substitute representatives or addresses.

P. Amendments and/or Changes to Agreement

Any amendments and/or changes to this Agreement must be in writing, signed by a duly authorized representative of the Parties hereto, and must expressly state the mutual intent of the Parties to amend this Agreement as set forth herein. The Parties to this Agreement recognize that the terms and conditions of this Agreement which are set forth herein in the Sections preceding this Section have been arrived at through the collective negotiations of the following entities: The City of Los Angeles and the City of Beverly Hills, the City of Culver City, County Sanitation Districts Nos. 4, 5, 9, 16 and 27 of Los Angeles County, the City of El Segundo, the City of San Fernando and the City of Santa Monica. The Parties hereby agree that no amendments and/or changes may be made to the Universal Terms of this Agreement as set forth in the Sections which appear in this Agreement preceding this Section without the negotiated, collective agreement of Los Angeles and either seventy five percent (75%) of the Agencies or Agencies representing seventy five percent (75%) of all the flow discharged by the Agencies. The Parties also hereby recognize that each Agreement between Los Angeles and an Agency named herein shall contain this requirement as part of said Agreement. The Parties further recognize that the Agreements between Los Angeles and each of the Agencies named herein may contain terms and conditions set forth in Sections which appear after this Section which are necessitated by the relationship between Los Angeles and the individual Contracting Entity. However, any such additional Sections shall not alter, modify or change the terms and conditions of the Agreement as set forth in the Sections preceding this Section.
X. EFFECTIVE DATE

A. To become effective, both this Agreement and a settlement agreement relating to the Pending Actions must be executed by Contracting Entity and Los Angeles. The effective date shall be the latter of the Date of Execution of this Agreement or the date of execution of the settlement agreement.

B. For purposes of billing and payment, the provisions of Sections I through X of this Agreement shall not become effective until July 1, 1999. The charges for Fiscal Year 1998-99 shall be calculated in the same manner that the charges for Fiscal Year 1997-98 were determined.

1. By May 1, 1999 Los Angeles shall prepare an estimated invoice for Fiscal Year 1998-99 in an amount equal to 90% of the total invoice for Fiscal Year 1997-98. By July 1, 1999 Contracting Entity shall pay the estimated invoice for Fiscal 1998-99.

2. By December 1, 1999 Los Angeles shall prepare a reconciliation invoice for Fiscal Year 1998-99 in an amount equal to the total charges for Fiscal Year 1998-99 less the estimated payment previously made. Contracting Entity shall pay the reconciliation invoice within 30 days of its receipt.

ATTEST:

J. Michael Carey
City Clerk

4/21/99

CITY OF LOS ANGELES

By:

Richard Riordan, Mayor

Date: APR 16 1999

Approved as to Form:

James K. Hahn
Los Angeles City Attorney

Christopher M. Westhoff
Assistant City Attorney
CITY OF BEVERLY HILLS

By ___________________________
Les Bronte, Mayor

ATTEST:

By ___________________________
Nina Udy, City Clerk

Approved as to Form:

HATCH AND PARENT

By ___________________________
Scott S. Slater, Esq., Hatch and Parent,
Attorneys for the City of Beverly Hills

APPROVED AS TO CONTENT:

______________________________
Mark Scott
City Manager

______________________________
Dan Webster
Director of Public Works

64
<table>
<thead>
<tr>
<th>REACH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LA-1 TO B</td>
<td>PCH FROM N'LY CITY ENTRYS TO IDAHO</td>
</tr>
<tr>
<td>B TO J</td>
<td>PCH FROM IDAHO TO S. OF ARIZONA</td>
</tr>
<tr>
<td>J TO C</td>
<td>PCH/APPHAN FROM S. OF ARIZONA TO MOSS AVE. PUMPING STATION</td>
</tr>
<tr>
<td>C TO G</td>
<td>MOSS AVE. PUMPING STATION AND FORCE MANNS FROM STATION TO OCEAN AVE.</td>
</tr>
<tr>
<td>H TO SM-1</td>
<td>MAIN ST. FROM PICO BLVD. TO S'LY CITY ENTRYS REHABILITATED 30&quot; &amp; 36&quot;</td>
</tr>
<tr>
<td>G TO H</td>
<td>OCEAN AVE FROM FORCE MAIN TO PICO BLVD./MAIN ST. 39&quot; GRAVITY</td>
</tr>
<tr>
<td>SM-1</td>
<td>GRAVITY LINES WITH 54&quot; RELIEF LINE IN NELSON AVE. FROM PICO BLVD. TO S'LY CITY LIMITS</td>
</tr>
</tbody>
</table>

EXHIBIT A
EXHIBIT B

General Fund Reimbursement Charge = 
\[(V_{ERS} - V_{Pl}) \times (V_{AS} \div V_{CLA}) \times (V_{PT} \div V_{DI}) \times P_{CE}\]

Where:

\(V_{ERS}\) = Value of emergency response services based on the operating budget as set annually by the Los Angeles City Council;

\(V_{Pl}\) = Value of Los Angeles pre-designated income for emergency response services operation expenses, including income from county, state or federal grants, allowances, revenue sharing, etc. which are designated or restricted to funding emergency response services operating expenses; fees and charges specifically charged by Los Angeles for emergency response services; income from any assessment or tax specifically designated for emergency responses services; and any other income which may only be used for the benefit of emergency response services operation expenses;

\(V_{AS}\) = Value of the Amalgamated System, calculated by inflating the original costs of acquiring the assets by two percent (2%) per year and then depreciating the costs using the same asset lives used by Los Angeles in its accounting reports. The value of the Amalgamated System shall exclude the value of land, easements, underground sewers and interceptors, facilities replaced by newer facilities, and unused or abandoned facilities;

\(V_{CLA}\) = Total assessed value of all real and personal property, excluding the assessed value of land, in Los Angeles. This value includes the value of all county assessed real and personal property minus the assessed value of the included land; the value of all state assessed real and personal property minus the value of the included land; and the value of all Los Angeles real and personal property minus the value of the included land. The value of Los Angeles property, excluding land, should be the total for the assets in the Los Angeles fixed asset register, excluding underground pipes and land. The asset values shall be calculated by inflating the original costs of acquiring the assets by two percent (2%) and then depreciating the costs using the same asset lives used by Los Angeles in its accounting reports;

\(V_{PT}\) = Value of property tax revenue available for general fund expenditures. This amount excludes property taxes collected for debt service as well as property tax assessments approved by a popular vote that are collected for a specific purpose, or property tax assessments collected for another agency;

\(V_{DI}\) = Value of all discretionary income received by Los Angeles from property taxes, sales taxes, business taxes, license fees, grants, allotments, income sharing, investment income, etc. This value excludes income collected for debt service and income collected for a specific service (such as water, sewer, electric service charges, etc.); and

\(P_{CE}\) = Contracting Entity's Proportionate Share
APPENDIX 3-C. AGREEMENT WITH COUNTY OF LOS ANGELES
AGREEMENT BETWEEN THE CITY OF BEVERLY HILLS AND THE COUNTY OF LOS ANGELES FOR ENFORCEMENT OF THE CITY'S WASTEWATER ORDINANCE

THIS AGREEMENT is made and entered into this 14th day of August, 1990, by and between the CITY OF BEVERLY HILLS, hereinafter referred to as "CITY", and the COUNTY OF LOS ANGELES, hereinafter referred to as "COUNTY".

RECITALS

WHEREAS, CITY has adopted Ordinance No. 90-0-2092 entitled the "Wastewater Ordinance of the City of Beverly Hills" governing the disposal of industrial wastes to the sanitary sewer and storm drain systems of CITY; and

WHEREAS, CITY is desirous of contracting with COUNTY for the enforcement of such Ordinance provisions and the performance of services with respect to industrial waste as set forth in the Ordinance; and

WHEREAS, COUNTY represents that it is capable, ready and willing to render such services on the terms and conditions set forth in this Agreement; and

WHEREAS, this contract is authorized and provided for by the provisions of Section 56-1/2 of the Charter of the County of Los Angeles and Article 1, Chapter 1, Part 2, Division 1, Title 5, of the California Government Code.

NOW, THEREFORE, it is agreed as follows:

Section 1. Services

A. COUNTY agrees, through its Department of Public Works (DEPARTMENT) of the County of Los Angeles, to provide enforcement
of the industrial waste provisions of CITY'S Wastewater Ordinance and the necessary services incident thereto. Such services shall only encompass duties and functions of the type coming within the jurisdiction of, and customarily rendered by, DEPARTMENT under the County Charter statutes of the State and various COUNTY ordinances.

B. The level of service provided shall be that same basic level of service that now is and shall be hereafter, during the term of this Agreement, provided for in the unincorporated area of the County of Los Angeles by DEPARTMENT and shall be sufficient to ensure compliance with applicable California and Federal laws.

C. COUNTY shall retain full control over providing services, establishing standards of performance governing the provision of the services and all matters incidental to the performance of such services, including, but not limited to, the controlling of personnel employed to provide the services.

D. The services provided under the terms of this Agreement shall include the enforcement of any applicable State statutes and all provisions of the above-referred to City Code Chapter as described in its current or future form. The services include, but are not limited to, providing inspections, filing of required reports and issuing permits. The services shall also include the inspection of open sanitary fills only in the event that CITY, by action of its Council, requests such services.

E. In the event a dispute arises between the parties to this Agreement, as to the extent of the duties and functions to be
rendered as a part of any service provided or the level or manner
of performance of such service, the determination made by the
Director of Public Works of the COUNTY shall be final and
conclusive as between the parties.

Section 2. CITY Cooperation. To facilitate the performance
of said functions, it is agreed that COUNTY shall receive the
full cooperation and assistance from CITY, its officers, agents
and employees.

Section 3. Supplies. COUNTY shall furnish and supply all
necessary labor, supervision, equipment and supplies necessary to
provide contract services rendered under the terms of this
Agreement. Notwithstanding any other section in this Agreement, it
is further agreed that in all instances wherein special supplies,
stationery, notices, forms and the like must be prepared and issued
in the name of CITY, CITY shall supply them at its own cost and
expense.

Section 4. Status of COUNTY Employees

A. All persons employed in the performance of the services
and functions described under the terms of this Agreement for CITY
shall be COUNTY employees and no CITY employee shall be considered
an employee of COUNTY, and no person employed hereunder shall be
entitled to any CITY pension, civil service, or any other status or
right as a CITY employee.

B. For the purpose of performing such services and functions
and for the purpose of giving official status to the performance
thereof where necessary, every COUNTY officer and employee engaged in the performance of any service hereunder shall be deemed to be an officer or employee of said CITY while performing services for said CITY, which services are within the scope of this Agreement and are purely municipal functions.

Section 5. Liability for COUNTY Employees. CITY shall not be called upon to assume any liability for the direct payment of any salaries, wages or other compensation to any COUNTY personnel performing services hereunder for said CITY or any liability other than that provided for in this Agreement. CITY shall not be liable for compensation or indemnity to any COUNTY employee for injury or sickness arising out of his employment.

Section 6. Ordinance Compliance with COUNTY Code. This contract is entered into with the understanding that CITY will maintain in full force and effect an ordinance substantially identical with the provisions of COUNTY Code, Title 20, Division 2. This Agreement may be terminated by COUNTY without notice if CITY does not enact amendments to said ordinance in accordance with amendments to COUNTY Code, Title 20, Division 2, within 120 days after request to do so by COUNTY. The DEPARTMENT, acting on behalf of COUNTY, may use discretion and need not request CITY to adopt amendments which do not apply to CITY.

Section 7. Collection and Transfer of Fees Collected. COUNTY agrees to collect fees called for in the CITY'S ordinance and to pay CITY, within 60 days following each calendar quarter, all of the fees collected during such quarter and CITY agrees to pay COUNTY
monthly within 30 days after receipt of an invoice for expenditures relating to those services rendered during the billing period. The COUNTY'S charges for services rendered under the terms and purposes of this Agreement shall include currently effective percentages added to total salaries, wages and equipment costs to cover overhead, administration and depreciation in connection with any or all of the aforementioned items.

Section 8. Books and Records. COUNTY agrees to keep such books and records and in such form and manner as Auditor of COUNTY shall specify. Said books shall be open for examination by CITY at all reasonable times.

Section 9. Term and Termination. This Agreement shall become effective on the date first mentioned above and shall expire June 30, 1991. This Agreement shall be automatically renewed from year to year for successive one-year periods thereafter. Notwithstanding the provisions of this paragraph, COUNTY may terminate this Agreement at any time by giving 30 days prior written notice to CITY. CITY may terminate this Agreement as of the first day of July of any year upon giving 30 days prior written notice to COUNTY.

Section 10. Assumption of Liability. The Assumption of Liability Agreement executed by the parties to this Agreement and approved by the Board of Supervisors on December 27, 1977 currently in effect is hereby made a part of and incorporated into this Agreement as if set out in full herein unless said Assumption of Liability Agreement is expressly superseded by a subsequent Agreement hereafter entered into between the parties hereto.
IN WITNESS WHEREOF, the CITY by Resolution duly adopted by its City Council, caused this Agreement to be signed by its Mayor and attested by its Clerk; and the County of Los Angeles, by order of its Board of Supervisors, has caused this Agreement to be subscribed by the Chairman of said Board and the seal of said Board to be affixed thereto and attested by the Clerk of said Board, all on the day and year first above written.

ATTEST:  LARRY J. MONTEILH  
EXECUTIVE OFFICER-CLERK  
OF THE BOARD OF SUPERVISORS

COUNTY OF LOS ANGELES

By CHAIRMAN, BOARD OF SUPERVISORS

DEPUTY

APPROVED AS TO FORM  
DE WITT W. CLINTON  
County Counsel

CITY OF BEVERLY HILLS

By MAYOR

APPROVED AS TO FORM:  

DEPUTY

APPROVED AS TO CONTENT:  

ASS. CITY ATTORNEY

CITY CLERK

CITY MANAGER
IN WITNESS WHEREOF, the CITY by Resolution duly adopted by its City Council, caused this Agreement to be signed by its Mayor and attested by its Clerk; and the County of Los Angeles, by order of its Board of Supervisors, has caused this Agreement to be subscribed by the Chairman of said Board and the seal of said Board to be affixed thereto and attested by the Clerk of said Board, all on the day and year first above written.

ATTEST: LARRY J. MONTEILH
EXECUTIVE OFFICER-CITY
OF THE BOARD OF SUPERVISORS

[Signature]
DEPUTY

CITY OF BEVERLY HILLS

[Signature]
MAYOR

APPROVED AS TO FORM:

[Signature]
DEPUTY

ATTEST:

[Signature]
CITY CLERK

APPROVED AS TO CONTENT:

[Signature]
CITY ATTORNEY

ADOPTED
BOARD OF SUPERVISORS
CITY OF LOS ANGELES

SEP 18 1990
Section 4. Operation and Maintenance Program

4.1 Introduction
This section of the SSMP is intended to provide an overview of the City’s sewer system operations and maintenance program.

4.2 Regulatory Requirements for the Operations and Maintenance Program Section
The requirements for the Operations and Maintenance Program section of the SSMP are:

GWDR (Element 4 – Operations and Maintenance) Requirement:
The GWDR requirements for the Operations and Maintenance Program are:

- Maintain an up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries;
- Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;
- Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.3 Operations and Maintenance Program
Operations and maintenance activities and programs are critical to ensuring the effectiveness and longevity of a healthy sanitary sewer collection system. The program includes routine and “hot-spots”, line, repair and replacement of sewer mains or maintenance hole structure. The
following sections describe the City of Beverly Hills’ efforts to operate and maintain its system in the most efficient and effective manner.

4.3.1 Updated Map of Sanitary Sewer System

The Requirement: Maintain an up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries.

In 2017, the City of Beverly Hills switched over from using its 1959 hard copy sewer atlas system to the City’s Geographical Information System (GIS) Program to manage the sewer system. Staff has access to the GIS maps using the City’s computer network system. Hard copies of these maps are located in the sewer bureau offices and also in the operator’s vehicles. From time to time, staff still uses the 1959 sewer atlas to verify the information in the GIS maps and also reference changes in the sewer system. The GIS system maps and hard copy maps display pipe length, size, material type, date built, flow direction, rim elevation, invert locations, manhole/cleanout locations, lateral locations, and unique identification (ID) numbers, and approximate locations of property lines so that limits of the City-owned facilities can be identified. The GIS map system also includes a link to a CCTV inspection video and indication whether the sewer main was lined. A complete electronic and hard-copy inventory of existing sewer drawings and information is recorded and backed-up to ensure the safe storage of this valuable information for future generations.

The City’s entire collection system is broken down into 21 “Districts” for ease of understanding and equally dividing the crews’ responsibilities to complete maintenance of seven (7) “Districts” annually.

The City comprehensively updated their 1959 sewer Atlas as part of the 2010 Sanitary Sewer Master Plan (Master Plan). The Master Plan converted the 1959 sewer Atlas into an electronic format which is the origin of the GIS sewer Atlas system. The GIS atlas system is comprised of 50 total sheets consisting of an overview sheet and 49 zoomed sheets (Tiles 7-55): The overview sheet is at a scale of 1 in = 1,000 ft and Tiles 7-55 are at a scale of 1 in = 100 ft. The scale and accuracy of the maps provide sufficient enough information to be useful to field staff in their day-to-day operations and maintenance of the collection system. Sewer system maps are field checked on a continuous basis to ensure that the data is correct and complete. Operators are responsible for field-checking the accuracy of the system maps and these corrections are forwarded to the City’s GIS team to update the GIS system maps.

In 2018, the staff fully implemented the wastewater operations into a Computerize Maintenance Management System (CMMS), also known as Infor. This includes incorporating a maintenance schedule based on historical data and GIS maps into CMMS. The implementation of the CMMS has improved the division’s ability to thoroughly evaluate the collection system, enhance the maintenance schedule, and thoroughly plan for improvements. The CMMS is also the record keeping system for operations.
4.3.2 Preventive Operation and Maintenance

The Requirement: Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.

The elements of the City’s sewer system Operation & Maintenance program include:

- Proactive, preventive, and corrective maintenance of gravity sewers;
- Closed-Circuit Television (CCTV) inspection;
- Rehabilitation and replacement of sewers that are in poor condition; and
- Periodic inspection and preventive maintenance

Between 2018 to 2022, the City has cleaned on average 1.2 million feet of sewer annually, exceeding their annual goal of 941,310 ft. This includes annual cleaning of the non-priority sewer lines as well as the 30/60/90 scheduled cleaning of the priority “hot-spot” sewer lines. During this time, the City has exceeded the industry standards for SSO’s per year. The City has been averaging three (3) SSO’s per year while the industry standard is having less than six (6) per year per 100 miles of sewer system. The City’s operations and maintenance programs have enabled the City to exceed industry standards for SSO’s and overall sewer line performance.

The details of the City’s Operation & Maintenance programs consist of the following:

Maintenance Equipment:

- The Wastewater Division operates the hydro jet truck, mechanical rodder and combination truck (hydro jet truck with vacuum) to maintain the sewer system. The hydro jet and combination truck are used in the central and southern areas of the City because there are no weight restrictions on this equipment. The mechanical rodder is used in the northern areas because it meets the weight restrictions on the hillside and has the greatest range in steep hill areas.

- The standard operating procedures for these equipment is in Appendix 4-C.

Regular Maintenance Schedule

- The Wastewater Division’s goal is to complete the maintenance of the 21 Districts on an annual basis. The 21 districts are broken up into three maintenance crews per Table 4-1 of which each crew is responsible to complete 7 districts on an annual basis.

- There are problematic areas within the sewer system. These areas are placed on a 30-60-90 Days Maintenance Schedule.
Table 4-1. Maintenance Crews

<table>
<thead>
<tr>
<th>Crew Name</th>
<th>Location</th>
<th>Districts</th>
<th>Equipment Truck</th>
<th>No. of Maintenance Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line 3</td>
<td>Southern</td>
<td>1-7</td>
<td>Hydrojet Truck/Combination Hydrojet Truck</td>
<td>2</td>
</tr>
<tr>
<td>Line 1 or 3</td>
<td>Central</td>
<td>8-14</td>
<td>Hydrojet Truck/Combination Hydrojet Truck</td>
<td>2</td>
</tr>
<tr>
<td>Line 4</td>
<td>Northern</td>
<td>15-21</td>
<td>Mechanical Rodder Truck</td>
<td>2</td>
</tr>
</tbody>
</table>

30-60-90 Maintenance Schedule
- Problematic areas are placed into a 30 day, 60 day, and 90 day preventative maintenance schedule. The schedule was developed from historical sewer maintenance assessments and needs that are updated periodically based on maintenance factors (i.e. R3, G3; See Appendix 4-B: 30-60-90 Table). The schedule is included in the CMMS system which includes District number, manhole numbers, pipe material type, and sewer footages. This information is provided to each operator and the entire inventory can be found in the CMMS, GIS maps and hardcopies are located at the wastewater offices.

Smart Cover Monitoring Systems
On top of routine cleaning and inspection of the sewer system, the City purchased thirteen (13) SmartCover units for manholes to help improve operation and monitoring of the sewer system. The SmartCover system is a web-based smart technology that provides real-time remote sewer overflow monitoring via a reliable satellite communications system. SmartCover units were installed on the underside of existing manhole covers and can be moved to various locations as monitoring needs change.

The SmartCover system provide real-time monitoring of sewage levels in manholes and notify staff of potential sewer overflows. An alarm is transmitted to staff and allows staff to respond to these areas and perform maintenance before a sewer overflow occurs. The SmartCover units are placed strategically under manholes in areas where staff, through experience, have identified to be susceptible to overflow based on land use (i.e. commercial, multifamily, mixed-use), border locations between Beverly Hills and Los Angeles or engineering/design issues (i.e. dropped lines). The City has been using these Smart Covers since July 1, 2016 and has prevented potential sewer overflows in these areas. The City purchased three additional systems in 2022 to serve as mobile units. Mobile units are designed to be relocated on areas where staff deems an SSO may occur due to debris and root intrusions from private lateral cleanings and poor pipe conditions identified in the CCTV program.
1. 1128 Schuyler Road
2. 1148 Pickfair Way
3. 1156 Calle Vista Drive
4. 1176 San Ysidro Drive
5. 1288 Monte Cielo Drive
6. 514 Maple Drive
7. 630 Doheny Road
8. Benedict MH 18-137
9. Horseshoe
10. Roxbury Park
11. Mobile Unit #1
12. Mobile Unit #2
13. Mobile Unit #3
Visual/CCTV Inspections

- The City’s collection system is inspected using closed circuit television (CCTV) using the Pipeline Assessment and Certification Program (PACP). The PACP rating system includes the following assessments:
  - Structural Rating
  - Condition Rating
  - Joint Condition
  - Root Intrusion
  - Debris/Grease
  - Inflow/Infiltration
  - Alignment
  - Leak Size
  - Leak Description
  - Crack Coding

- Data gathered during CCTV inspections is critical for scheduling predictive and preventative maintenance activities and repairs to avoid sanitary sewer overflows. Staff
places the CCTV camera into a gravity sewer line and transmits video of the sewer line to a nearby service vehicle where the operators can inspect and evaluate the system. Problem coding (see Table 4-2) entered as part of the inspection includes:

- Structural Rating
- Condition Rating
- Joint Condition
- Root Intrusion
- Debris/Grease
- Inflow/Infiltration
- Alignment
- Leak Size
- Leak Description
- Crack Coding
### Table 4-2. CCTV Inspection Coding

<table>
<thead>
<tr>
<th>CRACK</th>
<th>FRACTURE 4-17</th>
<th>BROKEN 4-17</th>
<th>HOLE 4-21</th>
<th>DEFORMED 4-26 (Rigidity)</th>
<th>DEFORMED 4-26 (Rounding)</th>
<th>DEFORMED 4-26 (Rotational)</th>
<th>SURFACE DAMAGE 4-31</th>
<th>DRAINAGE FAILURE 4-32</th>
<th>WELD FAILURE 4-32</th>
<th>PIPE REPAIR 4-33</th>
<th>FIELD REPAIR 4-33</th>
</tr>
</thead>
</table>

**Appendix B - Color Coded Chart**

**NASSCO’S PIPELINE ASSESSMENT CERTIFICATION PROGRAM® (PACP®)**

**Section 4 — Structural Defect Coding**

<table>
<thead>
<tr>
<th>SURFACE DAMAGE</th>
<th>WATER MAIN FEATURES</th>
<th>PIPE REPAIR</th>
<th>FIELD REPAIR</th>
</tr>
</thead>
</table>

**City of Beverly Hills**

**Sewer System Management Plan**
The City completed the CCTV inspection of the sewer system in the last ten years. The program drives the City's maintenance, rehabilitation and replacement program.

One of the program goals is to complete 20 miles of CCTV inspection annually. The annual program consists of prioritizing inspections of the following:

- Lines that have shown the highest debris during maintenance
- Lines that have not been assessed in the last five years
- Easement inspections
- Lines that have been lined in the last five years.
- Lines that have been rehabilitated within the last ten years.

Data gathered during CCTV inspection is critical for increasing the frequency of preventative maintenance activities, site outreach, and repairs to avoid sanitary sewer overflows. As part of the CCTV inspection, the City is also inspecting the conditions of private lateral connections to the sewer systems. Laterals that have structural and maintenance issues will be tagged, and the property owner will be notified to correct the issue immediately. Failure to maintain private laterals will result in additional...
enforcement actions prescribed by the municipal code. Thus far, property owners have been quick to resolve lateral issues.

- City staff currently has three staff operators that are PACP certified. In addition to the routine CCTV inspection, CCTV is done after a sewer overflow to determine the cause and also in response to a residential complaint about the sewer system. Typical CCTV inspections show that private lateral connections are obstructed by roots and sometimes connection failure.

- The City is also utilizing CCTV inspections to provide quality control and quality assurance for maintenance work.

- Roots, grease or debris issues identified by CCTV inspections are resolved by maintenance.

- Structural issues identified by CCTV inspections are resolved by placing it to the repair or replacement list for the next CIP project.

- Significant structural issues are repaired through emergency contracts.

In January 2023, the City purchased a new CCTV vehicle and equipment. CUES™ is the software used to run the equipment and grade the inspection. CUES observation codes are similar to the PACP system. It produces comprehensive report identifying issues in the sewer main and follows industry reporting standards.

**Rehabilitation and Replacement Program**

**The Requirement:** Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

Each year, the City evaluates the number and severity of the lines that are identified to be replaced, repaired, and rehabilitated. Based on an annual assessment, the City develops a plan to start a CIP project to correct these issues. If the number of lines is determined to be minimal, repairs and rehabilitation of these lines are included into an existing CIP project where the contractor is capable of repairing the sewer system. If the issue requires urgent action, the City will utilize it's emergency contract services to correct the issues.

As part of this program, the City allocates sufficient funds in the CIP program to make these repairs as necessary and as planned. Table 4-3 summarizes the CIP through FY 2027/28.
Table 4-3. Capital Improvement Program, Sanitary Sewer, FY 2022/23 through 2027/2028

<table>
<thead>
<tr>
<th>Project</th>
<th>22/23 Estimated Carryovers</th>
<th>23/24</th>
<th>24/25</th>
<th>25/26</th>
<th>26/27</th>
<th>27/28</th>
<th>5-Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer System Repairs</td>
<td>$18,258,451</td>
<td>$1,807,900</td>
<td>$1,865,000</td>
<td>$1,500,00</td>
<td>$2,500,00</td>
<td>$2,500,00</td>
<td>$28,461,351</td>
</tr>
<tr>
<td>Hyperion Plant - Capital Component</td>
<td>$4,940,326</td>
<td>$2,436,850</td>
<td>$2,478,825</td>
<td>$2,646,610</td>
<td>$2,896,505</td>
<td>$3,000,00</td>
<td>$18,399,116</td>
</tr>
<tr>
<td>Public Works Asset Management System</td>
<td>$159,029</td>
<td>$12,500</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$211,529</td>
</tr>
<tr>
<td>Total</td>
<td>$23,357,806</td>
<td>$4,257,250</td>
<td>$4,353,825</td>
<td>$4,156,610</td>
<td>$5,406,505</td>
<td>$5,614,817</td>
<td>$47,518,489</td>
</tr>
</tbody>
</table>

Funds that support the sanitary sewer portion of the Capital Improvement Program come from the City’s Wastewater Enterprise Fund (Fund 84). The sewer fund is an enterprise fund by which reserves are generated from connection fees and monthly user fees based on the current rate structure.

4.3.3 Training

The Requirement: Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained.

The City uses a combination of in-house classes; on the job training; and conferences, seminars, and other training opportunities to train its wastewater collection system staff. Table 4-4 displays the City’s trainings and frequencies. All staff working on the City’s collection system are Certified Wastewater Operators.

City staff attended training workshops provided by vendors on equipment training and attend Tri-State workshops annually. Staff were trained on sewer and stormwater regulations and PACP rating training system.
Table 4-4. Wastewater Collection Safety Training

<table>
<thead>
<tr>
<th>Training Workshop</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPR</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Confined Space Training</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Lock-out/Tag-out</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Competent Person Training</td>
<td>Required Annually</td>
</tr>
<tr>
<td>First Aid</td>
<td>Required Every 3 Years</td>
</tr>
<tr>
<td>Safety Tailgate Meetings</td>
<td>Weekly or Bi-Weekly</td>
</tr>
<tr>
<td>Environmental Safety</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Hazardous Waste Operations and Emergency Response – Operations Level</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Bloodborne Pathogens/Fire Extinguisher Operation</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Hearing Conservation/Heat Stress</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Respirator Certification</td>
<td>Required Annually</td>
</tr>
<tr>
<td>Hazardous Materials Handling</td>
<td>Required Every 3 Years</td>
</tr>
<tr>
<td>Forklift Operator Training</td>
<td>Recommended Annually</td>
</tr>
<tr>
<td>OSHA Recordkeeping</td>
<td>Recommended Annually</td>
</tr>
<tr>
<td>Trench Safety Awareness</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Hazard Communication</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Aerial Lift Operator Training</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Backhoe Operator Training</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Crane Operator Training</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Flagging Safety</td>
<td>Recommended Every 3 Years</td>
</tr>
<tr>
<td>Driver Awareness</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Ergonomics – Field and Transit Personnel</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Ergonomics – Office Personnel</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Preventing Substance Abuse in the Workplace</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Safe Workplaces – When Being Nice Isn’t Working</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Technology – Managing Risks in Email, Internet, Blogs and Cell Phones</td>
<td>Recommended Every 2 Years</td>
</tr>
<tr>
<td>Hand and Portable Power Tool Safety</td>
<td>As Needed</td>
</tr>
<tr>
<td>Introduction to Cal-OSHA/Conducting Safety Inspections</td>
<td>As Needed</td>
</tr>
<tr>
<td>Fall Protection Awareness</td>
<td>As Needed</td>
</tr>
</tbody>
</table>

Safety meetings are documented in a safety log.
4.3.4 Contingency Equipment and Replacement Inventories
The Requirement: *Provide equipment and replacement part inventories, including identification of critical replacement parts.*

Maintenance Equipment
The equipment identified in Table 4-5 is utilized for day to day maintenance, inspection and respond to during emergency conditions, such as an SSO, as well as for conducting area and preventive maintenance activities. The City also has an emergency contractor on-board to provide additional support to SSO events.

Table 4-5. Wastewater Collection Equipment

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>TYPE</th>
<th>YEAR</th>
<th>SPECIFICATIONS</th>
<th>USE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 FREIGHTLINER M2</td>
<td>Hydro-jet Truck</td>
<td>2011</td>
<td>Hydro-jet</td>
<td>Hydrojet maintenance</td>
</tr>
<tr>
<td>2015 FREIGHTLINER 114 SD</td>
<td>Combination Truck (Hydro-Jet)</td>
<td>2015</td>
<td>Hydro-jet truck and 4000 gallon vacuum truck</td>
<td>Hydrojet maintenance, SSO Cleanup, and catch basin cleaning</td>
</tr>
<tr>
<td>2006 GMC C7500</td>
<td>Mechanical Rodder</td>
<td>2006</td>
<td>Mechanical Rodder</td>
<td>Hillside and root maintenance.</td>
</tr>
<tr>
<td>2015 Pacific Tek PV-500-WB-T</td>
<td>Vacuum Trailer</td>
<td>2015</td>
<td>200 gallon vacuum tank</td>
<td>SSO Cleanup and catch basin cleaning</td>
</tr>
<tr>
<td>Ford T-350 Transit Cargo</td>
<td>CCTV Vehicle</td>
<td>2022</td>
<td>CCTV equipment with CUES software</td>
<td>CCTV of sewer system</td>
</tr>
<tr>
<td>Ford / F450</td>
<td>Service Truck</td>
<td>2012</td>
<td>Dump-Truck</td>
<td>Supervisor response vehicle to service calls</td>
</tr>
<tr>
<td>Dodge Ram 1500</td>
<td>Service Truck</td>
<td>2002</td>
<td>Pick-Up Truck</td>
<td>Staff response vehicle to service calls.</td>
</tr>
<tr>
<td>2014 MULTIQUIP QP-4TH</td>
<td>Water Pumps</td>
<td>2015</td>
<td>Water Pumps</td>
<td>Emergency backup pump and divert to sewer line</td>
</tr>
<tr>
<td>2015 MULTIQUIP QP-4TH</td>
<td>Water Pumps</td>
<td>2015</td>
<td>Water Pumps</td>
<td>Emergency backup pump and divert to sewer line</td>
</tr>
</tbody>
</table>
Replacement Part Inventories

The City of Beverly Hills’ collections system is comprised of gravity sewer lines ranging in size from 6- to 36-inches in diameter. When emergency repairs are needed, the City of Beverly Hills activates its emergency repair contract to resolve these emergencies. The City’s contractor has a sufficient inventory of pipes, repair couplings, and fittings and by-pass equipment to repair or replace sewer lines. In addition, the City has inventory on replacement and supplemental parts for its maintenance equipment. Tables 4-6 through 4-10 are wastewater equipment and part inventories.

Table 4-6. Wastewater Equipment and Part Inventory List for Combo Hydrojet Truck and Hydrojet Truck

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader Hose</td>
<td>Black Hose</td>
<td>2</td>
</tr>
<tr>
<td>Hose Guide</td>
<td>Tiger Tail</td>
<td>5</td>
</tr>
<tr>
<td>Fill Water Hose</td>
<td>30 ft. length</td>
<td>3</td>
</tr>
<tr>
<td>Manhole Roller</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Wire Gauge</td>
<td>6 in.</td>
<td>2</td>
</tr>
<tr>
<td>Wire Gauge</td>
<td>8 in.</td>
<td>2</td>
</tr>
<tr>
<td>Wire Gauge</td>
<td>10 in.</td>
<td>2</td>
</tr>
<tr>
<td>Nozzle Extension</td>
<td>Metal Pipe</td>
<td>2</td>
</tr>
<tr>
<td>Warthog Nozzle</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Finishing Nozzle</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Flushing Nozzle</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Rotational Nozzle</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Penetrating Nozzle</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>General Cleaning Nozzle</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Extension Tool Fiber Glass Pole</td>
<td>Orange and Yellow</td>
<td>12</td>
</tr>
<tr>
<td>Heavy Duty Water Hose. 2500 PSI</td>
<td>600 ft. length</td>
<td>1</td>
</tr>
<tr>
<td>Vacuum Hose</td>
<td>Green 4 inch dia, 10 ft. length</td>
<td>5</td>
</tr>
<tr>
<td>Vacuum Hose</td>
<td>Green 6 inch dia, 20 ft. length</td>
<td>5</td>
</tr>
<tr>
<td>PVC Discharge Hose</td>
<td>Blue 6 inch dia., 50 ft. length</td>
<td>6</td>
</tr>
<tr>
<td>Vacuum Extension Pipe</td>
<td>Metal 5 ft. length</td>
<td>6</td>
</tr>
<tr>
<td>Water Hose Coupling</td>
<td>Male</td>
<td>28</td>
</tr>
<tr>
<td>Water Hose Coupling</td>
<td>Female</td>
<td>28</td>
</tr>
<tr>
<td>Bumps</td>
<td>Orange and Textile Fiber</td>
<td>14</td>
</tr>
<tr>
<td>Heavy Duty Water Hose 2500 PSI</td>
<td>800 ft. length</td>
<td>1</td>
</tr>
<tr>
<td>Diamond Tap Cutter and Kits</td>
<td>6 in. and 8 in.</td>
<td>2</td>
</tr>
<tr>
<td>Curve Blade for Root and Grease</td>
<td>6 in. and 8 in.</td>
<td>2</td>
</tr>
<tr>
<td>T-Handles</td>
<td>Metal</td>
<td>12</td>
</tr>
</tbody>
</table>
Table 4-7. Wastewater Equipment and Part Inventory List for Mechanical Rodder Truck

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hose Guide</td>
<td>Heavy duty guide hose</td>
<td>4</td>
</tr>
<tr>
<td>Hose Guide Bell</td>
<td>Metal</td>
<td>2</td>
</tr>
<tr>
<td>Manhole Hook</td>
<td>Metal</td>
<td>6</td>
</tr>
<tr>
<td>Hydrant Wrench</td>
<td>Metal</td>
<td>8</td>
</tr>
<tr>
<td>Coupling for Sectional Rod</td>
<td>Metal</td>
<td>14</td>
</tr>
<tr>
<td>Sewer Rod Complete with Coupling</td>
<td>Metal</td>
<td>125</td>
</tr>
<tr>
<td>Coupling for Sectional Rod</td>
<td>Metal</td>
<td>35</td>
</tr>
<tr>
<td>Adapter Rods</td>
<td>Metal</td>
<td>14</td>
</tr>
<tr>
<td>Concave Root Saw 8 in.</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Concave Root Saw 6 in.</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Concave Root Saw 10 in.</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Concave Root Saw 12 in.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Concave Root Saw 15 in.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Pickup Tool</td>
<td>Metal</td>
<td>10</td>
</tr>
<tr>
<td>Spear Head</td>
<td>Metal</td>
<td>5</td>
</tr>
<tr>
<td>Assembly Wrench</td>
<td>Metal</td>
<td>8</td>
</tr>
<tr>
<td>Sand Cork Screw</td>
<td>4 in.</td>
<td>4</td>
</tr>
<tr>
<td>Corkscrew</td>
<td>Metal</td>
<td>4</td>
</tr>
<tr>
<td>Sand Leader Metal 3 in.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Turn Type Brush 6 in.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Turn Type Brush 8 in.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Turn Type Brush 4 in.</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Turn Type Porcupine 6 in.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Turn Type Porcupine 8 in.</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Auger 6 in.</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Auger 8 in.</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Auger 3 in.</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Double Corkscrew 6 in.</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
### Table 4-8. Wastewater Equipment and Part Inventory List for CCTV Truck

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tires Set</td>
<td>6 in.</td>
<td>6</td>
</tr>
<tr>
<td>Tires Set</td>
<td>8 in.</td>
<td>6</td>
</tr>
<tr>
<td>Tires Set</td>
<td>12 in.</td>
<td>6</td>
</tr>
<tr>
<td>Electric Heavy Duty Extension</td>
<td>60 ft. length</td>
<td>2</td>
</tr>
<tr>
<td>Cord</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push Camera</td>
<td>300 ft. length cable</td>
<td>1</td>
</tr>
<tr>
<td>Cable/Reel</td>
<td>300 ft. length</td>
<td>1</td>
</tr>
<tr>
<td>T-Handle</td>
<td>Metal</td>
<td>2</td>
</tr>
<tr>
<td>Tripod</td>
<td>Tripod and rescue kit</td>
<td>1</td>
</tr>
<tr>
<td>Oxygen Tank</td>
<td>Fiber Glass</td>
<td>4</td>
</tr>
<tr>
<td>Pump Container</td>
<td>Industrial Cleaner</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Degreaser Pump</td>
<td></td>
</tr>
</tbody>
</table>

### Table 4-9. Maintenance Hole Replacement Part Inventory

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Manhole Cover</td>
<td>24 in.</td>
<td>12</td>
</tr>
<tr>
<td>Metal Manhole Cover</td>
<td>36 in.</td>
<td>4</td>
</tr>
<tr>
<td>Metal Ring</td>
<td>24 in.</td>
<td>12</td>
</tr>
<tr>
<td>Metal Ring</td>
<td>36 in.</td>
<td>4</td>
</tr>
<tr>
<td>Composite Manhole</td>
<td>Ring 24 in.</td>
<td>18</td>
</tr>
<tr>
<td>Composite Manhole</td>
<td>Cover 24 in.</td>
<td>18</td>
</tr>
<tr>
<td>Composite Manhole</td>
<td>Ring 36 in.</td>
<td>6</td>
</tr>
<tr>
<td>Composite Manhole</td>
<td>Cover 36 in.</td>
<td>6</td>
</tr>
<tr>
<td>Lamphole</td>
<td>Metal Ring and Cover</td>
<td>10</td>
</tr>
</tbody>
</table>

### Table 4-10. Wastewater Equipment and Part Inventory List for Vacuum Trailer

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension Vacuum Hose</td>
<td>Black hose 20 ft. length</td>
<td>2</td>
</tr>
<tr>
<td>Bumps</td>
<td>Fiber Textile Material</td>
<td>3</td>
</tr>
<tr>
<td>Discharge Hose</td>
<td>Plastic Hose</td>
<td>1</td>
</tr>
</tbody>
</table>
Every reasonable effort has been made to assure the accuracy of this map. However, neither the LA County participants nor any other government agency assumes any liability arising from its use.

This map is provided without warranty of any kind, either expressed or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Proprietary information: the use of this information is pursuant to sublicense agreement only. Any resale or relicensing of this information is prohibited, except in accordance with such sublicensing agreements.

Updated By: CoBH IT, 08-27-2021
APPENDIX 4-B. 30-60-90 TABLE
<table>
<thead>
<tr>
<th>#</th>
<th>Asset Type</th>
<th>Description</th>
<th>Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 2175 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 703 to Sewer Manhole 707 #</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>SEWER CROSSES SOUTH SIDE OF BRIGHTON WAY</td>
<td>Sewer Manhole 720 to Sewer Manhole 719 #</td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 721 to Sewer Manhole 720 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>UPSTREAM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 729 to Sewer Manhole 730 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 730 to Sewer Manhole 731 #</td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>5-Aug</td>
<td>Sewer Manhole 731 to Sewer Manhole 732 #</td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 736 to Sewer Manhole 782 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 782 to Sewer Manhole 781 #</td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 781 to Sewer Manhole 737 #</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7128 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 787 to Sewer Manhole 741 #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>5-Aug</td>
<td>Sewer Manhole 744 to Sewer Manhole 743 #</td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 445 to Sewer Manhole 132 #</td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 449 to Sewer Manhole 450 #</td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 794 to Sewer Manhole 717 #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 752 to Sewer Manhole 795 #</td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7110 FOR DOWNSTREAM MANHOLE</td>
<td>Sewer Manhole 284 to Sewer Manhole 285 #</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE 1953</td>
<td>Sewer Manhole 588 to Sewer Manhole 284 #</td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>FOR DOWNSTREAM MANHOLE SEE DRWG NO 7110</td>
<td>Sewer Manhole 295 to Sewer Manhole 296A #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 408 to Sewer Manhole 295 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 397 to Sewer Manhole 3120 #</td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 377A to Sewer Manhole 376 #</td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 376 to Sewer Manhole 362 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>UPSTREAM MH 10-INCH INV WEST 128.83</td>
<td>Sewer Manhole 362 to Sewer Manhole 349 #</td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 349A to Sewer Manhole 328 #</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS AN EXIST DROP MH 127.02 8&quot;INLET NORTH</td>
<td>Sewer Manhole 328 to Sewer Manhole 3103 #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 3106 to Sewer Manhole 3104 #</td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 329 to Sewer Manhole 3106 #</td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 378 to Sewer Manhole 363 #</td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 379 to Sewer Manhole 379A #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 3121 to Sewer Manhole 379 #</td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 398 to Sewer Manhole 3121 #</td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 407 to Sewer Manhole 408 #</td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 406 to Sewer Manhole 407 #</td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 405 to Sewer Manhole 406 #</td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 404 to Sewer Manhole 405 #</td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 4123 to Sewer Manhole 4123 #</td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td>UPSTREAM AND DOWNSTREAM MANHOLES ARE BOTH NEW MANHOLES BUILT</td>
<td>Sewer Manhole 587 to Sewer Manhole 588 #</td>
</tr>
<tr>
<td>23</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 585 to Sewer Manhole 586 #</td>
</tr>
<tr>
<td>24</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 584 to Sewer Manhole 585 #</td>
</tr>
<tr>
<td>25</td>
<td>Sewer Main</td>
<td>SEE DWG. NO. 5026.70 FOR UP STREAM SEWER</td>
<td>Sewer Manhole 5-103 to Sewer Manhole 505 #</td>
</tr>
<tr>
<td>26</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 505 to Sewer Manhole L506 #</td>
</tr>
<tr>
<td>27</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 506 to Sewer Manhole 508 #</td>
</tr>
<tr>
<td>28</td>
<td>Sewer Main</td>
<td>SEE DWG. NO. 5003 FOR DOWN STREAM SEWER</td>
<td>Sewer Manhole 508 to Sewer Manhole 509 #</td>
</tr>
<tr>
<td>29</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 524 to Sewer Manhole 525 #</td>
</tr>
<tr>
<td>30</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 524B to Sewer Manhole 524 #</td>
</tr>
<tr>
<td>31</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 522C to Sewer Manhole 523 #</td>
</tr>
<tr>
<td>32</td>
<td>Sewer Main</td>
<td>SEE DWG. NO.7101.2 FOR M.H.372</td>
<td>Sewer Manhole 5105 to Sewer Manhole 532 #</td>
</tr>
<tr>
<td>33</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 5-100 to Sewer Manhole 532 #</td>
</tr>
<tr>
<td>34</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 675 to Sewer Manhole 676 #</td>
</tr>
<tr>
<td>35</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 668 to Sewer Manhole 668 #</td>
</tr>
<tr>
<td>36</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 660 to Sewer Manhole 660 #</td>
</tr>
<tr>
<td>37</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 653 to Sewer Manhole 654 #</td>
</tr>
<tr>
<td>38</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 646 to Sewer Manhole 646 #</td>
</tr>
<tr>
<td>39</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 717 to Sewer Manhole 718 #</td>
</tr>
<tr>
<td>40</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 718 to Sewer Manhole 783 #</td>
</tr>
<tr>
<td>41</td>
<td>Sewer Main</td>
<td>S-Aug</td>
<td>Sewer Manhole 783 to Sewer Manhole 719 #</td>
</tr>
<tr>
<td>42</td>
<td>Sewer Main</td>
<td>SEE DRWG NOS. 2115 &amp; 7150 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 720 to Sewer Manhole 719 #</td>
</tr>
<tr>
<td>43</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 721 to Sewer Manhole 720 #</td>
</tr>
<tr>
<td>44</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 2165 FOR UPSTREAM CONNECTION</td>
<td>Sewer Manhole 722 to Sewer Manhole 723 #</td>
</tr>
<tr>
<td>45</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 723 to Sewer Manhole 724 #</td>
</tr>
<tr>
<td>46</td>
<td>Sewer Main</td>
<td>S-Aug</td>
<td>Sewer Manhole 724 to Sewer Manhole 790 #</td>
</tr>
<tr>
<td>47</td>
<td>Sewer Main</td>
<td>SEE DRWG. NO 7150 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 790 to Sewer Manhole 725 #</td>
</tr>
<tr>
<td>48</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 749 to Sewer Manhole 792 #</td>
</tr>
<tr>
<td>49</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 792 to Sewer Manhole 750 #</td>
</tr>
<tr>
<td>50</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 750 to Sewer Manhole 751 #</td>
</tr>
<tr>
<td>51</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1172 to Sewer Manhole 722 #</td>
</tr>
<tr>
<td>52</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole F747 to Sewer Manhole D748 #</td>
</tr>
<tr>
<td>53</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole D748 to Sewer Manhole 749 #</td>
</tr>
<tr>
<td>54</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 125 to Sewer Manhole 126 #</td>
</tr>
<tr>
<td>55</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 133 to Sewer Manhole 140 #</td>
</tr>
<tr>
<td>Sewer Main</td>
<td>Sewer Main 2-110 to Sewer Manhole 2-111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61 Sewer Main</td>
<td>DOWNSTREAM MANHOLE WAS CONSTRUCTED IN 1953</td>
<td>Sewer Manhole 239 to Sewer Manhole 240</td>
<td></td>
</tr>
<tr>
<td>62 Sewer Main</td>
<td>Sewer Manhole 257 to Sewer Manhole 256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63 Sewer Main</td>
<td>Sewer Manhole 289 to Sewer Manhole 288</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64 Sewer Main</td>
<td>Sewer Manhole 293 to Sewer Manhole D292</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 Sewer Main</td>
<td>Sewer Manhole D275 to Sewer Manhole 280</td>
<td></td>
<td></td>
</tr>
<tr>
<td>66 Sewer Main</td>
<td>Sewer Manhole 437 to Sewer Manhole 4112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67 Sewer Main</td>
<td>Sewer Manhole 4129 to Sewer Manhole 488</td>
<td></td>
<td></td>
</tr>
<tr>
<td>68 Sewer Main</td>
<td>Sewer Manhole 441 to Sewer Manhole 443</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69 Sewer Main</td>
<td>Sewer Manhole 450 to Sewer Manhole 451</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70 Sewer Main</td>
<td>Sewer Manhole 472 to Sewer Manhole 474</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71 Sewer Main</td>
<td>Sewer Manhole 475 to Sewer Manhole 476</td>
<td></td>
<td></td>
</tr>
<tr>
<td>72 Sewer Main</td>
<td>DOWNSTREAM MANHOLE CONSTRUCTED AT LATER DATE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>73 Sewer Main</td>
<td>Sewer Manhole 536 to Sewer Manhole 537</td>
<td></td>
<td></td>
</tr>
<tr>
<td>74 Sewer Main</td>
<td>Sewer Manhole 537 to Sewer Manhole 538</td>
<td></td>
<td></td>
</tr>
<tr>
<td>75 Sewer Main</td>
<td>DOWNSTREAM MANHOLE CONSTRUCTED IN 1953</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 Sewer Main</td>
<td>Sewer Manhole 551 to Sewer Manhole 552</td>
<td></td>
<td></td>
</tr>
<tr>
<td>77 Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>78 Sewer Main</td>
<td>Sewer Manhole 557 to Sewer Manhole 558</td>
<td></td>
<td></td>
</tr>
<tr>
<td>79 Sewer Main</td>
<td>Sewer Manhole 558 to Sewer Manhole 559</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80 Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>81 Sewer Main</td>
<td>Sewer Manhole 562 to Sewer Manhole 563</td>
<td></td>
<td></td>
</tr>
<tr>
<td>82 Sewer Main</td>
<td>Sewer Manhole 563 to Sewer Manhole 564</td>
<td></td>
<td></td>
</tr>
<tr>
<td>83 Sewer Main</td>
<td>DOWNSTREAM MANHOLE ADDED 1955</td>
<td></td>
<td></td>
</tr>
<tr>
<td>84 Sewer Main</td>
<td>Sewer Manhole 581 to Sewer Manhole 582</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85 Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>86 Sewer Main</td>
<td>Sewer Manhole 585 to Sewer Manhole 247</td>
<td></td>
<td></td>
</tr>
<tr>
<td>87 Sewer Main</td>
<td>DOWNSTREAM MANHOLE WAS CONSTRUCTED IN 1953</td>
<td></td>
<td></td>
</tr>
<tr>
<td>88 Sewer Main</td>
<td>Sewer Manhole 559 to Sewer Manhole 239</td>
<td></td>
<td></td>
</tr>
<tr>
<td>89 Sewer Main</td>
<td>Sewer Manhole 439 to Sewer Manhole 125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90 Sewer Main</td>
<td>Sewer Manhole 451 to Sewer Manhole 139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>91 Sewer Main</td>
<td>Sewer Manhole 2-111 to Sewer Manhole 106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>92 Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>93 Sewer Main</td>
<td>Sewer Manhole 556 to Sewer Manhole 557</td>
<td></td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>Sewer Manhole 297 to Sewer Manhole 298 #</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Sewer Manhole 298 to Sewer Manhole 299 #</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>UPSTREAM MANHOLE BUILT IN 1971</td>
<td>Sewer Manhole D2-103 to Sewer Manhole 2-100 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7110 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 299 to Sewer Manhole D2-103 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Sewer Manhole 457 to Sewer Manhole 458 #</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Sewer Manhole 455 to Sewer Manhole 456 #</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE INSTALLED FEB. 1943</td>
<td>Sewer Manhole 453 to Sewer Manhole 455 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>Sewer Manhole L452 to Sewer Manhole L453 #</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>Sewer Manhole L454 to Sewer Manhole L453 #</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE CONSTRUCTED IN 1968</td>
<td>Sewer Manhole 481 to Sewer Manhole 4128 #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>Sewer Manhole 479 to Sewer Manhole 481 #</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 489 #</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 489 #</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 489 #</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>Sewer Main</td>
<td>Sewer Manhole 487 to Sewer Manhole 4128 #</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 565 to Sewer Manhole 247 #</td>
</tr>
<tr>
<td>----</td>
<td>------------</td>
<td>------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>#2</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 660 to Sewer Manhole 668 #</td>
</tr>
<tr>
<td>#3</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 6101 to Sewer Manhole 652 #</td>
</tr>
<tr>
<td>#4</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE CONSTRUCTED IN 1955</td>
<td>Sewer Manhole 687 to Sewer Manhole 688 #</td>
</tr>
<tr>
<td>#5</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 618 to Sewer Manhole 619 #</td>
</tr>
<tr>
<td>#6</td>
<td>Sewer Main</td>
<td>M.H.436 TERMINAL MANHOLE</td>
<td>Sewer Manhole 6107 to Sewer Manhole 6108 #</td>
</tr>
<tr>
<td>#7</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7162 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 690 to Sewer Manhole 691 #</td>
</tr>
<tr>
<td>#8</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 684 to Sewer Manhole 687 #</td>
</tr>
<tr>
<td>#9</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 769 to Sewer Manhole 770 #</td>
</tr>
<tr>
<td>#10</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 717 to Sewer Manhole 718 #</td>
</tr>
<tr>
<td>#11</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 794 to Sewer Manhole 717 #</td>
</tr>
<tr>
<td>#12</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 798 to Sewer Manhole 799 #</td>
</tr>
<tr>
<td>#13</td>
<td>Sewer Main</td>
<td>S-Aug</td>
<td>Sewer Manhole 751 to Sewer Manhole 752 #</td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1444 to Sewer Manhole 1001 #</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1003 to Sewer Manhole 1004 #</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>5-Aug</td>
<td>Sewer Manhole 1004 to Sewer Manhole 1005 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole 1005 to Sewer Manhole D1006 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1024 to Sewer Manhole 1025 #</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1025 to Sewer Manhole 1026 #</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>EXISTING 6&quot; REMOVED THIS SEGMENT</td>
<td>Sewer Manhole 1036 to Sewer Manhole 1037 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1037 to Sewer Manhole 1038 #</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1038 to Sewer Manhole 1039 #</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1433 to Sewer Manhole 1192 #</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1167 to Sewer Manhole 1182 #</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1167 to Sewer Manhole 1182 #</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1193 to Sewer Manhole 1193 #</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>UPSTREAM MH IS A FMH</td>
<td>Sewer Manhole 1216 to Sewer Manhole 1217 #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1309 to Sewer Manhole 1389 #</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1389 to Sewer Manhole 1389 #</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole 1337 to Sewer Manhole D1032 #</td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1415 to Sewer Manhole 1451 #</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td>SEE DWG. NO.2179 FOR DOWN STREAM SEWER</td>
<td>Sewer Manhole 1452 to Sewer Manhole 1417 #</td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1441B to Sewer Manhole 1442 #</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1442 to Sewer Manhole 1443 #</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1443 to Sewer Manhole 1444 #</td>
<td></td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>Sewer Main 1039 to Sewer Manhole 1040 #</td>
<td>Sewer Manhole 1039 to Sewer Manhole 1040 #</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1038 to Sewer Manhole 1039 #</td>
<td>Sewer Manhole 1038 to Sewer Manhole 1039 #</td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1037 to Sewer Manhole 1038 #</td>
<td>Sewer Manhole 1037 to Sewer Manhole 1038 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>EXISTING 6&quot; REMOVED THIS SEGMENT</td>
<td>Sewer Manhole 1036 to Sewer Manhole 1037 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1158 to Sewer Manhole 1159 #</td>
<td>Sewer Manhole 1158 to Sewer Manhole 1159 #</td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1157 to Sewer Manhole 1158 #</td>
<td>Sewer Manhole 1157 to Sewer Manhole 1158 #</td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1165 to Sewer Manhole 1171 #</td>
<td>Sewer Manhole 1165 to Sewer Manhole 1171 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1164 to Sewer Manhole 1165 #</td>
<td>Sewer Manhole 1164 to Sewer Manhole 1165 #</td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1163 to Sewer Manhole 1164 #</td>
<td>Sewer Manhole 1163 to Sewer Manhole 1164 #</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>Sewer Manhole 938 to Sewer Manhole 939 #</td>
<td>Sewer Manhole 938 to Sewer Manhole 939 #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>No Profile</td>
<td>Sewer Manhole 1045 to Sewer Manhole 1046 #</td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1319 to Sewer Manhole 1320 #</td>
<td>Sewer Manhole 1319 to Sewer Manhole 1320 #</td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1463 to Sewer Manhole 1427 #</td>
<td>Sewer Manhole 1463 to Sewer Manhole 1427 #</td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>Sewer Manhole 820 to Sewer Manhole 831 #</td>
<td>Sewer Manhole 820 to Sewer Manhole 831 #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 2124 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 830 to Sewer Manhole 831 #</td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td>Sewer Manhole 927 to Sewer Manhole 928 #</td>
<td>Sewer Manhole 927 to Sewer Manhole 928 #</td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td>Sewer Manhole 955 to Sewer Manhole 956 #</td>
<td>Sewer Manhole 955 to Sewer Manhole 956 #</td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1014 to Sewer Manhole 1015 #</td>
<td>Sewer Manhole 1014 to Sewer Manhole 1015 #</td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1051 to Sewer Manhole 1052 #</td>
<td>Sewer Manhole 1051 to Sewer Manhole 1052 #</td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1071 to Sewer Manhole 1023 #</td>
<td>Sewer Manhole 1071 to Sewer Manhole 1023 #</td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1023 to Sewer Manhole 1072 #</td>
<td>Sewer Manhole 1023 to Sewer Manhole 1072 #</td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1072 to Sewer Manhole 1024 #</td>
<td>Sewer Manhole 1072 to Sewer Manhole 1024 #</td>
</tr>
<tr>
<td>23</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1146 to Sewer Manhole 1147 #</td>
<td>Sewer Manhole 1146 to Sewer Manhole 1147 #</td>
</tr>
<tr>
<td>24</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1148 to Sewer Manhole 1149 #</td>
<td>Sewer Manhole 1148 to Sewer Manhole 1149 #</td>
</tr>
<tr>
<td>25</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1151 to Sewer Manhole 1152 #</td>
<td>Sewer Manhole 1151 to Sewer Manhole 1152 #</td>
</tr>
<tr>
<td>26</td>
<td>Sewer Main</td>
<td>Manhole No. 527 is Monitored Manhole BH10</td>
<td>Sewer Manhole 1317 to Sewer Manhole 1382 #</td>
</tr>
<tr>
<td>27</td>
<td>Sewer Main</td>
<td>DOWNSTREAM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole 1373 to Sewer Manhole D905 #</td>
</tr>
<tr>
<td>28</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole L1061 to Sewer Manhole D1060 #</td>
</tr>
<tr>
<td>29</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1448 to Sewer Manhole 1430 #</td>
</tr>
<tr>
<td>30</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1429 to Sewer Manhole 1448 #</td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>----------------</td>
<td>--------------------------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 5004 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 847 to Sewer Manhole 857 #</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1067 to Sewer Manhole D1012 #</td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1011 to Sewer Manhole 1067 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1324 to Sewer Manhole 1325 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1461 to Sewer Manhole 1446 #</td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 842 to Sewer Manhole 843 #</td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>UPSTREAM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole D905 to Sewer Manhole 906 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 906 to Sewer Manhole 907 #</td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7222 FOR DOWNSTREAM MH</td>
<td>Sewer Manhole 910A to Sewer Manhole D911 #</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 7222 FOR DOWNSTREAM MH</td>
<td>Sewer Manhole 910 to Sewer Manhole 910A #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 911A to Sewer Manhole 912 #</td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 914A to Sewer Manhole DV914 #</td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 956 to Sewer Manhole 958 #</td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 928 to Sewer Manhole D929 #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td>UPSTREAM MANHOLE IS A DROP MANHOLE VAULT</td>
<td>Sewer Manhole DV914 to Sewer Manhole 915 #</td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1055 to Sewer Manhole D1056 #</td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td>DOWNSRM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole 1059 to Sewer Manhole D1060 #</td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>EXISTING 6&quot; VCP PARALELS NEW 10&quot; VCP</td>
<td>Sewer Manhole 1034 to Sewer Manhole 1077 #</td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1050 to Sewer Manhole 1051 #</td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1054 to Sewer Manhole 1055 #</td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1058 to Sewer Manhole 1059 #</td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1068 to Sewer Manhole 1016 #</td>
</tr>
<tr>
<td>23</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1136 to Sewer Manhole 1137 #</td>
</tr>
<tr>
<td>24</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1138 to Sewer Manhole 1139 #</td>
</tr>
<tr>
<td>25</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1140 to Sewer Manhole 1141 #</td>
</tr>
<tr>
<td>26</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1145 to Sewer Manhole 1146 #</td>
</tr>
<tr>
<td>27</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1147 to Sewer Manhole 1148 #</td>
</tr>
<tr>
<td>28</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1428 to Sewer Manhole 1155 #</td>
</tr>
<tr>
<td>29</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1181 to Sewer Manhole 1167 #</td>
</tr>
<tr>
<td>30</td>
<td>Sewer Main</td>
<td>UPSTREAM MH IS TERMINAL MH</td>
<td>Sewer Manhole 1250 to Sewer Manhole 1251 #</td>
</tr>
<tr>
<td>31</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1381 to Sewer Manhole 1317 #</td>
</tr>
<tr>
<td>32</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1322 to Sewer Manhole 1323 #</td>
</tr>
<tr>
<td>33</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1326 to Sewer Manhole 1374 #</td>
</tr>
<tr>
<td>34</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1327 to Sewer Manhole 1375 #</td>
</tr>
<tr>
<td>35</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1368A to Sewer Manhole 1369 #</td>
</tr>
<tr>
<td>36</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1371 to Sewer Manhole 1372 #</td>
</tr>
<tr>
<td>37</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1370 to Sewer Manhole 1371 #</td>
</tr>
<tr>
<td>38</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1378 to Sewer Manhole 1377 #</td>
</tr>
<tr>
<td>39</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1380 to Sewer Manhole 1381 #</td>
</tr>
<tr>
<td>40</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1382 to Sewer Manhole 1383 #</td>
</tr>
<tr>
<td>41</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1390 to Sewer Manhole 1392 #</td>
</tr>
<tr>
<td>42</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1015 to Sewer Manhole 1068 #</td>
</tr>
<tr>
<td>43</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1325 to Sewer Manhole 1326 #</td>
</tr>
<tr>
<td>44</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1374 to Sewer Manhole 1327 #</td>
</tr>
<tr>
<td>45</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 912 to Sewer Manhole 913 #</td>
</tr>
<tr>
<td>46</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 934 to Sewer Manhole 935 #</td>
</tr>
<tr>
<td>47</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 937 to Sewer Manhole 938 #</td>
</tr>
<tr>
<td>48</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 942 to Sewer Manhole 943 #</td>
</tr>
<tr>
<td>49</td>
<td>Sewer Main</td>
<td>DOWNSRM MANHOLE IS A NEW MANHOLE</td>
<td>Sewer Manhole 843 to Sewer Manhole 870 #</td>
</tr>
<tr>
<td>50</td>
<td>Sewer Main</td>
<td>SEE DRWG NO 2124 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 870 to Sewer Manhole 844 #</td>
</tr>
<tr>
<td>51</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1030 to Sewer Manhole 1031 #</td>
</tr>
<tr>
<td>52</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1031 to Sewer Manhole D1032 #</td>
</tr>
<tr>
<td>53</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole L057 to Sewer Manhole D1056 #</td>
</tr>
<tr>
<td>54</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1356 to Sewer Manhole 1357 #</td>
</tr>
<tr>
<td>55</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1425 to Sewer Manhole 1426 #</td>
</tr>
<tr>
<td>#</td>
<td>Asset Type</td>
<td>Description</td>
<td>Asset</td>
</tr>
<tr>
<td>----</td>
<td>-----------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>Easement at 1070 Woodland Drive.</td>
<td>Sewer Manhole 15160 to Sewer Manhole 15159 #</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Easement at 1070 Woodland Drive.</td>
<td>Sewer Manhole 15161 to Sewer Manhole 15160 #</td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>Easement at 940 Foothill</td>
<td>Sewer Manhole 15138 to Sewer Manhole 15137 #</td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>Easement at 940 Foothill</td>
<td>Sewer Manhole 1545 to Sewer Manhole 15137 #</td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Easement at 940 Foothill</td>
<td>Sewer Manhole 1546 to Sewer Manhole 1545 #</td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Easement at 935 Foothill</td>
<td>Sewer Manhole 1547 to Sewer Manhole 1546 #</td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>Easement at 630 Doheny Road</td>
<td>Sewer Manhole 15120 to Sewer Manhole 15158 #</td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>M.H.15119 TERMINAL MANHOLE</td>
<td>Sewer Manhole 15119 to Sewer Manhole 15120 #</td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>Easement at 630 Doheny Road</td>
<td>Sewer Manhole 15167 to Sewer Manhole 15168 #</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>M.H.15115 TERMINAL MANHOLE</td>
<td>Sewer Manhole 15116 to Sewer Manhole 15115 #</td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>825 Loma Vista Drive</td>
<td>Sewer Manhole 15117 to Sewer Manhole 15116 #</td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>608 Mountain Drive. M.H. 15109 TERMINAL MANHOLE</td>
<td>Sewer Manhole 15106 to Sewer Manhole 15109 #</td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>606 Mountain Drive. M.H.15107 TERMINAL MANHOLE</td>
<td>Sewer Manhole 15108 to Sewer Manhole 15107 #</td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>Easement at 608 Mountain Drive</td>
<td>Sewer Manhole 15106 to Sewer Manhole 15108 #</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1943 to Sewer Manhole 1905 #</td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 2028 to Sewer Manhole 2027 #</td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 1831 to Sewer Manhole 1830 #</td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 2026 to Sewer Manhole 2160 #</td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td></td>
<td>Sewer Manhole 2160 to Sewer Manhole 2026 #</td>
</tr>
</tbody>
</table>
### Sewer Mains in District 15-21 60 Day Schedule

<table>
<thead>
<tr>
<th>#</th>
<th>Asset Type</th>
<th>Description</th>
<th>Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>SEE DRWG NO.5005 FOR DOWNSTREAM CONNECTION</td>
<td>Sewer Manhole 1808 to Sewer Manhole 1810</td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1807 to Sewer Manhole 1808</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1854 to Sewer Manhole 1827</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1849 to Sewer Manhole 1850</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1850 to Sewer Manhole 1851</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1636 to Sewer Manhole 1637</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1637 to Sewer Manhole 1638</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1658 to Sewer Manhole 1659</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>UPSTREAM MANHOLE IS A DROP MANHOLE</td>
<td>Sewer Manhole 1658 to Sewer Manhole 1658</td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1922 to Sewer Manhole 1923</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1923 to Sewer Manhole 1924</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1924 to Sewer Manhole 1925</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2048 to Sewer Manhole 2049</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>M.H.723 TERMINAL MANHOLE</td>
<td>Sewer Manhole 2054 to Sewer Manhole 2053</td>
</tr>
</tbody>
</table>

### Sewer Mains in District 15-21 90 Day Schedule

<table>
<thead>
<tr>
<th>#</th>
<th>Asset Type</th>
<th>Description</th>
<th>Asset</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sewer Main</td>
<td>Sewer Manhole D1537 to Sewer Manhole L1538</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Sewer Main</td>
<td>Sewer Manhole L1538 to Sewer Manhole 1540</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1540 to Sewer Manhole L1541</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1501 to Sewer Manhole 1502</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1502 to Sewer Manhole 1503</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1510 to Sewer Manhole 15102</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15102 to Sewer Manhole 15103</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15103 to Sewer Manhole 15104</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sewer Main</td>
<td>Sewer Manhole L15102 to Sewer Manhole 15103</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15101 to Sewer Manhole L15102</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15110 to Sewer Manhole 15110A</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15110A to Sewer Manhole 15111</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Sewer Main</td>
<td>Sewer Manhole 15111 to Sewer Manhole 15112</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Sewer Main</td>
<td>M.H. NO.841 TERMINAL MANHOLE</td>
<td>Sewer Manhole 15112A to Sewer Manhole 15113</td>
</tr>
<tr>
<td>15</td>
<td>Sewer Main</td>
<td>SEE DWG. NO.2183 FOR DOWN STREAM SEWER</td>
<td>Sewer Manhole 15113A to Sewer Manhole 15113</td>
</tr>
<tr>
<td>16</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1631 to Sewer Manhole 1632</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1630 to Sewer Manhole 1631</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1877 to Sewer Manhole 1879</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1882 to Sewer Manhole 1883</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Sewer Main</td>
<td>Sewer Manhole 18100 to Sewer Manhole 18101</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Sewer Main</td>
<td>Sewer Manhole 18099 to Sewer Manhole 18000</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1898 to Sewer Manhole 1899</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1896 to Sewer Manhole 1897</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1894 to Sewer Manhole 1897</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1893 to Sewer Manhole 1894</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1892 to Sewer Manhole 1893</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1893 to Sewer Manhole 1892</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1936 to Sewer Manhole 1937</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1935 to Sewer Manhole D1936</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2007 to Sewer Manhole 2008</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Sewer Main</td>
<td>M.H.600 TERMINAL MANHOLE</td>
<td>Sewer Manhole 2006 to Sewer Manhole 2007</td>
</tr>
<tr>
<td>32</td>
<td>Sewer Main</td>
<td>Sewer Manhole 1900 to Sewer Manhole 1901</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2030 to Sewer Manhole 2031</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2031 to Sewer Manhole 2032</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Sewer Main</td>
<td>M.H.638 TERMINAL MANHOLE</td>
<td>Sewer Manhole 2014 to Sewer Manhole 2014</td>
</tr>
<tr>
<td>36</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2169 to Sewer Manhole 2170</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2169 to Sewer Manhole 2170</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2161 to Sewer Manhole 2162</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Sewer Main</td>
<td>SEE DRWG NO.7005 FOR UPSTREAM MANHOLE</td>
<td>Sewer Manhole 2161 to Sewer Manhole 2162</td>
</tr>
<tr>
<td>40</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2186 to Sewer Manhole 2187</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2195 to Sewer Manhole 2196</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2049 to Sewer Manhole 2050</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2050 to Sewer Manhole 2051</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Sewer Main</td>
<td>Sewer Manhole 2138 to Sewer Manhole 2139</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Sewer Main</td>
<td>M.H.640 TERMINAL MANHOLE</td>
<td>Sewer Manhole 2139 to Sewer Manhole 2140</td>
</tr>
<tr>
<td>46</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1653 to Sewer Manhole 1654</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1712 to Sewer Manhole 1713</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1714 to Sewer Manhole 1715</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Sewer Main</td>
<td>THIS DRAWING IS VERY AMBIGUOUS- THE PROFILES DO NOT MATCH</td>
<td>Sawyer Manhole 1740 to Sawyer Manhole 1741</td>
</tr>
<tr>
<td>50</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1741 to Sawyer Manhole 1742</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1742 to Sawyer Manhole 1750</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Sewer Main</td>
<td>SEE DRWG NO.5004.12 FOR DOWN STREAM SEWER</td>
<td>Sawyer Manhole 15639 to Sawyer Manhole 15603</td>
</tr>
<tr>
<td>53</td>
<td>Sewer Main</td>
<td>Easement access: KAMRAN NOMAN &amp; SHAYESTEH, 213 703-0373, 310 859-0201</td>
<td>Sawyer Manhole 18113 to Sawyer Manhole 18114</td>
</tr>
<tr>
<td>54</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1887 to Sawyer Manhole 1889</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Sewer Main</td>
<td>Easement access: BDB GHAESMEH, 310 273-3124</td>
<td>Sawyer Manhole 1843 to Sawyer Manhole 1844</td>
</tr>
<tr>
<td>56</td>
<td>Sewer Main</td>
<td>Sawyer Manhole 1889 to Sawyer Manhole 1890</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 4-C. STANDARD OPERATING PROCEDURES “HYDRO JET OPERATOR”
City of Beverly Hills  
Wastewater Division Standard Operating Procedures  

**Hydro Jet Operator**

**Connecting the trailer to the truck**  
- The 2011 Ford F 450 is a sanitary sewer truck.
- Select the proper size hitch ball.
- Assure the two safety chains are connected to the Class III hitch.
- Assure the electrical plug is properly connected, and check the operation of the lights.
- Install the pin in the hitch latching mechanism.
- Check the engine oil, hydraulic fluid, and the fuel.

**Driving the trailer**  
- Assure the mirrors on the truck are adjusted properly.
- Have a spotter when backing.
- Adjust the trailer brakes.
- Give more time for stopping due to the heavy weight of the trailer.
- Give more of a turning radius.
- Perform driver test prior to pulling the trailer.

**Work site safety**  
- Wear an orange traffic vest at all times.
- Identify potential traffic hazards.
- Use flashers and overhead warning lights.
- Use traffic cones at all times when in the street.
- Use the Stop/Slow sign when controlling traffic, do not use hand signals.
- Use the vehicle as a barrier between workers and traffic.
- Use warning signs when appropriate, Ex. ROAD WORK AHEAD.
- Be aware of your surroundings at all times.
- It’s your responsibility to control the flow of traffic.

**Hydro Jet operation**  
- Use a spotter, back the hydro jet, centering the hose reel over the manhole.
- Use proper lifting technique when removing the manhole cover.
- Start the engine and bleed the air from the pump.
- Select the proper nozzle for cleaning.
- Insert the leader hose into the tiger tail, and insert nozzle into the sewer line, running to the upstream manhole.
- Assure the nozzle is in the line, and engage the pump and slowly throttle up the engine.
- Run the hose out slowly (keep in mind the footage of the run).
- When at the end of the run, begin retracting the hose slowly to assure a good clean.
- Inspect the hose condition when retracting.
- Once the leader hose is in sight, run the unit for a few minutes to clear debris from the end of the line.
- Throttle down the engine and disengage the pump.
- Retract the hose the rest of the way.
• Remove the nozzle and wash down the inside of the manhole.
• Replace the manhole cover and pick up all traffic equipment.

Clean up
• Prior to returning the hydro jet to the shop, wash it down and ensure the water tank is ¾ full.
• Close the water feed valve and clean the pump water filter.
• Remove any nozzles from the hose.
• Return the keys to 2011 Ford F 450 (a spare key is located at the WWTP in the key lock box).

*Wear the proper Personal Protective Equipment at all times, including gloves, boots, safety glasses, and hearing protection.
SECTION 5. DESIGN AND PERFORMANCE PROVISIONS

5.1 Introduction

This section of the SSMP provides standards for installation, rehabilitation, and repair of the sewer collection system, as well as standards for inspection and testing of new, rehabilitated, and repaired facilities. The standards are intended to ensure that new construction, replacement, and rehabilitation of the sewer collection system uses the most recent and relevant standards of the industry.

5.2 Regulatory Requirements for Design and Performance Provisions

The requirements for the Design and Performance Provisions section of the SSMP are:

GWDR (Element 5 – Design and Performance Provisions) Requirement:
The GWDR requirements for the Design and Performance Provisions are:

- Identify design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and
- Identify procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.3 Design and Construction Standards for Sewers, Pump Stations, and Appurtenances

The Requirement: The SSMP must identify design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.

5.3.1 Design Standards for Sewers, Pump Stations, and Appurtenances

The City of Beverly Hills design criteria (such as pipe material, size and location, etc. – City Standard Detail Drawing, Section II) is outlined in Appendix 5-A. The system design criteria provide guidelines for sewer pipe alignment, pipeline location, minimum depth, manhole criteria, allowable head loss in manholes, and horizontal and vertical separation between sewer and water mains. In addition, Appendix 5-A provides additional design criteria to be used for new pipelines that covers the minimum velocity requirements, slope, and Inflow/Infiltration standards.

With respect to system rehabilitation and repair, the City uses a combination of measures (spot repairs, linings, coatings, etc.) depending on site-specific conditions to restore system performance to acceptable levels. Part 5, System Rehabilitation, of the Standard Specifications for Public Works Construction (Greenbook) is used as the basis of design.
5.3.2 Construction Standards for Sewers, Pump Stations, and Appurtenances

Currently, the City of Beverly Hills has established construction standards for the major components of the City’s sewer system. The requirement for conforming to the City’s construction standards is described in the City Code, Section 9, Articles 9-B-1 and 9-2B-5. The City’s Director of Public Works and engineering staff review the construction standards for accuracy and update the standards as needed. The last full issuance of all the City’s construction standard details was in July 2009. Many of the City’s standards have since been revised as recently as November 2010 and November 2011.

The City relies on a number of base standards to supplement their standard details, including the State of California, Department of Transportation (Caltrans) Standards, ASTM Standard Specifications, and the Standard Specifications for Public Works Construction (Greenbook). In the event that no City of Beverly Hills Standard Detail addresses a certain aspect of construction, the standards of the County of Los Angeles, Caltrans, or the Design Engineering Firm performing the design are used to develop appropriate details.

The City’s standard details for construction are located on the City’s website at http://www.beverlyhills.org. The standard details are specifically located at http://www.beverlyhills.org/citygovernment/departments/publicworkstransportation/civilengineering/, and include the following list of drawings (a copy of each is also included in Appendix 5-B.)

Section II – Sewer and Sanitation

| BH 208 | Non-Rocking Manhole Frame and Cover |
| BH 209 | Large Manhole Frame and Cover      |
| BH 214 | Lateral Connect to Lined Sewer Main|
| BH 215 | Lateral Abandonment                |
| BH 216 | Sewer Lateral Connection to Existing Wye |
5.4 Inspection and Testing Standards for the Installation of Sewers, Pump Stations, and Appurtenances

The Requirement: The SSMP must identify the procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances, and for rehabilitation and repair projects.

Poor design and/or improper construction of newly constructed or rehabilitated sewer lines can sometimes lead to sanitary sewer overflows and operating problems. An effective program that confirms new sewers are properly designed and installed can minimize system deficiencies that could create or contribute to future overflows or operation and maintenance problems.

All components of the sewer system are inspected, and tests are reviewed before a system (or component of the system) is accepted by the City. Inspection and testing requirements for sewer system components are fully described in appropriate sections of the Greenbook and include closed-circuit video inspection to identify grade variations or other construction defects (before and after), air-pressure test to identify leakage, mandrel testing to identify deflection in flexible pipe, and hydrostatic testing of pressure mains to identify leakage. The most frequently used sections of the Greenbook include:

- Section 207 – Pipe
- Section 306 – Underground Conduit Construction
- Section 500 – System Rehabilitation

The City has the authority to enforce inspection and testing for new, rehabilitated, and repaired facilities, as described in Section 3 of this SSMP. The City employs full-time Public Works staff to perform inspections and also contracts-out for additional inspectors as needed.
APPENDIX 5-A. SEWER SYSTEM DESIGN CRITERIA

Alignment: Sewer pipelines shall be designed so as to have a minimum of curvature both horizontal and vertical.

Whenever possible, sewer lines shall be laid out in a straight line between structures. Curved sewer lines will be allowed under the following conditions:

- All curve data shall be shown on the plans.
- Minimum radius of curvature and joint deflections shall be as recommended by the pipe manufacturer and approved by the City Engineer.
- All deflections shall be at the pipe joints or by specially manufactured mitered pipe sections.

Pipeline Location: Whenever possible, the pipe is to be located along the street centerline. Pipe shall not be located in median strips or parking lanes. However, in all cases the pipeline location shall comply with applicable county and state requirements.

Minimum Depth: Minimum depth from finish street grade to top of sewer main pipe shall be 5 feet. If 5 feet of cover is not feasible due to the depth of the existing Main Connection Point, the City will consider lesser depths on a case-by-case basis and may require appropriate protective cover such as slurry.

Manhole Criteria: Manhole locations are at:

- Changes of slope in sewers.
- Changes of direction of sewers.
- Junctions of main sewers.
- Termination of sewers.
- Junction of main sewer and lateral sewer if lateral is same size as main sewer.
- Pipe size change.
- Other locations specified by the City.

Maximum manhole spacing shall be 400 feet.

Allowable head losses in manholes:

- Straight run through manholes based on 0.00 foot loss.
- Right angle turn in manholes based on 0.5 velocity head loss, or 0.10 foot, whichever is greater.

Horizontal and Vertical Separation: The City, in accordance with requirements of the State of California, Department of Health Services, requires minimum horizontal and vertical separation
between sewer and water mains. The regulations in place at the time of construction shall apply to the work.

Additional Sewer Design Criteria is outlined in Section 4 of the September 2010 Master Plan.

Section 4 is included on the following page.
Section 4—Sewer Design Criteria

The use of design criteria and standards are to ensure that sewer facilities meet a certain requirement in order to maintain a properly functioning sewer system. Design criteria for a sewer system is the basis for determining if a pipeline is deficient and requires improvement.

4.1 Existing City Design Criteria

Design criteria was established in the 1997 Master Plan as the basis for the system analysis and recommendation for capital improvement projects. The design criteria included flow coefficients, collection system design criteria, and inflow and infiltration assumptions.

4.1.1 Wastewater Flow Coefficients

Wastewater flow coefficients are developed to determine the quantity of wastewater flow generated by a specific land use type. Flow coefficients can be based on the land use area, dwelling count, population or building square footage. Flow coefficients are used to help estimate existing flows and predict future flows. They are used to allocate system flow inputs at manholes/nodes in a hydraulic model. The 1997 Master Plan derived individual flow coefficients for the major land uses throughout the City based on published data and other local agency standards. The flow coefficients utilized in the 1997 Master Plan are listed in Table 4-1. The flow coefficients are provided in ranges depending on the density.

Table 4-1: 1997 Wastewater Flow Coefficients

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Flow Coefficient (gpd/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Res.</td>
<td>700 - 900</td>
</tr>
<tr>
<td>Multi Family Res.</td>
<td>5,700 - 6,500</td>
</tr>
<tr>
<td>Commercial</td>
<td>10,000 – 13,600</td>
</tr>
<tr>
<td>Municipal/Industrial</td>
<td>7,000 - 8,725</td>
</tr>
<tr>
<td>Education/Religious</td>
<td>500 – 1,000</td>
</tr>
</tbody>
</table>
4.1.2 Collection System Design Criteria

The 1997 Master Plan established “depth to diameter” (d/D) criteria for both dry weather and wet weather conditions. The d/D ratio represents the depth of flow in relation to the overall diameter of the pipe. The following d/D criteria from the 1997 Master Plan were used as the basis for determining hydraulic deficiencies.

Table 4-2: 1997 Master Plan Collection System Design Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Dry Weather</th>
<th>Wet Weather</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 15”</td>
<td>d/D = 0.50</td>
<td>d/D = 0.90</td>
</tr>
<tr>
<td>&gt; 15”</td>
<td>d/D = 0.75</td>
<td>d/D = 0.90</td>
</tr>
</tbody>
</table>

4.1.3 Inflow and Infiltration

There are two components to inflow and infiltration used in the 1997 Master Plan. Base inflow and infiltration (BII) refers to the additional flow in the sewer system that is not a direct result of water usage. It typically is a result of pipe cracks and faulty plumbing. BII is present in the sewer system at all times. Rainfall induced inflow and infiltration (RFII) is the additional flow in the sewer system that is a direct result of rainfall, and is only accounted for in the wet weather analysis.

4.2 Recommended City Design Criteria

The design criteria established in this report was used as the basis for the system analysis, as discussed in Section 6. Flow coefficients were developed based on water billing data and refined with flow monitoring data. Flow loading based on the anticipated defect flow was also refined with the flow monitoring data. Collection system criteria was used to determine deficient pipelines and as the basis for the capital improvement program. Inflow and infiltration was determined based on flow monitoring data during storm events.

4.2.1 Wastewater Flow Coefficients

As a part of this analysis, the previously established wastewater flow coefficients were evaluated. The City provided water billing data for the previous three complete fiscal years (07/08, 08/09, 09/10). The water billing data was evaluated to determine annual water use and water usage per land use. On average, the metered records indicate City customers use 8.7 million gallons of water per day. Based on the system-wide wastewater generation determined from flow monitoring data, it was
calculated that approximately 73% of the billed water is returned to the sewer system. The calculations did not include water specifically used for irrigation purposes and it excluded wastewater generated from the treatment plant. The return to sewer ratios for each major land use type were calculated and identified in Table 4-3.

**Table 4-3: Return to Sewer Ratios**

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Return to Sewer Ratio (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Res.</td>
<td>60</td>
</tr>
<tr>
<td>Multi Family Res.</td>
<td>90</td>
</tr>
<tr>
<td>Commercial</td>
<td>95</td>
</tr>
<tr>
<td>Municipal/Industrial</td>
<td>95</td>
</tr>
<tr>
<td>Education/Religious</td>
<td>90</td>
</tr>
<tr>
<td>Total</td>
<td>73</td>
</tr>
</tbody>
</table>

The return to sewer ratios were multiplied by the billed water data for each land use type to calculate a wastewater flow coefficient. The calculated wastewater coefficients are identified in Table 4-4.

**Table 4-4: Wastewater Flow Coefficients**

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Flow Coefficient (gpd/ac)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Res.</td>
<td>1,000 - 1,500</td>
</tr>
<tr>
<td>Multi Family Res.</td>
<td>6,500 - 8,000</td>
</tr>
<tr>
<td>Commercial</td>
<td>5,000 – 6,600</td>
</tr>
<tr>
<td>Municipal/Industrial</td>
<td>10,000 – 13,500</td>
</tr>
<tr>
<td>Education/Religious</td>
<td>2,500 – 3,000</td>
</tr>
</tbody>
</table>

Wastewater flow loading for the hydraulic model was based on anticipated defect and wastewater flow. The defect flow analysis used the data from the temporary and permanent flow monitors. The model was
loaded with wastewater flows to replicate the results of the temporary flow monitors.

4.2.2 Collection System Design Criteria
Table 4-5 identifies the design criteria used in this master plan and as the basis for the Capital Improvement Program (CIP), based on future (2030) wet weather flow.

Table 4-5: Design Criteria for Existing Pipelines

<table>
<thead>
<tr>
<th>Pipe Size</th>
<th>d/D Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.50 to 0.75</td>
</tr>
<tr>
<td>&lt; 18&quot;</td>
<td>Watch</td>
</tr>
<tr>
<td>≥ 18&quot;</td>
<td>OK</td>
</tr>
</tbody>
</table>

Notes:
1. “Watch” indicates that special attention needs to be paid to increased flows that are tributary to this pipe. A proposed development may create a situation where the performance criteria is exceeded.
2. “Schedule” indicates that a replacement project needs to be considered but can be scheduled at some point in the future.
3. “Replace” indicates that an immediate project funding and design should begin.

Table 4-6 identifies the minimum design criteria to be used for all new pipelines.

Table 4-6: Design Criteria for New Pipelines

<table>
<thead>
<tr>
<th>Pipe Dia. (in)</th>
<th>Min. Slope</th>
<th>Max. d/D</th>
<th>Min. Velocity (ft/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>0.0040</td>
<td>d/D = 0.50</td>
<td>2.0</td>
</tr>
<tr>
<td>10</td>
<td>0.0028</td>
<td>d/D = 0.50</td>
<td>2.0</td>
</tr>
<tr>
<td>12</td>
<td>0.0022</td>
<td>d/D = 0.50</td>
<td>2.0</td>
</tr>
<tr>
<td>≥15</td>
<td>0.0015</td>
<td>d/D = 0.75</td>
<td>2.0</td>
</tr>
</tbody>
</table>

The maximum allowable slope shall be the slope which generates a maximum flow velocity of 8.0 feet per second at the peak flow rate.

4.2.3 Inflow and Infiltration
The effect of inflow and infiltration on the City sewer system was determined based on evaluation of previous reports and studies, as well as the flow monitoring that took place from January 16, 2009 to February 12, 2009 (28 days). An extensive inflow and infiltration analysis was described in Section 3. For future analyses, average dry weather flows shall be increased by a factor of 1.5 to predict defect flows, or flows
arising from inflow and infiltration. This factor is consistent with the design storm event discussed in Section 6.5.3.

4.2.4 Mannings Roughness Coefficient ("n")

For future analyses, a value of 0.013 shall be used for Manning’s Roughness Coefficient ("n"). This is the industry accepted value for vitrified clay pipe and concrete pipe, which represent essentially all of the sewer system.
APPENDIX 5-B. CITY CONSTRUCTION STANDARDS
# TABLE OF CONTENTS

## SECTION I
### STREET IMPROVEMENTS

| BH - 101 | RESIDENTIAL DRIVEWAY APPROACH |
| BH - 102 | NON-RESIDENTIAL DRIVEWAY APPROACH |
| BH - 103 | CURB RAMPS |
| BH - 104 | CURB AND SIDEWALK JOINTS |
| BH - 105 | STANDARDS SIDEWALK SECTION |
| BH - 106 | RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL |
| BH - 107 | NON-RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL |
| BH - 108 | ALLEY APPROACH DETAIL |
| BH - 109 | 4" CURB DRAIN IN 6" CURB |
| BH - 111 | LONGITUDINAL GUTTER DETAIL |
| BH - 112 | LONGITUDINAL ALLEY GUTTER MAINTENANCE HOLE DIVERSION |
| BH - 113 | STEEL PLATE FOR OPEN TRENCH DETAIL |
| BH - 114 | PAVEMENT REPLACEMENT SECTION |
| BH - 115 | ASPHALT RUBBER COLDMILL AND OVERLAY |
| BH - 116 | ALLEY DEDICATION PAVING DETAIL |
| BH - 117 | ALLEY BLOCK WALL PAVING DETAIL |
| BH - 118 | MICRO-TRENCHING |

## SECTION II
### SEWER AND SANITATION

| BH - 208 | NON-ROCKING MANHOLE FRAME AND COVER |
| BH - 209 | LARGE MANHOLE FRAME AND COVER |
| * | REFER TO BH - 712 FOR SEWER AND WATER MAIN SEPARATION (PARALLEL & PERPENDICULAR) AND SEWER AND WATER MAIN PERPENDICULAR SEPARATION <10' |
| BH - 214 | LATERAL CONNECT TO LINED SEWER MAIN |
| BH - 215 | LATERAL ABANDONMENT OF LINED SEWER MAIN LATERAL ABANDONMENT OF UNLINED VCP/CONCRETE PIPE |
| BH - 216 | SEWER LATERAL CONNECTION TO EXISTING WYE |

## SECTION III
### STREET LIGHTING AND TRAFFIC SIGNALS

| BH - 401 | ROUND INDUCTIVE LOOP DETECTOR INSTALLATION |
| BH - 402 | BIKE LOOP DETECTOR INSTALLATION |
| BH - 403 | TRAFFIC SIGNAL DETECTOR HANDHOLE |
| BH - 404 | TRAFFIC SIGNAL PULL BOX AND LID |

## SECTION IV
### GENERAL FACILITIES

| BH - 601 | PARKING SPACE MARKINGS |
| BH - 602 | CONTINENTAL CROSSWALKS |
| BH - 603 | SPEED HUMP DETAIL |
| BH - 605 | SURVEY MONUMENT COVER |
| BH - 606 | PARKING METER POST INSTALLATION - CONCRETE SETTING |

---

**TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
</tbody>
</table>

**CITY OF BEVERLY HILLS, CALIFORNIA**

DEPARTMENT OF PUBLIC WORKS

ENGINEERING DIVISION

RECOMMENDED ___________________ DATE ___________________

APPROVED ___________________ DATE ___________________

STANDARD DRAWING

**BH 000**

SHEET 1 OF 3
SECTION V
WATER SYSTEM

BH - 700 1 - 3   GENERAL NOTES
BH - 701 1 - 2   FIRE HYDRANT ASSEMBLY (TYPICAL) & HYDRANT LATERAL INSTALLATION
BH - 702   FIRE HYDRANT INSTALLATION W/WATER MAIN BEHIND CURB
BH - 703 1 - 2   FIRE HYDRANT INSTALLATION & HYDRANT LATERAL - HOT TAP
BH - 704   UPGRADED HYDRANT LATERAL
BH - 705   3" & LARGER WATER SERVICE WITH 4" BY-PASS
BH - 706   VALVE BOX DETAIL
BH - 707   TYPICAL CAPS AND PLUGS
BH - 708 1 - 4   CONCRETE THRUST BLOCKS
BH - 709   TRENCH FOR WATER LINE
BH - 710 1 - 3   WATER METER BOX AND LID (W-100 SERIES) - 4" & 6" FIRE SERVICE
BH - 710 4 - 6   WATER METER BOX AND LID (W-200 SERIES) - 4" & 6" DOMESTIC SERVICE
BH - 710 7 - 8   WATER METER BOX AND LID 1" & 1 1/2" SERVICE (NON-TRAFFIC RATED)
BH - 710 9 - 10  WATER METER BOX AND LID 1 1/2 & 2" SERVICE (NON-TRAFFIC RATED)
BH - 710 11 - 12  METER BOX AND LID #1324 (TRAFFIC RATED)
BH - 710 13 - 14  WATER METER BOX AND LID #1730 (TRAFFIC RATED)
BH - 710 15 - 16  WATER METER BOX LID - POLYMER - LID W/NO AMR PROVISION
BH - 711   ADJUSTABLE PIPE SUPPORT DETAIL
BH - 713 1 OF 2   1" & 1 1/2" WATER SERVICE CONNECTION (SHORT SERVICE) TRAFFIC RATED
BH - 713 2 OF 2   1" & 1 1/2" WATER SERVICE CONNECTION (LONG SERVICE) TRAFFIC RATED
BH - 714 1 OF 2   1" & 1 1/2" WATER SERVICE CONNECTION (SHORT SERVICE) NON-TRAFFIC RATED
BH - 714 2 OF 2   1" & 1 1/2" WATER SERVICE CONNECTION (LONG SERVICE) NON-TRAFFIC RATED
BH - 715 1 OF 2   2" WATER SERVICE CONNECTION (SHORT SERVICE) TRAFFIC RATED
BH - 715 2 OF 2   2" WATER SERVICE CONNECTION (LONG SERVICE) TRAFFIC RATED
BH - 716 1 OF 2   2" WATER SERVICE CONNECTION (SHORT SERVICE) NON-TRAFFIC RATED
BH - 716 2 OF 2   2" WATER SERVICE CONNECTION (LONG SERVICE) NON-TRAFFIC RATED
BH - 717 1 OF 2   1" AIR-VAC WITH TESTING ASSEMBLY
BH - 717 2 OF 2   1" AIR-VAC FOR MAIN
BH - 718   2" BLOW-OFF ASSEMBLY (WHARF HEAD TYPE)
BH - 719   CONNECTIONS TO EXISTING AND PROPOSED WATERLINE
BH - 720   FIRE SERVICE TEE: CASE "C" TYPICAL INSTALLATION
BH - 721   TYPICAL INSTALLATIONS: CASE "D" AND "E"
BH - 722   TYPICAL INSTALLATION PIPELINE REPLACEMENT CASE "F"
BH - 723   SAMPLE STATION BAC-T ASSEMBLY

TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED ____________________________ DATE ______________
WATER RESOURCES MANAGER

APPROVED ____________________________ DATE ______________
CITY ENGINEER

STANDARD DRAWING
BH-000
SHEET 2 OF 3
BH - 724  OVERCROSSING
BH - 725  JOINT BONDING FOR DUCTILE IRON PIPE: PUSH-ON JOINT
BH - 726  UNDERCROSSING
BH - 727  SERVICE LATERAL CONNECTION LAYOUT DETAIL
BH - 728  JOINT BONDING FOR DUCTILE IRON PIPE: FLANGED JOINT
BH - 732  BACKFLOW PREVENTION OR FIRE SPRINKLER SERVICE
BH - 733  LARGE IRRIGATION SERVICE BACKFLOW PREVENTER
BH - 734  1 - 2  PRESSURE REDUCING VALVE STATION DETAIL
BH - 735  JACKED CASING WITH WATER MAIN DETAIL
BH - 736  CONCRETE ENCASEMENT OVER STORM DRAIN DETAIL
BH - 737  CONCRETE ENCASEMENT DETAIL
Section I

Street Improvements
NOTES:
1. DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 560-C-3250 PCC MONOLITHIC POUR.
2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
4. DOWELS SHALL BE USED AT EXISTING CURB AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

NOT TO SCALE

RESIDENTIAL DRIVEWAY APPROACH

REVISIONS

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

DATE 10-21-22

APPROVED

DATE 02-22-23

STANDARD DRAWING
BH 101

SHEET 1 OF 2
City of Beverly Hills
Residential Driveway Approach Specifications and General Requirements
In Reference to Beverly Hills Municipal Code Sec. 8-4-4

Definition: An approach is located between the edge of the gutter and property line. It is composed of sidewalk, an apron, and flairs (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or their designee. Permits are required for all activities in the public right-of-way.

2. Proposal Plan: A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the parkway (landscaped area) and any other useful information.
   Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Engineering Driveway Approach permit.

3. Location: No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway where necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10') feet from the center of any city tree without written approval of the City Arborist.

4. Concrete Finish: Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works inspectors.

5. Adjacent Approach: No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach.

6. Width: The maximum overall width of any residential driveway approach shall not exceed twenty feet (20'), and the maximum width of two (2) adjacent residential driveway approaches which are combined shall not exceed twenty six feet (26'). The minimum overall width of any driveway approach shall be sixteen feet (16'). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to the opposite side.

Number: Only one driveway approach shall be permitted in any residential zone on any lot or parcel with less than seventy five feet (75’) of frontage, or with a front setback of less than twenty five feet (25'); with the exception that a circular driveway requiring two (2) driveway approaches shall be permitted where the parcel frontage is within four percent (4%) of the seventy five feet (75’) minimum required for two (2) driveway approaches, and further, that no other deviation from the provisions of this code or discretionary action is required for such circular driveway.


Residential Driveway Approach

Revisions

<table>
<thead>
<tr>
<th>Mark</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
</table>

City of Beverly Hills, California
Department of Public Works
Engineering Division

Recommended: [Signature]
Date: 10-21-22

Approved: [Signature]
Date: 02-22-23

Standard Drawing: BH 101
Sheet 2 of 2
NOTES:
1. DRIVEWAY APPROACH, INCLUDING SIDEWALK SHALL BE CLASS 560-C-3250 PCC MONOLITHIC POUR.
2. ANY EXISTING TRAFFIC OR ELECTRICAL BOXES SHALL BE RELOCATED OUTSIDE OF DRIVEWAY APPROACH.
3. NO PORTION OF A PROPOSED DRIVEWAY APPROACH SHALL BE CONSTRUCTED CLOSER THAN TEN (10) FEET FROM THE CENTER OF ANY CITY TREE WITHOUT A WRITTEN APPROVAL OF THE CITY ARBORIST.
4. DOWELS SHALL BE USED AT CURB AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.
5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

NON-RESIDENTIAL DRIVEWAY APPROACH

REVISIONS

MARK | DATE | DESCRIPTION
--- | --- | ----

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 10-21-22
APPROVED DATE 02-22-23

STANDARD DRAWING BH 102
SHEET 1 OF 2
CITY OF BEVERLY HILLS
NON-RESIDENTIAL DRIVEWAY APPROACH SPECIFICATIONS AND GENERAL REQUIREMENTS
IN REFERENCE TO BEVERLY HILLS MUNICIPAL CODE SEC. 8-4-4

Definition: An approach is located between the edge of the gutter and property line. It is composed of sidewalk, apron and flairs (see sheet 1 of 2).

1. Any variation from this Driveway Approach Standard must be approved in writing by the City Director of Public Works or their designee. Permits are required for all activities in the public right-of-way.

2. Proposal Plan: A drawing shall be provided by the applicant to include: Width of proposed apron(s), width of proposed transitional flair areas at side of apron(s), measurement to nearest trees, street lights, other curb cuts, location of property line extension at each side of the site, location of any adjacent neighboring approach, height of the street curb in front of the property, width of the sidewalk, width of the parkway (landscaped area) and any other useful information.

Note: If the project is part of a work to be performed on a private property, the drawing submitted must be stamped with the approval of the Building and Safety Department prior to issuance of an Driveway Approach permit.

3. Location: No portion of a driveway approach shall be closer than three feet (3') from any lighting standard, public utility, another driveway, or other device erected in the parkway. Except in single family residential zones, driveway approaches are restricted to access which lead directly to a carport, garage, or parking area located beyond the setback area. Two (2) driveway approaches authorized for any lot or parcel shall not be less than twenty eight feet (28') apart, and each such driveway approach shall be a minimum of two feet (2') from the side property line as measured at the beginning of the full height curb. Any circular driveway shall have a minimum outer radius of twenty six (26') feet. The transportation/engineering official may approve a driveway approach closer to the side property line, or closer to any tree, lighting standard, public utility, another driveway or a device erected in the parkway necessary to accommodate existing topography or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. No portion of a proposed driveway approach shall be constructed closer than ten (10) feet from the center of any city tree without written approval of the City Arborist.

4. Concrete Finish: Approaches shall have a wood float, rotor finish. Sidewalk and curb face shall be troweled and light broom finished. Broken or defective public sidewalk, curb, and gutter adjacent to approaches shall be replaced if found necessary during the inspection of the work by Public Works inspectors.

5. Adjacent Approach: No raised curb will be permitted between two approaches which are adjacent to a common property line and less than 4 feet apart. The approaches shall be continuous. A written consent of adjacent property owner is required to construct a joint approach. Construction of a joint approach includes the removal of the existing adjacent approach and reconstruction of the entire shared approach.

6. Width: The maximum overall width of any non-residential driveway approach shall not exceed forty feet (40’). The minimum overall width of any driveway approach shall be sixteen feet (16’). The transportation/engineering official may approve driveway approaches which vary from the widths designated herein to accommodate existing topography, or nonremovable objects, such as buildings, walls, trees, or natural rock outcroppings. Driveway approach widths shall be the transition distance, measured along the curb, from the full height curb on one side to on the opposite side.


---

NON-RESIDENTIAL DRIVEWAY APPROACH

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
</tbody>
</table>

RECOMMENDED: [Signature] DATE 10-21-22

APPROVED: [Signature] DATE 02-22-23

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

STANDARD DRAWING
BH 102

SHEET 2 OF 2
1. CONCRETE SHALL BE CLASS 560-C-3250 AND SHALL BE 4” THICK OVER 4” CRUSHED MISCELLANEOUS BASE AT 90% RELATIVE COMPACTION.

2. CURB RAMPS SHALL HAVE A RECESSED CAST IN PLACE YELLOW DETECTABLE WARNING SURFACE (PLATE) THAT EXTENDS THE FULL WIDTH AND 3’ DEPTH OF THE RAMP. EDGES SHALL BE FLUSH WITH THE SURFACE OF THE RAMP. SEE DETECTABLE WARNING DETAIL FOR SIZE AND PATTERN. THE EDGE OF THE DETECTABLE WARNING NEAREST TO THE STREET SHALL BE BETWEEN 6” AND 8” FROM THE GUTTER FL.

3. UTILITY PULL BOXES, MAHNHOLES, VAULTS AND OTHER UTILITY FACILITIES WITHIN THE BOUNDARIES OF THE CURB RAMP SHALL BE RELOCATED BY THE OWNER PRIOR TO, OR IN CONJUNCTION WITH, THE CONSTRUCTION OF THE RAMP.

4. TRANSITIONS FROM RAMPS AND LANDING TO WALKS, GUTTERS OR STREETS SHALL BE Flush AND FREE OF ABRUPT CHANGES.

5. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5 PERCENT WITHIN 48” OF THE TOP AND BOTTOM OF CURB RAMP.

6. IF DISTANCE FROM CURB TO BACK OF SIDEWALK IS TOO SHORT TO ACCOMMODATE RAMP AND 4” - 0” LANDING AS SHOWN IN CASE 1 AND CASE 2, THE SIDEWALK MAY BE DEPRESSED LONGITUDINALLY AS IN CASE 5.

7. AS SITE CONDITIONS DICTATE, THE RETAINING CURB SIDE AND THE FLARED SIDE OF CASE 4 RAMP MAY BE CONSTRUCTED IN REVERSE POSITION.

8. IF LOCATED ON A CURVE, THE SIDES OF THE RAMP NEED NOT BE PARALLEL, BUT THE MINIMUM WIDTH OF THE RAMP AT ANY POINT SHALL BE 4” - 0”.

9. DOWEL SHALL BE USED AT EXISTING CURB AND GUTTER. DOWEL HOLE SHALL BE WIRED BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12” IN LENGTH, WITH A 6” EMBEDMENT, OR AS DIRECTED BY INSPECTORS.

10. CURB RAMPS SHALL BE A MONOLITHIC POUR.

11. CONTRACTOR SHALL HAVE A VALID CLASS “A” OR “C8” CALIFORNIA CONTRACTOR’S LICENSE.

CURB RAMPS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: [Signature] DATE: 9-22-20
APPROVED: [Signature] DATE: 9-22-20

STANDARD DRAWING
BH 103
SHEET 4 OF 4
NOTES:

1. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT LOCATIONS SHOWN ON THE DETAIL AND/OR PLANS AND SHALL BE FORMED BY CUTTING A GROOVE IN THE PAVEMENT WITH A POWER DRIVEN SAW. THE GROOVE FOR A TRANSVERSE JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-SIXTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER. THE GROOVE FOR A LONGITUDINAL JOINT SHALL BE CUT TO A MINIMUM DEPTH OF 1-1/2" OR ONE-FOURTH OF THE PAVEMENT THICKNESS, WHICHEVER IS GREATER, AND THE WIDTH SHALL BE THE MINIMUM WIDTH POSSIBLE WITH THE SAW BEING USED, BUT SHALL NOT EXCEED 1/4".

2. COLD JOINT SHALL BE CONSTRUCTED PER THE KEY DETAIL ON BH-105 AT LOCATIONS SHOWN ON THIS DRAWING AND/OR ON THE PLANS.

3. WEAKENED PLANE JOINTS SHALL BE CONSTRUCTED AT REGULAR INTERVALS NOT EXCEEDING 2.5' IN WALKS AND 20' IN GUTTERS. JOINTS IN CURB, GUTTER, AND WALK SHALL BE ALIGNED.

4. CURB AND GUTTER SHALL BE CONSTRUCTED SEPARATELY FROM SIDEWALK.

5. SIDEWALK AND CURBFACE SHALL BE TROWELED AND LIGHT BROOM FINISHED.

6. SIDEWALK, CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 560-C-3250 PCC.

7. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

8. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR’S LICENSE.

9. EXPANSION JOINTS ARE REQUIRED IN SOME AREAS, AND AROUND SOME UTILITY POLES OR HYDRANTS.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 10/20/21
APPROVED DATE 3/30/22

STANDARD DRAWING
BH 104

Sheet 1 of 1
STANDARD SIDEWALK SECTION

KEY DETAIL
(NEW TO EXISTING)

W (4' MIN.)
(WIDTH TO MATCH ADJOINING WALK)

LONGITUDINAL WPJ
PER STANDARD DRAWING BH 104

2.00% (MAX.)
CROSS SLOPE - TO STREET

CRUSHED MISCELLANEOUS BASE. MINIMUM 90% RELATIVE COMPACTION.

COMPACTED SUBGRADE. MINIMUM 90% RELATIVE COMPACTION.

SLOPE TO BE ONE TO ONE

NEW CONCRETE

4"

8"

4"

CRUSHED MISCELLANEOUS BASE. MINIMUM 90% RELATIVE COMPACTION.

COMPACTED SUBGRADE. MINIMUM 90% RELATIVE COMPACTION.
NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS 560-C-3250 PCC.
2. SEE BH 104 FOR JOINT LOCATION PLACEMENT.
3. CRUSHED MISCELLANEOUS BASE TO BE APPROVED BY THE CITY ENGINEER.
4. SIDEWALK SHALL BE TROWLED AND LIGHT BROOM FINISHED.
5. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
6. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
RESIDENTIAL INTEGRAL CURB AND GUTTER SECTION

NOT TO SCALE

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 560-C-3250 PCC.

2. CURB FACE SHALL BE AS DESIGNED OR MATCH EXISTING.

3. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.

4. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPED TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES ("SHINER").

5. DOWELS SHALL BE USED AT EXISTING CURBS AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.

6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA

DEPARTMENT OF PUBLIC WORKS ENGINEERING DIVISION

RECOMMENDED: [Signature] DATE: 9/7/21

APPROVED: [Signature] DATE: 3/30/22

STANDARD DRAWING: BH 106

SHEET 1 OF 1
NON-RESIDENTIAL
INTEGRAL CURB AND GUTTER SECTION

NOT TO SCALE

NOTES:
1. CURB AND GUTTER SHALL BE CONSTRUCTED OF CLASS 560-C-3250 PCC.

2. CURB FACE SHALL BE AS DESIGNED OR MATCH EXISTING.

3. GUTTER WIDTH, W, SHALL MATCH EXISTING OR 24" MINIMUM, UNLESS OTHERWISE SPECIFIED.

4. AFTER THE CONCRETE HAS BEEN THOROUGHLY TAMPPED TO FORCE THE LARGER AGGREGATE INTO THE CONCRETE AND BRING TO THE TOP SUFFICIENT FREE MORTAR FOR FINISHING, THE SURFACE SHALL BE WORKED TO A TRUE AND EVEN GRADE BY MEANS OF A FLOAT, TROWELED WITH A LONG HANDLED TROWEL OR "FRESNO", AND WOOD-FLOAT FINISHED. THE FLOWLINE OF THE GUTTER SHALL BE TROWELED SMOOTH FOR A WIDTH OF 4 INCHES ("SHINER").

5. DOWELS SHALL BE USED AT EXISTING CURBS AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.

6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

NON-RESIDENTIAL INTEGRAL CURB AND GUTTER DETAIL

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

APPROVED

STANDARD DRAWING
BH 107

MARK DATE DESCRIPTION

9/7/21

3/30/22

1 SHEET 1 OF 1
NOTES:
1. CURB RETURN RADIUS, R, SHALL BE 5' TYPICAL, UNLESS OTHERWISE SPECIFIED.
2. TOP OF CURB ELEVATIONS SHALL MATCH EXISTING SIDEWALK ELEVATIONS.
3. ALLEY APPROACH WITH A SLOPE EXCEEDING 16.66% SLOPE SHALL REQUIRE A SPECIAL PERMIT FROM THE TRANSPORTATION/ENGINEERING OFFICIAL.
4. ACTUAL SHAPE AND LOCATION OF ALLEY APPROACH SHALL BE DETERMINED IN THE FIELD BY THE PUBLIC WORKS INSPECTOR.
5. ALLEY APPROACH AND NEW SIDEWALK WITHIN ALLEY APPROACH SHALL BE A CLASS 560-C-3250 8" THICK MONOLITHIC POUR OVER 6" CRUSHED MISCELLANEOUS BASE AT 95% RELATIVE COMPACTION.
6. DOWELS SHALL BE USED AT EXISTING CURBS AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSpectors.
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
### Table

<table>
<thead>
<tr>
<th>W</th>
<th>8'</th>
<th>10'</th>
<th>15'</th>
<th>20'</th>
<th>25'</th>
<th>30'</th>
</tr>
</thead>
<tbody>
<tr>
<td>d1, MAX</td>
<td>4''</td>
<td>5''</td>
<td>7.5''</td>
<td>10''</td>
<td>12.5''</td>
<td>15''</td>
</tr>
<tr>
<td>d2, MIN</td>
<td>2''</td>
<td>3''</td>
<td>3''</td>
<td>3''</td>
<td>3''</td>
<td>3''</td>
</tr>
</tbody>
</table>

---

**SECTION A-A**

- 8" THICK THROUGHOUT
- 6" CRUSHED MISCELLANEOUS BASE, 95% RELATIVE COMPACTION (THROUGHOUT)

**SECTION B-B**

- FLOW LINE

---

**ALLEY APPROACH DETAIL**
CURB & GUTTER SECTION
NOT TO SCALE

HIKE UP 1" PER 1'
OF GUTTER WIDTH

BATTER 1.5:12
FLOWLINE

1/4"
6"
3"
6"

R=1/4"

C.I. PIPE.
(4" MAX. O.D.)

R=3/4"

MATCH CROSS SLOPE
OF SIDEWALK

CUT EXISTING CURB ON
VERTICAL LINE TO ENTIRE
DEPTH, RECONSTRUCT
TO SCORELINE IF
NEAREST SCORELINE IS
LESS THAN 4' (TYP.)

18" MIN. (TYP)
1-1/2" MIN.
CLEARANCE

C.I. PIPE
(4" MAX. O.D.)

EXISTING
CURB

2-3# BAR - 18" LONG
CENTERED OVER DRAIN

1/2" MIN.
CLEARANCE

ELEVATION "A-A"
NOT TO SCALE

NOTES:
1. MINIMUM CURB BREAK AND RECONSTRUCTION IS 3'-0" IN LENGTH.
2. CURB & GUTTER SHALL BE CLASS 560-C-3250 PCC MONOLITHIC POUR.
3. FOR MULTIPLE CURB DRAINS, SPACING BETWEEN C.I. PIPES SHALL BE A MINIMUM OF 6" O.C.
4. 3" PIPE IN 6" CURB IS ALLOWED BY CORING.
5. DOWELS SHALL BE USED AT EXISTING CURBS AND GUTTER. DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
7. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

4" CURB DRAIN IN 6" CURB

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 9/7/21
APPROVED
DATE 3/30/22

STANDARD DRAWING
BH 109

MARK DATE DESCRIPTION
--- --- ---
--- --- ---
LONGITUDINAL GUTTER
NOT TO SCALE

CRUSHED MISCELLANEOUS
BASE: MINIMUM 95% RELATIVE COMPACTION.

W
V
8" MIN.
8" + V
EXISTING PAVEMENT

W
V
2' - 0"
3/4"
4' - 0"
1-1/2"

TRANSITION DETAIL A
BEGINNING OF LONGITUDINAL GUTTER

TRANSITION DETAIL B
END OF LONGITUDINAL GUTTER

FLOW
W/2
W/2
W/2
W/2
W/2

ALLEY C/L
6%
6%
6%
6%
6%

SEE NOTE 2

NOTES:
1. LONGITUDINAL GUTTER SHALL BE CLASS 560-C-3250 PCC.

2. LITE BROOM FINISH WITH 8" SHINER ALONG FLOWLINE, FIELD VERIFY SIZE WITH INSPECTION.

3. DOWELS SHALL BE USED AT EXISTING GUTTERS, DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.

4. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").

5. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

6. CONTROL JOINTS SHALL BE PLACED AT 10 FOOT INTERVALS FOR FULL LENGTH OF LONGITUDINAL GUTTER.
<table>
<thead>
<tr>
<th>DIMENSION VARIABLE</th>
<th>27' MANHOLE/RING</th>
<th>28' MANHOLE/RING</th>
<th>29' MANHOLE/RING</th>
<th>37' MANHOLE/RING</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - OFFSET</td>
<td>4'-2½&quot;</td>
<td>4'-3½&quot;</td>
<td>4'-4½&quot;</td>
<td>5'-6&quot;</td>
</tr>
<tr>
<td>B - REF. ANGLE</td>
<td>30°</td>
<td>30°</td>
<td>30°</td>
<td>30°</td>
</tr>
<tr>
<td>D - OUTER EDGE OF RING</td>
<td>2'-3&quot;</td>
<td>2'-4&quot;</td>
<td>2'-5&quot;</td>
<td>3'-1&quot;</td>
</tr>
<tr>
<td>E - FROM POINT &quot;X&quot; TO POINT &quot;Y&quot;</td>
<td>1'-8½&quot;</td>
<td>1'-8½&quot;</td>
<td>1'-8½&quot;</td>
<td>1'-8½&quot;</td>
</tr>
<tr>
<td>F</td>
<td>20¼&quot;</td>
<td>20¼&quot;</td>
<td>20¼&quot;</td>
<td>223¼&quot;</td>
</tr>
<tr>
<td>G - OFFSET</td>
<td>4'-6½&quot;</td>
<td>4'-7½&quot;</td>
<td>4'-8½&quot;</td>
<td>5'-4½&quot;</td>
</tr>
<tr>
<td>H</td>
<td>7'</td>
<td>7'</td>
<td>7½'</td>
<td>9½'</td>
</tr>
<tr>
<td>J</td>
<td>13½&quot;</td>
<td>14&quot;</td>
<td>14½&quot;</td>
<td>16½&quot;</td>
</tr>
</tbody>
</table>

**CASE 1 (2'-0" LONGITUDINAL GUTTER) MANHOLE/RING**

1. ALL CONCRETE IS TO BE CLASS 560-C-3250 PCC.
2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
3. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
4. DIMENSIONS "F", "H", AND "J" ARE SYMETRICAL ABOUT CENTERLINE OF MANHOLE.

**SECTION A-A**

**LONGITUDINAL ALLEY GUTTER AT MANHOLE**

**REVOLUTIONS**

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚠️</td>
<td>9/14/2021</td>
<td>REV. DIMS</td>
</tr>
</tbody>
</table>

**CITY OF BEVERLY HILLS, CALIFORNIA**

**DEPARTMENT OF PUBLIC WORKS**

**ENGINEERING DIVISION**

**RECOMMENDED**

<table>
<thead>
<tr>
<th>DATE</th>
<th>REVIEW MANAGER</th>
<th>CITY ENGINEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/20/2021</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**APPROVED**

<table>
<thead>
<tr>
<th>DATE</th>
<th>CITY ENGINEER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/30/2022</td>
<td></td>
</tr>
<tr>
<td>DIMENSION VARIABLE</td>
<td>27° MANHOLE/RING</td>
</tr>
<tr>
<td>--------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>A - OFFSET</td>
<td>4'-3&quot;</td>
</tr>
<tr>
<td>B - REF. ANGLE</td>
<td>30°</td>
</tr>
<tr>
<td>D - OUTER EDGE OF RING</td>
<td>2'-3&quot;</td>
</tr>
<tr>
<td>E - FROM CENTER OF MANHOLE TO POINT &quot;Y&quot;</td>
<td>4'-6½&quot;</td>
</tr>
<tr>
<td>F</td>
<td>20½&quot;</td>
</tr>
<tr>
<td>G</td>
<td>7&quot;</td>
</tr>
</tbody>
</table>

**CASE 2 (2'-0" LONGITUDINAL GUTTER)**

**NOTES:**
1. ALL CONCRETE IS TO BE CLASS 550-C-3250 PCC.
2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
3. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
4. DIMENSIONS "F" AND "G" ARE SYMMETRICAL ABOUT CENTERLINE OF MANHOLE.

**LONGITUDINAL ALLEY GUTTER AT MANHOLE**

**RECOMMENDED** [Signature]  DATE 10/20/21  **APPROVED** [Signature]  DATE 3/30/22
STEEL PLATE FOR OPEN TRENCH DETAIL

NOTES:

1. ALL STEEL TRENCH PLATES SHALL BE FULLY SUPPORTED AROUND THE PERIMETER TO PREVENT TIPPING.
2. TRENCHES AND EXCAVATIONS SHALL BE ADEQUATELY SHORED OR BRACED TO WITHSTAND HIGHWAY TRAFFIC LOADS.
3. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PREVENT NOISY PLATES. THE CONTRACTOR SHALL PROVIDE MATERIAL (IE - NEOPRENE BEARING PADS, NYLON ROPE, OR RUBBER STRIPS) TO DAMPEN VIBRATION.
4. WHEN TWO OR MORE PLATES ARE USED, THE PLATES SHALL BE TACK WELDED AT EACH CORNER OR AS REQUIRED BY THE CITY ENGINEER. PARTIAL OR COMPLETE JOINT PENETRATION WELDING MAY BE NECESSARY.
5. ALL TRENCH PLATES SHALL BE PINNED IN EACH CORNER WITH PINS MADE OF #4 REBAR, OR EQUIVALENT DIAMETER STEEL ROD, WITH A MINIMUM LENGTH OF 12".
6. ALL TRENCH PLATING SHALL BE DESIGNED FOR HS20-44 TRUCK LOADING.
7. FOR TRENCHES AND EXCAVATIONS WITH SPANS GREATER THAN FOUR FEET (4'), A STRUCTURAL DESIGN SHALL BE PREPARED BY A REGISTERED CIVIL OR STRUCTURAL ENGINEER AND REVIEWED BY THE CITY.
8. TRENCH PLATES SHALL BE USED WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY TO MAINTAIN ALL VEHICULAR, BICYCLE AND PEDESTRIAN TRAFFIC FLOW.
9. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.

<table>
<thead>
<tr>
<th>&quot;W&quot; TRENCH WIDTH</th>
<th>&quot;T&quot; MINIMUM STEEL PLATE THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤3'-0&quot;</td>
<td>1 INCH</td>
</tr>
<tr>
<td>&gt;3'-0&quot;, UP TO 4'-0&quot;</td>
<td>1-1/4 INCH</td>
</tr>
</tbody>
</table>
CASE I - EXISTING SECTION: ASPHALT CONCRETE

1. Construct new asphalt concrete base course, Type B, PG 64-10, 1" thicker than the existing section.

2. Construct new asphalt concrete wearing course.

<table>
<thead>
<tr>
<th>TYPES OF STREETS</th>
<th>DEPTH</th>
<th>ASPHALT CONCRETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential streets/alleys</td>
<td>2&quot;</td>
<td>Type D2, PG-64-10 (HMA)</td>
</tr>
<tr>
<td>Major streets/alleys</td>
<td>2&quot;</td>
<td>Type C2, OR 3C3, PG-64-10 (HMA)</td>
</tr>
<tr>
<td>Street with asphalt rubber hot mix (A,R,H,M,)</td>
<td>2&quot;</td>
<td>Type C2, PG-64-10</td>
</tr>
</tbody>
</table>

1 AND 2: The total thickness of 1 + 2 shall be 6" minimum for all streets and alleys.

PAVEMENT REPLACEMENT SECTION - CASE I
TRENCH.BACKFILL SHALL BE EITHER:

A. ONE SACK CEMENT SAND SLURRY OR EQUIVALENT (IE-100-E-100 OR CLSM)
B. CRUSHED AGGREGATE BASE
C. NATIVE MATERIAL

THE CONTRACTOR IS TO SUPPLY COMPACTION TEST RESULTS AT NO COST TO THE CITY (PER ASTM METHOD 1557) UNLESS SLURRY OR CLSM IS USED.

CONSTRUCT NEW CRUSHED AGGREGATE BASE TO MATCH EXISTING THICKNESS OR 4" THICKNESS, WHICHEVER IS GREATER. COMPACT TO 95% OF RELATIVE DENSITY.

SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE T-CUT TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.

T-CUTS ARE 12" WIDE AS MEASURED FROM THE FINAL EDGE OF TRENCH (AFTER SLUFFING).


IF THE REMOVALS ARE LESS THAN 5' APART OR LESS THAN 2' FROM A CONCRETE CURB, GUTTER, CROSS GUTTER, OR PROPERTY LINE THE T-CAP SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF THE CONCRETE.

FINAL T-CUT AND T-CAP MAY BE ALTERED AT THE CITY ENGINEER'S DISCRETION BASED ON THE EXISTING STREET OR ALLEY CONDITION.

ALL TRAFFIC STRIPING AND/OR MARKINGS DAMAGED DURING RESTORATION WORK SHALL BE REPLACED.

WHEN WORK REQUIRES REMOVAL OF EXISTING CONCRETE STREET FEATURES, SUCH AS DRIVEWAY APPROACH, ALLEY APPROACH, DRIVEWAYS, CURB RAMPS, OR PORTION(S) THEREOF, RESTORATION OF CONCRETE STREET FEATURES SHALL CONFORM TO THE LATEST CITY STANDARDS. CONCRETE POUR SHALL BE MONOLITHIC AND CONCRETE SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

WHEN ROADWAY WORK REQUIRES REMOVAL OF EXISTING CONCRETE BUS PAD OR PORTION(S) THEREOF, CONTRACTOR SHALL RESTORE CONCRETE BUS PAD IN KIND MATCHING EXISTING PCG THICKNESS OR 8-IN MINIMUM WHICHEVER IS GREATER. CONCRETE POUR SHALL BE MONOLITHIC AND RESTORATION OF BUS PAD SHALL CONFORM TO THE LATEST STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION. CONCRETE BUS PAD SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY OR OTHERWISE APPROVED BY THE CITY ENGINEER.

ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").

CONTRACTOR SHALL HAVE A VALID CLASS "A" OR APPROVED CALIFORNIA SPECIALTY CONTRACTOR'S LICENSE.
CASE II - EXISTING SECTION: PORTLAND CONCRETE CEMENT

1. Construct new PCC pavement 1" thicker than the existing concrete, 6" minimum using 560-C-3250.

2. The exact limits for removal shall be determined by the city engineer such that join lines are not within 2-6" of existing pavement joints or significant cracks. If the excavations are less than 5' apart or less than 2-6" from a concrete curb, gutter or expansion joint, the restoration shall be continuous between excavations and/or the edge of concrete.

3. For PCC streets or intersections the limits of the restoration shall be a rectangular area extending to the nearest construction joint. The structural section outside the utility trench area shall be equal to 1 + 5.

⚠️ 4. Trench backfill shall be either:

   A. One sack cement sand slurry or equivalent (IE-100-E-100 or CSLM)
   B. Crushed aggregate base
   C. Native material

The contractor is to supply compaction test results at no cost to the city (per ASTM test method 1557), unless slurry or CSLM is used.

5. Construct new crushed aggregate base to match existing thickness or 4" thickness, whichever is greater. Compact to 95% of relative density.

PAVEMENT REPLACEMENT SECTION - CASE II

<table>
<thead>
<tr>
<th>REVISIONS</th>
<th>CITY OF BEVERLY HILLS, CALIFORNIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK DATE</td>
<td>DESCRIPTION</td>
</tr>
<tr>
<td>△ 6/16/2021</td>
<td>BACKFILL</td>
</tr>
</tbody>
</table>

RECOMMENDED DATE 7/13/21
APPROVED DATE 3/30/22

STANDARD DRAWING BH 114
SHEET 3 OF 6
6. SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE T-CUT TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.

7. DOWEL SIZE, SPACING, AND EMBEDMENT SHOULD BE AS FOLLOWS:

<table>
<thead>
<tr>
<th>CONCRETE THICKNESS</th>
<th>SIZE AND SPACING</th>
<th>EMBEDMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5&quot;</td>
<td>SEE KEY DETAIL CBH 105</td>
<td>NONE</td>
</tr>
<tr>
<td>5&quot; TO 7&quot;</td>
<td>#4 @ 16&quot; O.C.</td>
<td>4&quot;</td>
</tr>
<tr>
<td>7.1 TO 9&quot;</td>
<td>#5 @ 16&quot; O.C.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>&gt; 9&quot;</td>
<td>#6 @ 16&quot; O.C.</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

Dowel hole shall be wire brushed and blown free of debris. Epoxy will be inserted, and dowel will be seated to full depth of hole. Dowel shall be 12" in length, with a 6" embedment, or as directed by inspectors.

8. ALL TRAFFIC STRIPE AND/OR MARKINGS DAMAGED DURING RESTORATION WORK SHALL BE REPLACED.

9. WHEN WORK REQUIRES REMOVAL OF EXISTING CONCRETE STREET FEATURES, SUCH AS DRIVEWAY APPROACH, ALLEY APPROACH, DRIVEWAYS, CURB RAMPS, OR PORTION(S) THEREOF, RESTORATION OF CONCRETE STREET FEATURES SHALL CONFORM TO THE LATEST CITY STANDARDS. CONCRETE POUR SHALL BE MONOLITHIC AND CONCRETE SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

10. WHEN ROADWAY WORK REQUIRES REMOVAL OF EXISTING CONCRETE BUS PAD OR PORTION(S) THEREOF, CONTRACTOR SHALL RESTORE CONCRETE BUS PAD IN KIND MATCHING EXISTING PCC THICKNESS OR 8-IN MINIMUM WHICHEVER IS GREATER. CONCRETE POUR SHALL BE MONOLITHIC AND RESTORATION OF BUS PAD SHALL CONFORM TO THE LATEST STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION. CONCRETE BUS PAD SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY OR OTHERWISE APPROVED BY THE CITY ENGINEER.

11. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").

12. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR APPROVED CALIFORNIA SPECIALTY CONTRACTOR'S LICENSE.
CASE III - EXISTING SECTION: ASPHALT OVER CONCRETE

1. CONSTRUCT NEW PCC PAVEMENT 1" THICKER THAN THE EXISTING CONCRETE, 6" MINIMUM USING CLASS 560-C-3250.

2. CONSTRUCT NEW ASPHALT CONCRETE BASE COURSE, TYPE B, PG 64-10.

3. CONSTRUCT 2" NEW ASPHALT CONCRETE WEARING COURSE PER TABLE - 1.

4. THE EXACT LIMITS FOR REMOVAL SHALL BE DETERMINED BY THE CITY ENGINEER SUCH THAT JOIN LINES ARE NOT WITHIN 2'-6" OF EXISTING PAVEMENT JOINTS OR SIGNIFICANT CRACKS. IF THE EXCAVATIONS ARE LESS THAN 5' APART OR LESS THAN 2'-6" FROM A CONCRETE CURB, GUTTER OR EXPANSION JOINT, THE RESTORATION SHALL BE CONTINUOUS BETWEEN EXCAVATIONS AND/OR THE EDGE OF CONCRETE.

⚠️ 5. TRENCH BACKFILL SHALL BE EITHER:

A. ONE SACK CEMENT SAND SLURRY OR EQUIVALENT (IE-100-E-100 OR CLSM)
B. CRUSHED AGGREGATE BASE
C. NATIVE MATERIAL

THE CONTRACTOR IS TO SUPPLY COMPACTION TEST RESULTS AT NO COST TO THE CITY (PER ASTM TEST METHOD 1557), UNLESS SLURRY OR CLSM IS USED.
6. SAWCUTTING WILL BE REQUIRED AROUND THE PERIMETER OF THE T-CUT TO PROVIDE CLEAN, STRAIGHT, VERTICAL SIDES.

7. DOWEL SIZE, SPACING, AND EMBEDMENT SHOULD BE AS FOLLOWS:

<table>
<thead>
<tr>
<th>CONCRETE THICKNESS</th>
<th>SIZE AND SPACING</th>
<th>EMBEDMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5&quot;</td>
<td>SEE KEY DETAIL CBH 105</td>
<td>NONE</td>
</tr>
<tr>
<td>5&quot; TO 7&quot;</td>
<td>#4 @ 16&quot; O.C.</td>
<td>4&quot;</td>
</tr>
<tr>
<td>7.1 TO 9&quot;</td>
<td>#5 @ 16&quot; O.C.</td>
<td>6&quot;</td>
</tr>
<tr>
<td>&gt; 9&quot;</td>
<td>#6 @ 16&quot; O.C.</td>
<td>8&quot;</td>
</tr>
</tbody>
</table>

DOWEL HOLE SHALL BE WIRE BRUSHED AND BLOWN FREE OF DEBRIS. EPOXY WILL BE INSERTED, AND DOWEL WILL BE SEATED TO FULL DEPTH OF HOLE. DOWEL SHALL BE 12" IN LENGTH, WITH A 6" EMBEDMENT, OR AS DIRECTED BY INSPECTORS.

8. ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY RESTORATION WORK SHALL BE REPLACED.

9. WHEN WORK REQUIRES REMOVAL OF EXISTING CONCRETE STREET FEATURES, SUCH AS DRIVEWAY APPROACH, ALLEY APPROACH, DRIVEWAYS, CURB RAMPS, OR PORTION(S) THEREOF, RESTORATION OF CONCRETE STREET FEATURES SHALL CONFORM TO THE LATEST CITY STANDARDS. CONCRETE POUR SHALL BE MONOLITHIC AND CONCRETE SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

10. WHEN ROADWAY WORK REQUIRES REMOVAL OF EXISTING CONCRETE BUS PAD OR PORTION(S) THEREOF, CONTRACTOR SHALL RESTORE CONCRETE BUS PAD IN KIND MATCHING EXISTING PCC THICKNESS OR 8-IN MINIMUM WHICHEVER IS GREATER. CONCRETE POUR SHALL BE MONOLITHIC AND RESTORATION OF BUS PAD SHALL CONFORM TO THE LATEST STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION. CONCRETE BUS PAD SHALL BE REMOVED AND REPLACED IN ITS ENTIRETY OR OTHERWISE APPROVED BY THE CITY ENGINEER.

11. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS ("GREENBOOK").

12. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR APPROVED CALIFORNIA SPECIALTY CONTRACTOR'S LICENSE.
COLDMILL 2" OF EXISTING PAVEMENT AND CONSTRUCT 2" DEPTH ASPHALT RUBBER OVERLAY. APPLY TACK COAT PRIOR TO PAVING (PER GREENBOOK).

EXISTING SIDEWALK / PARKWAY

EXISTING CURB AND GUTTER

SEE NOTE 5

2% MIN. - SEE NOTE 4

EXISTING AC PAVEMENT

EXISTING CURB AND GUTTER

EXISTING SIDEWALK / PARKWAY

SEE NOTE 5

2% MIN. - SEE NOTE 4

STANDARD NOTES

1. ALL ARTERIAL AND COLLECTOR STREETS WITHIN CITY OF BEVERLY HILLS RIGHT-OF-WAY SHALL REQUIRE ASPHALT RUBBER PAVEMENT OVERLAY INSTALLATION. THE CITY ENGINEER MAY REQUIRE OTHER LOCATIONS TO CONFORM TO THIS STANDARD.
2. UNLESS OTHERWISE DETERMINED BY THE CITY ENGINEER, THE ARHM SHALL BE CLASS ARHM-GG-C.
3. ROADWAYS TO RECEIVE FULL-WIDTH COLDMILLING SHALL BE RESURFACED WITHIN 24 HOURS OF COLDMILLING ANY PORTION OF THE WORK.
4. THE ROADWAY CROSS SLOPE SHALL BE A MINIMUM OF 2 PERCENT OR MATCH THE EXISTING CROSS SLOPE IF HIGHER THAN 2 PERCENT.
5. THE NEW PAVEMENT SHALL BE FLUSH WITH THE LIP OF GUTTER ON EACH SIDE OF STREET.
6. THE COLDMILL, AND ARHM APPLICATION SHALL FULLY COMPLY WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, (GREENBOOK), LATEST EDITION."
7. THE LIMITS OF COLDMILL AND ASPHALT PAVEMENT SHALL BE THE FULL WIDTH OF THE STREET PAVEMENT.
8. ALL TRAFFIC STRIPING AND/OR MARKINGS REMOVED BY THE COLDMILL AND OVERLAY WORK SHALL BE REPLACED TO CURRENT STANDARD.
9. ANY IMPACTS TO EXISTING UTILITIES, STRUCTURES, AND SURVEY MONUMENTS DUE TO THE COLDMILL AND OVERLAY WORK SHALL BE RESTORED IN ACCORDANCE WITH THE CITY OF BEVERLY HILLS STANDARDS AND THE (GREENBOOK), LATEST ADDITION.
10. AFTER ANY GRINDING OR MICRO-MILLING OF ANY STREET OR ALLEY, CRACKS MUST BE CLEANED AND SEALED.
11. CONTRACTOR SHALL HAVE A VALID CLASS "A" OR "C8" CALIFORNIA CONTRACTOR'S LICENSE.
12. ANY DEVIATION OF THIS STANDARD PLAN, SHALL REQUIRE APPROVAL AND DIRECTION BY THE CITY ENGINEER OR THEIR DESIGNEE(S).

ASPHALT RUBBER COLDMILL AND OVERLAY

REVISIONS

MARK  DATE  DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED  DATE  03/05/2020
APPROVED  DATE  05/04/2020

STANDARD DRAWING
BH 115
SHEET 1 OF 1
NOTES:

1. DEPENDING ON THE CONDITION OF THE ALLEY, THE INSPECTOR MAY ADJUST THE SCOPE OF RESTORATION.
2. NEW PAVING MUST MATCH EXISTING ALLEY CROSSFALL.
3. REFER TO BH 114 FOR ASPHALT CONCRETE MIX DESIGNS AND OTHER PAVEMENT REQUIREMENTS.

ALLEY DEDICATION PAVING DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 11/4/21
APPROVED DATE 3/30/22
SECTION ACROSS ALLEY AT WALL
NOT TO SCALE

ALLEY PLAN VIEW
NOT TO SCALE

NOTES:
1. REFER TO BH 114 FOR ASPHALT CONCRETE MIX DESIGNS AND OTHER PAVEMENT REQUIREMENTS.

ALLEY BLOCK WALL PAVING DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 11/4/21
PROJECT MANAGER
APPROVED DATE 3/30/22
CITY ENGINEER

STANDARD DRAWING
BH 117

SHEET 1 OF 1
NOTES:

1. MICRO-TRENCHING SHALL ONLY BE USED TO INSTALL TELECOMMUNICATION CONDUITS IN ASPHALT STREETS ONLY. MICRO-TRENCHING SHALL NOT BE ALLOWED IN CONCRETE STREETS, SIDEWALKS, PARKWAYS, CURBS AND GUTTERS, SWALES, SPANDELS, APPROACHES, BUS PADS, AND ETC.

2. THE CONTRACTOR SHALL IDENTIFY AND MAP ALL EXISTING UTILITIES, INCLUDING SERVICES, IN THE STREET AND/OR ALLEY. THIS INFORMATION WILL BE PRESENTED TO CITY STAFF IN ORDER TO CONFIRM AN APPROVED MICRO TRENCH ALIGNMENT. PROPOSED ALIGNMENTS MUST BE A MINIMUM 2' CLEAR TO THE OUTSIDE EDGE OF ANY CITY UTILITY PIPELINE OR CONDUIT (SEWER, WATER, STORM DRAIN, STREET LIGHTING, TRAFFIC SIGNAL, FIBER OPTIC, ETC.).

3. THE CONTRACTOR SHALL IDENTIFY ALL EXISTING UTILITIES, INCLUDING SERVICE CONNECTIONS IN THE FIELD. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (U.S.A.) AT LEAST 48 HOURS PRIOR TO START OF WORK AT 8-1-1, OR TOLL-FREE AT 1-800-422-4133. THE CONTRACTOR SHALL FURTHER SUPPLEMENT THE FINDINGS OF U.S.A. TO DETERMINE THE EXACT LOCATIONS AND DEPTHS OF ALL UTILITIES BY USING A MOBILE GROUND PENETRATING RADAR SYSTEM. THE CONTRACTOR SHALL POTHOLE ALL CROSSING UTILITIES AND PARALLEL UTILITIES WITHIN 18-INCHES OF THE PROPOSED ALIGNMENT TO A DEPTH OF 6-INCHES BELOW THE BOTTOM OF THE MICRO-TRENCH, TO DETERMINE THE EXISTING UTILITY ALIGNMENT AND ELEVATION. POTHOLES SHALL BE IMMEDIATELY BACKFILLED AND COMPACTED PER BH 114 OR AS DIRECTED BY THE PW INSPECTOR.

4. IF EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE INSPECTOR, ENGINEER AND UTILITY OWNER TO PERFORM THE REPAIRS PROMPTLY ACCORDING TO THEIR REQUIREMENTS AND PER ASSOCIATED CITY PERMITS.
5. THE FOLLOWING ITEMS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL:

A. PROVIDE A DETAILED SITE PLAN WHICH SHALL INCLUDE THE DISTANCES OF MICRO-TRENCH AND EDGES OF GRIND AND CAP TO EDGE OF GUTTER, CURBFACE, CONCRETE PAVEMENT OR STRUCTURE AS APPLICABLE.

B. A TYPICAL MICRO-TRENCH DETAIL THAT INCLUDES THE FOLLOWING INFORMATION:

   (1) THE MAXIMUM ASPHALT CONCRETE (AC) ROADWAY THICKNESS, BASE, DEPTH AND WIDTH OF MICRO-TRENCH, DEPTH OF TOPMOST CONDUIT, AND BACKFILL MATERIAL.

   (2) AC REINSTATEMENT INCLUDING WIDTH AND DEPTH OF GRIND AND CAP.

C. DETAIL SHOWING CONDUIT FROM MAIN MICRO-TRENCH ALIGNMENT TO LATERAL SURFACE CONNECTIONS INCLUDING TO ANY JUNCTION/PULL BOX. INCLUDE SPECIFIC INFORMATION OF DEPTH, SIZE, AND METHOD OF EXCAVATION BELOW EXISTING CURB AND GUTTER.

D. CUT SHEETS OF THE PROPOSED EQUIPMENT PARTICULARLY SUITABLE FOR MICRO-TRENCHING, INCLUDING:

   (1) MICRO-TRENCHER CAPABLE OF MEETING TARGET DEPTH AND WIDTH IN A SINGLE PASS WITH AN INTEGRAL HOOD AND ASSOCIATED VACUUM SYSTEM. SELECTION OF CUTTING WHEEL SHALL BE SUCH THAT IT MINIMIZES DAMAGE TO THE ADJACENT AC SURFACE.

   (2) MOBILE CONCRETE/SLURRY PLACEMENT WITH AN ON-BOARD VIBRATOR AND NARROW TROUGHS TO MATCH MICRO-TRENCH WIDTH.

   (3) MOBILE GROUND PENETRATING RADAR SYSTEM THAT IS CAPABLE OF LOCATING BOTH METALLIC AND NON-METALLIC PIPES AND CABLES TO A DEPTH OF 24-INCHES.

E. OTHER SITE SPECIFIC ITEMS AS REQUIRED BY THE ENGINEER.

LIMITS OF REMOVALS, TRENCH WIDTH, AND LOCATION

6. THE MICRO-TRENCH SHALL BE CONSTRUCTED WITH CONTINUOUS UNIFORM STRAIGHT AND NEAT EDGES.

7. MICRO-TRENCH ALIGNMENTS SHALL CONSIST OF RUNS PARALLEL TO THE CENTERLINE OF THE STREET. STREET CROSSING MAY BE DONE PROVIDED THE ALIGNMENT IS PERPENDICULAR TO THE STREET CENTERLINE.

8. THE EDGE OF THE MICRO-TRENCH SHALL BE A MINIMUM OF 24-INCHES FROM THE EXISTING FACE OF THE GUTTER, EXISTING CONCRETE STRUCTURE, OR CURB IF GUTTER IS NOT PRESENT.

9. THE MICRO-TRENCH WIDTH SHALL BE A MINIMUM OF 1-INCH AND A MAXIMUM OF 2-INCHES.


MICRO-TRENCHING

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

APPROVED

STANDARD DRAWING

BH 118

DATE 3/31/22
DATE 4/25/22

SHEET 2 OF 3
BACKFILL

12. ALL MICRO-TRENCHES SHALL BE COMPLETELY BACKFILLED WITH A CEMENT SAND SLURRY 2500 PSI TO FINISH GRADE BY THE END OF THE WORK DAY.

GRIND AND RESURFACE SECTION

13. COMMENCEMENT OF SURFACE PREPARATION SUCH AS GRINDING/CHIPPING FOR ASPHALT CONCRETE PAVING REPLACEMENT WILL OCCUR NO SOONER THAN 48 HOURS AFTER SLURRY BACKFILL OF TRENCH. FIELD CONDITIONS OR MATERIAL USED MAY NECESSITATE A LONGER WAIT AS DETERMINED BY THE INSPECTOR.

14. AS SOON AS BACKFILL HAS CURED, NOT TO EXCEED 30 CALENDAR DAYS, ASPHALT CONCRETE SHALL BE GROUND AND CAPPED AS FOLLOWS:
   A. EXISTING AC AND SLURRY BACKFILL SHALL BE GROUND DOWN 4-INCHES, FOR A WIDTH OF 18-INCHES BUT NO LESS THAN 6-INCHES FROM BOTH EDGES OF THE MICRO-TRENCH. WHEN THE CAP LIMIT IS WITHIN 2-FEET OR LESS FROM THE GUTTER FACE, CURB, SLAB OR STRUCTURE, THE CAP LIMIT SHALL EXTEND TO THAT ITEM.
   B. TACK COAT ALL EDGES WITH SS-1H EMULSIFIED ASPHALT IMMEDIATELY BEFORE PAVING ASPHALT CONCRETE TYPE 3C3, PG 64-10 (HMA).
   C. WHERE ANGULAR CROSSING OR ANY LENGTH-WISE CUTS OF A BIKE LANE OCCUR BY MICRO-TRENCHING, THE CAPPING LIMITS SHALL EXTEND THE FULL WIDTH OF THE BIKE LANE. PERPENDICULAR CROSSINGS MAY RECEIVE TYPICAL CAPPING WIDTH PER NOTE 14A. ABOVE. PAVEMENT MARKINGS SHALL BE RESTORED IN KIND.

VAULTS AND SERVICE CONNECTIONS

15. CONNECTION TO SERVICE LATERALS, JUNCTION BOXES, ETC., SHALL BE DONE SUCH THAT CURB AND GUTTER ARE NOT DISTURBED, SETTLED OR DAMAGED. REMOVAL LIMITS OF SIDEWALK SHALL FOLLOW APPLICABLE STANDARDS AND REQUIREMENTS AS APPROVED BY THE ENGINEER.

16. THE USE OF HYDRO-JETTING IS NOT PERMITTED. TRENCHLESS METHODS SHALL NOT CREATE A VOID TWO TIMES GREATER THAN CONDUIT. VOID SHALL BE COMPACTED AND BACKFILLED WITH APPROVED CONTROLLED LOW-STRENGTH MATERIAL (CLSM).

IDENTIFICATION

17. EACH MICRO-TRENCH SHALL BE IDENTIFIED WITH TRACER WIRE INSTALLED.

ALTERNATE MICROTRENCH DESIGN

18. THE CONTRACTOR MAY PROPOSE TO BACKFILL THE MICROTRENCH WITH FASTPATCH 8400, DEPENDING ON THE FINAL CONDITION AND APPEARANCE OF THE ROADWAY, THE GRIND AND OVERLAY RESTORATION MAY BE WAIVED.

MICRO-TRENCHING

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
</tbody>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

DATE 3/31/22

APPROVED

DATE 4/25/22

STANDARD DRAWING
BH 118

SHEET 3 OF 3
Section II

Sewer and Sanitation
INSTALLATION NOTES:
2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADI 1/8" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2"UNLESS OTHERWISE SPECIFIED.
INSTALLATION NOTES:
1. THE MANHOLE FRAME AND COVER SHALL BE MADE OF GRAY CAST IRON CONFORMING TO THE
2. ALL PARTS OF THE MANHOLE FRAME AND COVER EXCEPT MACHINED SURFACES SHALL BE COATED
WITH ASPHALTUM PAINT.
3. THE MANHOLE FRAME AND COVER SHALL BE TESTED FOR ACCURACY OF FIT AND SHALL BE
MARKED IN SETS BEFORE DELIVERY. THE COVER SHALL FIT THE FRAME SNUGLY BUT NOT TIGHTLY.
4. RAISED SURFACES OF LETTERS SHALL BE FLUSH WITH SURFACES OF THE RAISED BLOCK TREAD.
5. ALL RADIUS 1/8" UNLESS OTHERWISE SPECIFIED.
6. DRAFT TO BE 1-1/2" UNLESS OTHERWISE SPECIFIED.
**NOTES:**

1. IN NO CASE SHALL CONNECTION BE MADE DIRECTLY ON TOP OF SEWER MAIN.
2. NO MORE THAN ONE CUT-IN LATERAL CONNECTION WILL BE ALLOWED FOR EACH LENGTH OF VCP SEWER MAIN.
3. LINING SHALL BE CORED THE EXACT DIAMETER OF THE LATERAL. PUBLIC WORKS INSPECTOR SHALL BE ONSITE FOR CORING.
4. LATERAL SHALL BE FLUSH WITH THE LINING MATERIAL AND SHALL NOT PROTRUDE INTO THE MAIN.
5. ADD EPOXY TO UNDERSIDE OF SADDLE CONNECTION, PRIOR TO TIGHTENING BOLTS. MAKE SURE EPOXY IS EVENLY SPREAD AROUND SADDLE MOUNTING FLANGE. FINALLY, APPLY EPOXY INSIDE PVC SADDLE.
6. CITY WILL REQUIRE A CCTV INSPECTION PRIOR TO APPROVAL.

---

### LATERAL CONNECT TO LINED SEWER MAIN

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>☢️</td>
<td>9/20/2021</td>
<td>REV. CALLOUT</td>
</tr>
</tbody>
</table>

---

**CITY OF BEVERLY HILLS, CALIFORNIA**

**DEPARTMENT OF PUBLIC WORKS**

**ENGINEERING DIVISION**

**STANDARD DRAWING** **BH 214**

**RECOMMENDED**

**APPROVED**

**DATE** **10/26/21**

**DATE** **3/30/22**

**SHEET 1 OF 1**
MODIFIED SDR 35 PIPE SECTION

⚠️ WITH SIKADUR 31 EPOXY OR EQUIV

4" (TYP.)

2" MIN. OVERLAP

6"

A

EXISTING SEWER PIPE LINING

EXISTING CONCRETE / VCP SEWER PIPE

STAINLESS STEEL BAND CLAMPS (2 REQ'D)

CONCRETE ENCASEMENT

REMOVE INTERFERING PORTION OF HOST VCP/CONCRETE PIPE

SECTION A-A

6" TOP AND BOTTOM

SEE NOTE 1

6" (TYP.)

EXISTING SEWER PIPE LINING

STAINLESS STEEL BAND CLAMPS (2 REQ'D)

EXISTING CONCRETE / VCP SEWER PIPE (BEYOND)

NOTES:

1. ADD EPOXY TO UNDERSIDE OF SADDLE CONNECTION, PRIOR TO TIGHTENING BOLTS. MAKE SURE EPOXY IS EVENLY SPREAD AROUND SADDLE MOUNTING FLANGE TO PREVENT EPOXY FROM PROTRUDING INTO SEWER MAIN.

2. CITY WILL REQUIRE A CCTV INSPECTION PRIOR TO BACKFILL APPROVAL.

3. POUR CONCRETE ENCASEMENT AFTER INSPECTOR APPROVES ABANDONMENT.

CASE 1 - LINED SEWER MAIN

LATERAL ABANDONMENT

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

APPROVED

DATE 10/26/21
DATE 3/30/22

PROJECT MANAGER

CITY ENGINEER

STANDARD DRAWING
BH 215

MARK DATE DESCRIPTION
⚠️ 9/30/2021 REVISED NOTES

REVISIONS

SHEET 1 OF 2
ELEVATION

NOTES:

1. LATERAL MUST BE APPROVED BY INSPECTOR AS TO CONDITION PRIOR TO PLUGGING.
2. EXISTING LATERAL OPENING SHALL BE FLUSH WITH THE GRIPPER PLUG OR APPROVED EQUAL.
3. POUR ENCASEMENT AFTER INSPECTION OF GRIPPER PLUG IS APPROVED.
4. DEPTH OF ENCASEMENT IS TO BE MINIMUM 6" ABOVE HIGH POINT OF LATERAL.
5. PLUGGED LATERAL WILL REQUIRE CCTV INSPECTION AFTER INSTALLATION.
6. PLUG MUST BE VISIBLE FROM INSIDE OF PIPE DURING CCTV INSPECTION.
7. TRENCH RESTORATION PER BH 114.

CASE 2 - UNLINED VCP/CONCRETE SEWER PIPE

LATERAL ABANDONMENT
NOTES:

1. EXISTING WYE MUST BE APPROVED BY INSPECTOR PRIOR TO BACKFILL, OR ENCASEMENT.
2. DAMAGED WYE/SADDLE MUST BE REPLACED. CONTACT PUBLIC WORKS INSPECTOR FOR DIRECTION.
3. LATERAL MATERIAL MAY BE VCP. SDR 35, OR ABS.
4. WHEN JOINING VCP OR ABS, USE STAINLESS STEEL ADJUSTABLE REPAIR COUPLINGS. THEN FIRMLY TIGHTEN BOLTS TO ENSURE NO LEAKAGE.
5. USE NO. 4 OR SMALLER CRUSHED ROCK, OR SAND FOR BEDDING. REFER TO BH 211 FOR OTHER REQUIREMENTS.
6. TRENCH RESTORATION PER BH 114.

SEWER LATERAL CONNECTION TO EXISTING WYE
Section III

Street Lighting and Traffic Signals
NOTES:
1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #18 AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
4. IF THE *STUB OUT* EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 8" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. FOUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
NOTES:
1. THREE TURNS OF DETECTA-DUCT OR TYPE 2 LOOP WIRE STACKED ONE WIRE ON TOP OF ANOTHER. A PRE-WOUND LOOP WIRE SHALL BE USED IN SLOTS GREATER THAN 1/4" IN WIDTH.
2. LOOP DETECTOR LEAD-IN CABLE EXTENDING FROM THE PULL BOX ADJACENT TO THE LOOP TO THE FIELD TERMINAL IN THE CONTROLLER CABINET SHALL BE TWO, THREE, OR FOUR PAIR #18 AWG INDIVIDUALLY TWISTED, INDIVIDUALLY SHIELDED, FILLED (WATER BLOCKED) CABLE. EACH CABLE SHALL BE IDENTIFIED BY THE INSTALLATION OF A RIGID PLASTIC TAG HELD IN PLACE WITH TWO NYLON TIES.
3. STUB OUT SHALL BE LOCATED AT THE EDGE OF GUTTER IN PAVEMENT, 4" BELOW FINISHED SURFACE OR INSTALL DETECTOR HANDHOLE (CITY OF BH, STANDARD DRAWING BH 402) AS DIRECTED BY CITY ENGINEER.
4. IF THE "STUB OUT" EXCAVATION AREA FOR LOOP HOMERUNS IS GREATER THAN 6" IN DIAMETER, BACKFILL WITH ASPHALT CONCRETE. IF EXCAVATION AREA IS LESS THAN OR EQUAL TO 6" IN DIAMETER, SEAL AREA WITH HOT RUBBERIZED ASPHALT SEALANT.
5. FILL SLOT WITH HOT MELT RUBBERIZED ASPHALT SEALANT IN ACCORDANCE WITH SECTION 86-5.01A OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS. POUR POTS ARE NOT ACCEPTABLE TO APPLY SEALANT.
6. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
7. FRONT LOOP (LOOP 1) SHALL EXTEND INTO CROSSWALK 12" WHERE APPLICABLE.
8. ROUND CORNERS OF ACUTE ANGLE SAWCUTS TO PREVENT DAMAGE TO CONDUCTORS.
NOTES:
1. NON-METALLIC BUSHING SHALL BE USED AT ROADWAY END OF CONDUIT.
2. TAPE WIRE 3" EACH SIDE OF ROADWAY BUSHING.
3. INSTALL DUCT SEAL COMPOUND TO EACH END OF ROADWAY CONDUIT BEFORE INSTALLING EPOXY OR OTHER APPROVED MATERIALS.
4. ROUND ALL SHARP EDGES WHERE WIRE HAS TO PASS.
5. SPLICE DETECTOR CONDUCTORS OR CABLE TO LEAD-IN CABLE FOR RUN TO CONTROLLER CABINET.
6. 2" PVC CONDUIT ENDS SEALED WITH APPROVED COMPOUND AFTER CONDUCTOR INSTALLATION.
7. EXACT LOCATION OF THE DETECTOR HANDHOLE WILL BE DETERMINED BY THE CITY ENGINEER IN THE FIELD.
8. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

TRAFFIC SIGNAL DETECTOR HANDHOLE

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 403

SHEET 1 OF 1
LID
- FIBRELYTE LID, NON-CONCRETE
- ETCHED POLYETHYLENE FACE
- FACE ANCHORED IN CONCRETE
- ULTRA-VIOLET INHIBITOR

BOX
- CHRISTY OR EQUAL

TRAFFIC SIGNAL PULL BOX & LID

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED BY:  [Signature]  DATE: 11/18/11
APPROVED BY:  [Signature]  DATE: 11/18/11

STANDARD DRAWING
BH 404

MARK  DATE  DESCRIPTION

SHEET 1 OF 1
Section IV

General Facilities
NOTES:
1. ALL MARKED CROSSWALKS SHALL HAVE CONTINENTAL MARKINGS UNLESS APPROVED OTHERWISE.
2. MARKED CROSSWALK LOCATIONS CONSISTING OF BRICK PAVERS OR OTHER DECORATIVE PAVING SHALL BE PROVIDED WITH A LIMIT LINE ONLY.
3. SIGNALIZED INTERSECTIONS SHALL BE PROVIDED WITH A MARKED CROSSWALK ACROSS EACH LEG WHERE PEDESTRIANS ARE PERMITTED TO CROSS.
4. CONTINENTAL CROSSWALK MARKINGS SHALL BE ALIGNED PARALLEL TO THE DIRECTION OF VEHICULAR TRAVEL.
5. LIMIT LINES SHALL BE INSTALLED A MINIMUM OF 4 FEET IN ADVANCE OF MARKED CROSSWALKS FOR THE APPROACH LANES AT ALL CONTROLLED CROSSINGS.
6. MARKED CROSSWALKS SHOULD BE A MINIMUM OF 10 FEET IN WIDTH. PLACEMENT OF CONTINENTAL CROSSWALKS SHALL COMPLY WITH ACCESSIBILITY REGULATIONS PER THE MOST RECENT VERSION OF AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
7. THE CROSSWALK BETWEEN A DUAL RAMP CORNER AND A SINGLE RAMP CORNER SHALL BE AT LEAST 10 FEET WIDE AND SATISFY THE MINIMUM OF 2 FEET BEYOND THE FLARE REQUIREMENT FOR THE SINGLE RAMP.
8. CONTINENTAL CROSSWALK BARS SHALL BE UNIFORM WITHIN THE SAME CROSSING. NO PARTIAL BARS SHALL BE INSTALLED.
9. A CROSSWALK BAR SHALL BE CENTERED IN THE MIDDLE OF THE CROSSING.
10. CROSSWALK MARKINGS SHALL BE RETROREFLECTIVITY COMPLIANT AND SKID RESISTANT PER CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA-MUTCD).
11. FOR SCHOOL CROSSING LEGENDS, "SLOW SCHOOL XING" MARKING SHALL BE IN ACCORDANCE WITH CVC21368 AND CA-MUTCD 7C.03.

TYPICAL CONTINENTAL CROSSWALK DETAILS
SPEED HUMP DETAIL

SECTION B-B

EXISTING CURB

TAPER

18"

TYPE D1, PG 70-10

TACK COAT

INSTRUCTION NOTES:

1. SPEED HUMPS SHALL NOT BE PLACED OVER UTILITY COVERS.
2. EDGE OF SPEED HUMP SHALL BE 5 FEET MINIMUM FROM EDGE OF DRIVEWAY.
3. ADVANCE PAVEMENT MARKINGS AND/OR SIGNS AS DIRECTED BY CITY ENGINEER

REVISIONS
MARK DATE DESCRIPTION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 4/6/22
APPROVED DATE 4/25/22

STANDARD DRAWING BH 603
SHEET 1 OF 1
SPECIFICATIONS:

ALL MONUMENT COVERS SHALL BE MADE OF CAST IRON IN ACCORDANCE WITH A.S.T.M STANDARD SPECIFICATIONS A48M-03, CLASS 30, EXCEPT THAT NO TRANSVERSE TEST WILL BE REQUIRED.

ALL MONUMENT COVERS SHALL BE MADE TO THE DIMENSIONS AS SHOWN HEREON, SHALL BE OF UNIFORM THICKNESS AND FREE FROM FLAWS OR DEFECTS. ALL LETTERING SHALL BE RADially PLACED, UNIFORM IN SIZE AND SHALL CONFORM TO THE DIMENSIONS AS SHOWN HEREON WITHOUT FLAWS OR IRREGULAR LETTERING.

NOTES:

1. ALL RADII TO BE 1/16" UNLESS OTHERWISE SPECIFIED.

2. ALL DRAFT TO BE 1-1/2° UNLESS OTHERWISE SPECIFIED.
REAMED INSIDE OF TOP

20"

32"

38"

48"

POST FLANGE SET IN CEMENT GROUT

FINISHED SURFACE

DRILL Ø 1/4" HOLE (ONE SIDE ONLY)

WOODEN WEDGES 1"x3/4"x2" ± LONG TO HOLD POST UPRIGHT

CUT Ø 3-1/4" HOLE IN SIDEWALK

CONCRETE SIDEWALK

CEMENT GROUT

CLEAN OUT DIRT UNDER SIDEWALK APPROX. AS SHOWN

CURB AND GUTTER

SPECIFICATIONS FOR POST:
STEEL PIPE, STANDARD WEIGHT, 2" X 48" LONG, ASTM-A120-63T, NEW AND UNUSED, HOT DIPPED GALVANIZED, TOP REAMED

ADDITIONAL NOTES:
1. POST TO BE LEVEL AND STRAIGHT
2. AREA TO BE LEFT CLEAN
3. CEMENT GROUT - 1 CEMENT : 2-1/2 SAND
4. TOP OF INSTALLED METER COIN/CARD SLOT SHALL NOT EXCEED 48" ABOVE FINISHED GRADE.

PARKING METER POST INSTALLATION - CONCRETE SETTING

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
CIVIL ENGINEERING DIVISION

RECOMMENDED

APPROVED

PUBLIC WORKS DIRECTOR

STANDARD DRAWING
BH 606

REVISIONS
MARK DATE DESCRIPTION

11-18-10

11-18-10

SHEET OF
Section V

Water Pipe Line Installations
WATER NOTES

GENERAL:

1. The contractor shall notify the engineer, fire and police department at least 72 hours prior to shutting down any water mains, fire hydrants or blocking access to any area. Fire hydrants shall not be out of service for more than four hours and none shall be out of service overnight or during weekends.

2. The contractor shall field verify and protect all existing underground utilities. The contractor shall determine the depth of gas, electrical, telephone, television, storm drain, sewer and water at all intersections prior to construction and as noted on the plans. Damaged utilities shall be replaced in kind under the supervision of the owner at contractors expense.

3. Due to individual lot improvements, the existing sewer, gas laterals and/or electrical undergrounding may not be at locations shown or shown in their entirety. The contractor shall exercise caution when excavating.

4. Prior to shut down and cutting of any existing water main, all existing valves shall be exercised by city personnel. The contractor shall notify the city’s department of public works. Water division supervisor at 310 - 285 - 2493 a minimum of four days prior to coordinating the shut down of any water main.

5. For all water system construction, contractor shall contact supervising public works inspector at 310-285-2518.

6. Contractor shall protect in place the existing survey monuments during water main construction, if monuments are destroyed, the contractor shall survey and reset recorded monuments.

DUCTILE IRON PIPE:

6. All D.I.P. water lines and fittings shall be cement lined, double thickness, class 350 (cl 52) pressure class with polyethylene encasement and comply with ANSI A21.51 (AWWA C 151).

7. Static water pressure in vicinity is shown for low and high elevations on the plans. (Refer to top or bottom of sheets).

8. Pipe materials and installation shall be in accordance with the construction documents and the manufacturer’s recommendations.

9. All water mains shall have a minimum cover of 36 inches, except at points of connection to existing water mains. Refer to std. DWG BH-709.

10. The contractor may vary the grade in the alignment of the waterline if field conditions warrant with the approval of the engineer.

11. Pipe deflections shall not exceed 80% of the manufacturer’s recommended allowable deflections for ductile iron pipe and fittings installation.

12. A minimum of 12-inches clearance between the existing utilities and proposed pipelines shall be maintained at crossings. Utilities shall be supported as required by the engineer and in accordance with APWA std. DWG. 224 - 1.

13. The open ends of all abandoned water lines shall be plugged with concrete per std DWG BH 707. The location of the concrete plugs shall be approved by the city engineer in the field.

14. All excavations for the installation of the main line pipe and services, installation of combination air vacuum and air release valves, installation of end of line flush-guts, and abandonment of existing water mains shall be backfilled with a 2-sack cement sand slurry mix. Slurry shall be used within the parkway up to 4 inches below the finished surface.

15. All backfill for the entire project shall be a 2 sack cement slurry mix.

FITTINGS:

16. All fittings and mechanical joints shall be ductile iron unless otherwise noted or directed by the engineer. All restrained joints as shown shall be constructed with restraints (megalug or field-loc gaskets).

17. All ductile iron tees and crosses shall be class 350 flange fittings unless otherwise noted on the plans. All other ductile iron fittings shall be classed 350 with push-on joints unless otherwise noted the plans. Provide fittings with ends that are compatible with mechanical restraints where restrained joints are required.

18. All “standard tee” installations shall be per typical std DWG BH-704, unless shown otherwise on construction plans.

19. The contractor shall furnish all fittings necessary for deviation of pipe alignment not shown on construction plans.

VALVES:

20. All valves shall be butterfly or gate valves. Valve assemblies shall be per typical std DWG BH-704 & BH-706.

21. Butterfly valves shall be placed with operating nut either north or west of the water main.

22. All valves connecting to tees, crosses, and reducers shall have flanged or flanged x push-on ends.

23. No valve shall be located within a gutter or other concrete drainage device, alley gutters, driveway and alley approaches or sidewalks, unless otherwise specifically approved by the city engineer.

24. The contractor shall adjust all valve sleeves to finish grade upon completion of repave;

25. Existing pipe, tees, crosses and other fittings which interfere with the proposed water system improvements shall be removed and disposed of properly or salvaged as directed by the engineer.

26. Existing valves shall be salvaged under the direction of the engineer. Valve cans shall be removed, backfilled and paved over.
CONTRACTOR SHALL CONSTRUCT A COMBINATION AIR/VAC AIR RELEASE VALVE ASSEMBLY PER STANDARD DRAWING BH-717 AT ALL HIGH POINTS IN THE ALIGNMENT, WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS.

28. CONTRACTOR SHALL CONSTRUCT A BLOW-OFF ASSEMBLY PER STANDARD DRAWING BH-718 AT ALL LOW POINTS IN THE ALIGNMENT, WHETHER OR NOT IT IS SHOWN ON THE DRAWINGS.

29. ALL FIRE HYDRANTS, VALVES AND OTHER ASSOCIATED FACILITIES SHALL BE LOCATED IN THE FIELD AS DIRECTED BY THE CITY REPRESENTATIVE, THE LOCATION SHOWN ON THE PLANS ARE APPROXIMATE.

30. REMOVAL OF THE EXISTING FIRE HYDRANTS WILL INCLUDE CUTTING THE FIRE HYDRANT BURY TWO FEET (2'-0") BELOW EXISTING GRADE AND BACKFILLING WITH CONCRETE. SALVAGED FIRE HYDRANTS SHALL BE DELIVERED TO THE CITY OF BEVERLY HILLS WATER DIVISION YARD.

31. FIRE HYDRANT INSTALLATIONS SHALL INCLUDE NEW 6-INCH LATERALS, 6" VALVES WITH 5" x 6" x 6" OR 5" x 5" x 5" TEE PER CITY STANDARD DWG. BH-720 AND BH-721.

32. ALL WATER SERVICES AND FIRE LINES SHALL BE REPLACED FROM THE NEW WATER LINE UP TO THE METER PER STANDARD DRAWINGS BH-713-716, AND AND BH-720.

33. THE CONTRACTOR SHALL LOCATE AND FIELD VERIFY ALL WATER SERVICE CONNECTIONS AND FIRE LINE SERVICES SIZES AND LOCATIONS PRIOR TO COMMENCING WORK ON THE PROJECT.

34. THE CONTRACTOR SHALL REPLACE ALL WATER METER BOXES ALONG THE NEW WATER MAIN DURING CONSTRUCTION WITH BOXES AND COVERS AS DEFINED IN THE CONTRACT SPECIFICATIONS, AND AS APPROVED BY THE CITY ENGINEER.

35. THE CONTRACTOR SHALL POTHOLE ALL TIE-IN CONNECTION LOCATIONS, PRIOR TO CONSTRUCTION TO FIELD VERIFY THE ACTUAL SIZE, DEPTH, AND ROUNDNESS OF THE EXISTING WATER SYSTEM. THE TIE-IN WILL BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.

36. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE UNLESS OTHERWISE SHOWN ON THE CONSTRUCTION PLANS.

37. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS A MINIMUM DISTANCE OF 200 FEET IN ADVANCE OF WATER MAIN TRENCHING TO DETERMINE THE LOCATIONS OF ALL PARALLEL AND CROSSING UTILITIES WITHIN THE ALIGNMENTS OF THE NEW WATER MAIN. PIPE JOINTS SHALL BE DEFLECTED AT A MAXIMUM OF 50% OF THE MANUFACTURER’S RECOMMENDATION TO CLEAR INTERFERENCES WITH KNOWN OBSTRUCTIONS OR OTHER UTILITIES WHICH ARE SHOWN OR NOT SHOWN ON THE PLANS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY INFORMATION GATHERED DEViating FROM THE PLANS SHALL BE CONVEYED TO THE CITY ENGINEER IN WRITING.

38. FAILURE TO COMPLY WITH ANY OF THE ABOVE ITEMS SHALL BE SUFFICIENT CAUSE FOR THE AGENCY TO ARRANGE FOR THE NECESSARY WORK TO BE PERFORMED BY OTHERS. ANY COSTS INCURRED TO COMPLETE THE NECESSARY WORK WILL BE CHARGED TO THE CONTRACTOR.

39. THE CONTRACTOR SHALL RECONNECT ALL EXISTING SERVICES INCLUDING, WATER SERVICE AND FIRE PROTECTION SERVICE CONNECTIONS FROM THE ABANDONED OR REPLACED WATER MAIN TO THE NEW WATER MAIN. THE CONTRACTOR SHALL ALSO PROVIDE ALL REQUIRED TEES, BLIND FLANGES, CAPS, FITTINGS, PIPES, AND RESTRAINED JOINT CONNECTIONS REQUIRED TO RECONNECT ALL SERVICES CONNECTIONS TO THE NEW WATER MAIN PER THE CITY OF BEVERLY HILLS STANDARDS. WATER AND FIRE SERVICE CONNECTIONS HAVE NOT BEEN SHOWN IN DETAIL FOR PLAN CLARITY.

40. AT CONNECTION POINTS, THE CONTRACTOR SHALL CUT THE EXISTING PIPE AND INSTALL FITTINGS, VALVES AND MAKE UP SPOOL PIECES AND JOIN PIPE ENDS WITH TRANSITION COUPLINGS.

41. IF ASBESTOS CEMENT PIPE (ACP) IS LOCATED, DO NOT CUT TO CONNECT. IF ACP IS INTERFERING WITH NEW WORK IDENTIFIED, NOTIFY THE CITY ENGINEER FOR MITIGATION MEASURES, BEFORE NEW WORK BEGINS.

42. CONNECTIONS OR INSTALLATION TO EXISTING WATER MAIN SHALL BE ACCORDING TO TYPICAL STANDARD DRAWINGS BH-719 - BH-722.

43. REFER TO TYPICAL INSTALLATION PIPELINE REPLACEMENT PER STANDARD DRAWING BH-722.

RESTRAINTS/THRUST BLOCKS:

44. RESTRAINING DEVICES SHALL BE INSTALLED ON BOTH SIDES OF ALL FITTINGS, VALVES, PLUGS, DEAD ENDS, AND ON ALL DIRECTION CHANGES. THE REQUIRED RESTRAINED FITTINGS SHALL BE PER STD. DWG. BH-708, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.

45. THRUST BLOCKS SHALL ONLY BE INSTALLED AT LOCATIONS SPECIFICALLY APPROVED BY THE CITY ENGINEER/CITY DESIGNATED REPRESENTATIVE. WHEN APPROVED BY THE CITY ENGINEER, CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED PER THE CITY OF BEVERLY HILLS STANDARD DRAWING BH-708.

46. ALL NEW AND EXISTING WATER MAINS SHALL BE PROPERLY RESTRAINED BY THE CONTRACTOR DURING CONSTRUCTION AND HYDROSTATIC TESTING.

47. ALL FIRE SERVICE CONNECTIONS SHALL BE RESTRAINED.

GENERAL NOTES

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED  DATE 8/21/2020
WATER RESOURCES MANAGER
APPROVED  DATE 12/04/2020
CITY ENGINEER

STANDARD DRAWING
BH-700

SHEET 2 OF 3
(CONTINUED) WATER NOTES

WATER SAMPLING STATIONS:

48. WATER SAMPLING STATIONS SHALL BE PROVIDED BY THE CITY, ALL APPURTENANCES, INCLUDING CONCRETE PAD AND SERVICE LINE TO THE STATION, SHALL BE PROVIDED BY THE CONTRACTOR, FINAL LOCATION OF THE WATER SAMPLING STATION SHALL BE FIELD APPROVED BY THE ENGINEER AND COORDINATED WITH THE CITY OF BEVERLY HILLS.

TESTING/DISINFECTION:

49. THE CONTRACTOR SHALL DEMONSTRATE TO THE ENGINEER THAT ALL WATER MAINS HAVE BEEN RELIEVED OF ENTRAPPED AIR BY HOLDING HYDROSTATIC PRESSURE IN PIPELINES BEING TESTED AT A MINIMUM OF 4 HOURS PER AWWA C600 OR C605.

50. ALL WATER LINE INSTALLATIONS SHALL BE FREE OF DEBRIS AND ORGANIC MATERIALS. THE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED, FLUSHED AND CHLORINATED. CHLORINATING SHALL BE IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH DEPARTMENT, CONSISTING OF NOT LESS THAN 50 PPM INITIAL DOSAGE AND NOT LESS THAN 25 PPM RESIDUAL DOSAGE AFTER 24 HOURS. INSTALLATIONS SHALL BE FLUSHED AND A 48-HOUR BACTI TEST SHALL BE REQUIRED PRIOR TO PRESSURE TESTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BACTERIOLOGICAL TESTING BY A CERTIFIED LABORATORY. THE CONTRACTOR SHALL NOT HAVE CUSTODY OF THE WATER SAMPLES AT ANY TIME. ALL TESTING METHODS AND RESULTS SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO CONNECTING THE NEW WATER MAIN TO THE CITY'S WATER SYSTEM.

51. ALL BACTI AND PRESSURE TESTS SHALL BE APPROVED BY THE CITY REPRESENTATIVE PRIOR TO PLACEMENT OF PERMANENT RESURFACING.

HIGH LINING (BY-PASS):

52. NOT USED.

53. BY-PASS WATER PLANS SHALL BE PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER FOR ALL WATER MAINS TO BE REMOVED AND REPLACED PER PLAN. ALL BYPASS PLANS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND COORDINATED AND APPROVED WITH THE CITY FIRE MARSHALL.

ABANDONMENT:

54. WHERE THE NEW WATER MAIN REPLACES AN EXISTING MAIN, THE EXISTING MAIN SHALL BE ABANDONED IN PLACE (UNLESS NOTED OTHERWISE), AND THE ENDS SHALL BE FILLED WITH 2 FEET MINIMUM OF SLURRY, CAPPED OR PLUGGED PROPERLY AND SECURED WITH CONCRETE PRIOR TO BACKFILLING.


56. REPLACE METER BOXES AS SHOWN PER PLAN OR DIRECTED BY THE CITY OF BEVERLY HILLS PER STANDARD DRAWINGS BH-714 THROUGH BH-716.

SEPARATIONS:

57. ALL WATER MAIN SEPARATIONS SHALL COMPLY WITH THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH GUIDANCE CRITERIA FOR THE SEPARATION OF WATER MAINS AND NON-POTABLE PIPELINES (LATEST EDITION) AND STANDARD DRAWING BH-212.

58. WHEREVER A WATER LINE CROSSES A SEWER LINE, SEPARATION SHALL NOT BE LESS THAN 4 INCHES. WHERE THE SEPARATION IS BETWEEN 4 INCHES AND ONE FOOT, THE CONTRACTOR SHALL INSTALL THE WATER MAIN SO THAT A 20 FOOT SECTION OF PIPE IS CENTERED AT THE SEWER LINE, AND THERE SHALL NOT BE A PIPE JOINT WITHIN 8 FEET, PER STANDARD DRAWING BH-212.


60. WHERE THE NEW WATER MAIN ENCLOSES WITHIN 4 FEET OF AN EXISTING SEWER OUTER DIAMETER, SPECIAL CONSTRUCTION WILL BE REQUIRED BY CONSTRUCTING A CASING PIPE FOR THE NEW WATER MAIN PER BH-212 AND BH-735.

TRENCHING AND BACKFILLING:

61. NO MECHANICAL EQUIPMENT IS PERMITTED TO OPERATE WITHIN THREE FEET OF A GAS LINE AND ANY CLOSER WORK MUST BE DONE BY HAND.

---

GENERAL NOTES

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
</tbody>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: [Signature]
DATE 8/21/2020

APPROVED: [Signature]
DATE 12/04/2020

STANDARD DRAWING BH-700

SHEET 3 OF 3
NOTES:

1. HYDRANT OUTLETS SHALL FACE THE STREET AT 45° OR AS DIRECTED BY THE CITY ENGINEER.

2. FINAL HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.

3. CONNECTION OF THE FIRE HYDRANT TO THE WATER MAIN MAY REQUIRE FITTING AND COUPLINGS NOT SHOWN HEREON. THE CONTRACTOR SHALL PROVIDE AND INSTALL AT NO EXTRA COST.

4. BREAKAWAY BOLTS SHALL BE USED TO INSTALL THE HYDRANT HEAD ON THE BURY.

5. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 708 OR AS DIRECTED BY THE CITY ENGINEER.

6. FIRE HYDRANTS SHALL BE PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.

7. ALL HYDRANT'S WATER OUTLET CAP MATERIAL SHALL BE BRONZE.

8. ALL FITTINGS USED TO CONNECT THE FIRE HYDRANT TO THE WATER MAIN SHALL BE PROPERLY REstrained WITH APPROVED STANDARD METHODS OR AS DIRECTED BY THE CITY ENGINEER.

9. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH TWO SACK SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.

10. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMINous ENAMEL PRIOR TO BACKFILL.

11. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT ASSEMBLY (TYPICAL)
EXISTING WATER MAIN TO REMAIN IN SERVICE

REMOVE INTERFERING PORTIONS OF EXISTING PIPE, VALVES, FITTINGS, ETC. AS REQUIRED

UNDISTURBED SOIL

THRUST BLOCK

FLEXIBLE COUPLING

TEE MJ x FLG OUTLET

FLEXIBLE COUPLING

6" BUTTERFLY VALVE
MJ x FLG OR 6" GATE VALVE PER STANDARD DRAWING BH 706

PROPOSED FIRE HYDRANT OR SERVICE LATERAL. SEE SHEET 1 OF 2 FOR FIRE HYDRANT ASSEMBLY.

NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH 708 OR AS DIRECTED BY THE CITY ENGINEER.

2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.

3. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH TWO SACK SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.

4. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

FIRE HYDRANT LATERAL INSTALLATION
FIRE HYDRANT INSTALLATION
WITH WATER MAIN BEHIND CURB

NOTES:
1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH-708 OR AS DIRECTED BY THE CITY ENGINEER.
2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH BITUMASTIC ENAMEL PRIOR TO BACKFILL.
3. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 8/21/2020
APPROVED DATE 12/04/2020

STANDARD DRAWING
BH-702

SHEET 1 OF 1
JONES NO. J-3775 (6" x 4" x 4" x 2.1/2") WITH 8 BOLT HOLES EQUALLY
SPACED FOR CITY OF BEVERLY HILLS.
JONES NO. J-3775 (6" x 4" x 2.1/2") WITH 8 BOLT HOLES EQUALLY SPACED
FOR CITY OF WEST HOLLYWOOD, ALL BRONZE BODY

NOTES:
1. HYDRANT OUTLETS SHALL FACE THE STREET AT 45-DEGREE OR AS DIRECTED BY THE CITY ENGINEER.
2. FINAL HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.
3. CONNECTION OF THE FIRE HYDRANT TO THE WATER MAIN MAY REQUIRE FITTINGS AND COUPLINGS NOT SHOWN HEREON. THE CONTRACTOR SHALL PROVIDE AND INSTALL AT NO EXTRA COST.
4. BREAKAWAY BOLTS SHALL BE USED TO INSTALL THE HYDRANT HEAD ON THE BURY.
5. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH-708 OR AS DIRECTED BY THE CITY REPRESENTATIVE.
6. FIRE HYDRANTS SHALL BE PAINTED SILVER FOR BEVERLY HILLS OR SAFETY YELLOW FOR WEST HOLLYWOOD.
7. ALL HYDRANTS WATER OUTLET CAP MATERIAL SHALL BE BRONZE.
8. ALL FITTINGS USED TO CONNECT THE FIRE HYDRANT TO THE WATER MAIN SHALL BE PROPERLY RESTRAINED WITH APPROVED STANDARD METHODS OR AS DIRECTED BY THE CITY ENGINEER.
9. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH TWO SACK SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.
10. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH BITUMASTIC ENAMEL PRIOR TO BACKFILL.
11. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.
12. ALL PIPES AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE SLEEVE.
13. ALL NUTS SHALL BE ZINC COATED.

FIRE HYDRANT INSTALLATION - HOT TAP

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 8/21/2020
APPROVED DATE 12/04/2020

STANDARD DRAWING BH-703
SHEET 1 OF 2
NOTES:

1. THRUST BLOCKS SHALL BE PLACED PER STANDARD DRAWING BH-708 OR AS DIRECTED BY THE CITY ENGINEER.

2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH TAR BITUMASTIC ENAMEL PRIOR TO BACKFILL.

3. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH ONE SACK SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.

4. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

5. ALL PIPES AND FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE SLEEVE.
**NOTES:**

1. THRUST BLOCKS PER STANDARD DRAWING NUMBER BH-708 ARE REQUIRED AT ALL PLUGS, TEES, AND ENDS, OR AS DIRECTED BY THE CITY ENGINEER.

2. EXPOSED BOLT AND NUT ASSEMBLIES ON FLEXIBLE COUPLINGS AND/OR MECHANICAL JOINT FITTINGS SHALL BE COATED WITH BITUMASTIC ENAMEL PRIOR TO BACKFILL.

3. ALL PERMANENT PLUGS OR CAPS, PER STANDARD DRAWING NO. BH-707, SHALL BE CAPABLE OF WITHSTANDING A 200 PSI TEST PRESSURE.

4. FINAL FIRE HYDRANT LOCATION TO BE DETERMINED BY THE CITY ENGINEER.

5. REMOVE EXISTING TEE, VALVE, LATERAL, AND FIRE HYDRANT ASSEMBLY IF LOCATION REMAINS THE SAME.

6. TRENCHES WITHIN THE ROADWAY FOR LATERAL INSTALLATIONS OR REMOVALS SHALL BE BACKFILLED WITH TWO SACK SAND SLURRY MIX AS DIRECTED BY THE CITY ENGINEER.

7. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

8. WHEN USING STANDARD PUSH-ON TEES, REGARDLESS OF SIZE, USE FIELD LOCK GASKETS PER CONTRACT SPECIFICATIONS. FOR ALL STANDARD FLANGE TEES, USE ONLY MEGALUG MECHANICAL JOINT RESTRAINTS APPROVED BY THE CITY REPRESENTATIVE.

---

**UPGRADED HYDRANT LATERAL & STANDARD TEE**

**REVISIONS**

<table>
<thead>
<tr>
<th>MARK</th>
<th>DATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
</table>

**CITY OF BEVERLY HILLS, CALIFORNIA**

**DEPARTMENT OF PUBLIC WORKS**

**ENGINEERING DIVISION**

RECOMMENDED: _______________  DATE: _______________

APPROVED: _______________  DATE: _______________

**STANDARD DRAWING**

BH-704

**SHEET 1 OF 1**
12" DEEP ¾" GRAVEL BASE COMPACTED TO 90% R.D.

NOTE:
FOR WATER VAULT BOX AND LID, SEE STD. DWG. BH-710.

3" & LARGER WATER SERVICE WITH 4" BY-PASS
CONSTRUCTION NOTES:

1. D.I. PIPE TO MATCH METER SIZE (4" MIN.)
2. 4" X 3" D.I. REDUCER (FOR 3" SERVICE ONLY).
3. METER SIZE D.I. FLANGED TEE 4" MIN.
4. 4" D.I. FLANGED GATE VALVE WITH HAND WHEEL.
5. METER (GALLONS). METER TYPE AND BRAND TO BE DETERMINED BY THE CITY ENGINEER.
6. METER SIZE D.I. SPOOL PIPE, PE X PE 3" MIN.
7. 4" FLG x MJ ADAPTOR.
8. 4" DIP FLANGED 90-DEGREE BEND.
9. STAINLESS STEEL TAPPING SLEEVE AND VALVE PER BH-703, MAIN SIZE 4" MIN.
10. MEGALUG RETAINER GLAND 4" MIN.
11. METER SIZE MEGALUG RETAINER GLAND.
12. METER SIZE D.I. FLANGED COUPLING ADAPTER.
13. 2" MUELLER MODEL CORPORATION STOP (MODEL NO. B-20046, MIP x FIP).
PROVIDE HEAVY DUTY CAST IRON VALVE BOX CAP.
WESTERN WATER WORKS SUPPLY COMPANY, 8" I.D.
NO. 84 OR APPROVED EQUAL, MARKED AS
INDICATED, PAINT AS INDICATED

<table>
<thead>
<tr>
<th>VALVE TYPE</th>
<th>PAINT COLOR: (VALVE LOCATED IN IN BEVERLY HILLS)</th>
<th>PAINT COLOR: (VALVE LOCATED IN IN W. HOLLYWOOD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER MAIN ISOLATION VALVE</td>
<td>YELLOW</td>
<td>YELLOW</td>
</tr>
<tr>
<td>FIRE HYDRANT BRANCH VALVE</td>
<td>SILVER</td>
<td>YELLOW</td>
</tr>
<tr>
<td>ZONE VALVE</td>
<td>RED</td>
<td>YELLOW</td>
</tr>
</tbody>
</table>

NOTES:
1. VALVE OPERATORS SHALL BE A NON-TRAVELING NUT TYPE AND HAVE 2-INCH OPERATING NUTS.
2. SURFACE CONDITIONS SHALL BE RESTORED TO THE SATISFACTION OF THE CITY ENGINEER.

16 GAGE SPLIT GALVANIZED STEEL EXTENSION SLEEVE

8" SCH 80 PVC STANDPIPE LOWER SLEEVE 1/8" MINIMUM THICKNESS, ASPHALT COATED TO PROVIDE 4" TO 6" OVERLAP (SLIP FIT)

FOR FIRE HYDRANT USE 6" BUTTERFLY VALVE OR GATE VALVE MJ x FLG

VALVE BOX DETAIL
HUB-END OR RING-TITE FITTING OR VALVE

FLANGED FITTING OR VALVE

DUCTILE OR CAST IRON MAIN

STEEL MAIN

NOTES:
1. CONCRETE SHALL BE 3000 P.S.I.
2. POUR CONCRETE THRUST BLOCKS AGAINST UNDISTURBED SOIL.
3. REMOVE INTERFERING PORTIONS OF MAIN TO BE ABANDONED.
4. USE STEEL ANCHOR RODS OR STRAPS ONLY WHERE PERMITTED BY THE ENGINEER.
5. USE BRACE PIPE CLAMP ONLY WHERE PERMITTED BY THE ENGINEER.
6. SEE BH-708 FOR THRUST BLOCK DIMENSIONS.

TYPICAL CAPS AND PLUGS
HORIZONTAL BENDS

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZE (INCHES)</th>
<th>TEST PRESSURE (P.S.I.)</th>
<th>DEAD ENDS AND TEES</th>
<th>BENDS LESS THAN OR EQUAL TO ANGLE:</th>
<th>ALL BENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>11 - 1/4°</td>
<td>22 - 1/2°</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
<td>2'-6&quot; 1'-6&quot; 6&quot;</td>
<td>1'-0&quot;</td>
<td>1'-0&quot;</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>4'-6&quot; 1'-6&quot; 8&quot;</td>
<td>1'-6&quot;</td>
<td>1'-0&quot;</td>
</tr>
<tr>
<td>10</td>
<td>200</td>
<td>5'-6&quot; 2'-0&quot; 10&quot;</td>
<td>2'-0&quot;</td>
<td>1'-0&quot;</td>
</tr>
<tr>
<td>12</td>
<td>200</td>
<td>7'-0&quot; 2'-0&quot; 1'-0&quot;</td>
<td>2'-0&quot;</td>
<td>1'-6&quot;</td>
</tr>
</tbody>
</table>

VERTICAL BENDS

<table>
<thead>
<tr>
<th>NOMINAL PIPE SIZE (INCHES)</th>
<th>TEST PRESSURE (P.S.I.)</th>
<th>BENDS LESS THAN OR EQUAL TO ANGLE:</th>
<th>ALL BENDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>11 - 1/4°</td>
<td>22 - 1/2°</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
<td>1'-6&quot; 3'-0&quot; 1'-0&quot;</td>
<td>2'-0&quot;</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>2'-0&quot; 4'-0&quot; 1'-0&quot;</td>
<td>2'-6&quot;</td>
</tr>
<tr>
<td>10</td>
<td>200</td>
<td>2'-0&quot; 4'-6&quot; 1'-0&quot;</td>
<td>3'-0&quot;</td>
</tr>
<tr>
<td>12</td>
<td>200</td>
<td>2'-0&quot; 5'-0&quot; 1'-0&quot;</td>
<td>3'-6&quot;</td>
</tr>
</tbody>
</table>

CONCRETE THRUST BLOCK SCHEDULE

NOTES:

1. THRUST BLOCK SIZES ARE BASED ON A BEARING CAPACITY OF 1500 P.S.F., WITH A MINIMUM SOIL COVER OF 3'-0". IF SOIL COVER IS LESS THAN 3'-0", MULTIPLY BEARING AREA BY A FACTOR OF 1.5 FOR SOIL COVER OF 2'-0" TO 3'-0", OR BY A FACTOR OF 3 FOR SOIL COVER OF 1'-0" TO 2'-0".

2. DIMENSIONS SHOWN REFER TO THRUST BLOCK TYPES SHOWN IN DETAIL AND ARE MINIMUM VALUES ONLY.

3. CONCRETE MIX SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR 3000 LBS. STRENGTH AT 28 DAYS WHEN TESTED IS ACCORDANCE WITH ASTM 039.

4. ALL THRUST BLOCKS SHALL BE POURLED SOLIDLY AGAINST FIRM, UNDISTURBED SOIL.

5. IF SOILS HAVE BEEN PREVIOUSLY EXCAVATED AND BACKFILLED, CONTRACTOR SHALL NOTIFY THE CITY ENGINEER, WHO MAY DIRECT THAT THE DIMENSIONS SHOWN SHALL BE INCREASED BY A FACTOR OF 1.5.

6. CONCRETE POURED AGAINST PIPE FITTINGS SHALL NOT EXTEND BEYOND THE FITTING JOINTS WITHOUT THE APPROVAL OF THE CITY ENGINEER.

7. THRUST REACTION BACKING TYPE (SEE DRAWING) SHALL BE AS DIRECTED BY THE CITY ENGINEER.

CONCRETE THRUST BLOCKS

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: SHEET 1 OF 4
DATE 8/21/2020
STANDARD DRAWING BH-708
APPROVED: CITY ENGINEER
DATE 12/04/2020
MARK DATE DESCRIPTION
3/4" ANCHOR ROD / FIELD LOCK GASKET

TEE

3/4" ANCHOR ROD / FIELD LOCK GASKET

CROSS

3/4" ANCHOR ROD / FIELD LOCK GASKET

90 DEGREE ELBOW

3/4" ANCHOR ROD / FIELD LOCK GASKET

GATE VALVE

FOR AREA ON SIDE FACES, USE VALVES REQUIRED FOR TEES

NOTES:

1. CONCRETE FOR THRUST BLOCK TO BE 3000 P.S.I.
2. MINIMUM RESTRAINED JOINT LENGTH OF 40 FEET EACH WAY WITH FIELD LOCK GASKET AND RODS.

CONCRETE THRUST BLOCKS
CONCRETE THRUST BLOCKS

NOTES:

1. SEE STANDARD DRAWING NO. BH-708, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.
2. MINIMUM RESTRAINED JOINT LENGTH OF 40 FEET. EACH WAY WITH FIELD LOCK GASKET AND RODS.
MAKE BLOCK FULL WIDTH OF TRENCH

TYPE V

SECTION L

TYPE VI

NOTES:
1. SEE STANDARD DRAWING NO. BH-708, SHT. 1 FOR THRUST BLOCK SCHEDULE AND NOTES.
2. MINIMUM RESTRAINED JOINT LENGTH OF 40 FEET. EACH WAY WITH FIELD LOCK GASKET AND RODS.

CONCRETE THRUST BLOCKS
NOTES:

1. WHEN TRENCH WORK CANNOT BE COMPLETED WITHIN THE SAME WORKING DAY, SEE BEVERLY HILLS STANDARD DRAWING BH-113 FOR STEEL PLATE PLACEMENT.

2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK").
W-100 SERIES
2'-0" x 3'-0" UTILITY BOX WITH 4" WALLS

MINIMUM EXCAVATION SIZE:
3'-2" x 4'-2" x DEPTH REQUIRED.

100 SERIES METER BOX - 4" & 6" FIRE SERVICE
No. 200-T TOP SECTION
WT. 300 LBS.

6" 51 5/8" 24"

No. 200 EXTENSION SECTION
WT. 330 LBS.

6" 48" 30"

No. 200 LOWER SECTION
WT. 1674 LBS.

56" 38" 27"

END WALL KNOCKOUTS (FOR PIPE)

10" 1" 4"

W-200 SERIES
2'-6" x 4'-0" UTILITY BOX WITH 4" WALLS

MINIMUM EXCAVATION SIZE:
3'-8" x 5'-2" x DEPTH REQUIRED.

200 SERIES METER BOX - 4" & 6" DOMESTIC SERVICE

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 8/21/2020
WATER RESOURCES MANAGER

APPROVED
DATE 12/04/2020
CIVIL ENGINEER

STANDARD DRAWING
BH-710
SHEET 4 OF 16
WATER METER BOX FOR 1" AND 1 1/2" SERVICE

No. 38 MB - BODY
WT. 128 lbs.

No. 38 MB - EXTENSION
WT. 128 lbs.

*NON-TRAFFIC RATED
WATER METER BOX LID 1" AND 1 1/2" SERVICE

<table>
<thead>
<tr>
<th>REVISIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARK</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: [Signature]
DATE: 8/21/2020
WATER RESOURCES MANAGER

APPROVED: [Signature]
DATE: 12/04/2020
CITY ENGINEER

STANDARD DRAWING
BH-710
SHEET 8 OF 16
No. 65 MB - BODY
WT. 159 lbs.

No. 65 MB - EXTENSION
WT. 159 lbs.

*NON-TRAFFIC RATED
WATER METER LID - 1 1/2" & 2" SERVICE

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

BH-710

RECOMMENDED: DATE 8/21/2020
APPROVED: DATE 12/04/2020
TRAFFIC BOX
REINFORCED CONCRETE
H-20 LOADING
166 lbs.

EXTENSION
REINFORCED CONCRETE
H-20 LOADING
163 lbs.
(AS REQUIRED IN FIELD)

NOTES:
1. FOLLOW CALTRANS No. 5T STATE SPECIFICATIONS.
   *TRAFFIC RATED

13" x 24" WATER METER BOX - H/20 LOADING
13" x 24" METER BOX LID - H/20 LOADING

MATERIALS

1. 1/2" DIAMOND CHECKER PLATE
2. 1/4" x 1-1/2" STEEL FLAT STOCK
3. 3/4" x 1/2" STEEL FLAT STOCK
4. 3/8" - 16 STEEL NUT
5. 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6. SURFACE AROUND WELD TO BE FLAT
7. USE BH-710 SHT 15 OR 16 FOR INSTALLATION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 8/21/2020
APPROVED
DATE 12/04/2020

STANDARD DRAWING
BH 710
SHEET 12 OF 16
BOX
REINFORCED CONCRETE
H-20 LOADING
268 lbs.

EXTENSION
REINFORCED CONCRETE
H-20 LOADING
250 lbs.
(AS REQUIRED IN FIELD)

NOTES:
1. FOLLOW CALTRANS No. 6T STATE SPECIFICATIONS.
   *TRAFFIC RATED

17" x 30" WATER METER BOX - H/20 LOADING
17" x 30" METER BOX LID - H/20 LOADING

MATERIALS

1. 1/2" DIAMOND CHECKER PLATE
2. 1/4" x 1-1/2" STEEL FLAT STOCK
3. 3/4" x 1/2" STEEL FLAT STOCK
4. 3/8" - 16 STEEL NUT
5. 3/16" THICK WASHER TO BE WELDED PER ASTM A-706
6. SURFACE AROUND WELD TO BE FLAT
7. USE BH 710 SHT. 15 OR 16 FOR INSTALLATION

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 8/21/2020

APPROVED
DATE 12/04/2020

STANDARD DRAWING
BH 710
SHEET 14 OF 16
7 X 13 X 1 POLYMER CONCRETE LID

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

STANDARD DRAWING
BH-710

RECOMMENDED DATE 8/21/2020
APPROVED DATE 12/04/2020

MARK DATE DESCRIPTION

---

PILOT HOLE (2X) ON BACK OF COVER

BOLTDOWN (2X)
1"Ø X 9/16" RECESS W/ 1/2"Ø HOLE

CUSTOMER LOGO

ALCLARA STAR UNIT LOCATION (UNIT NOT SUPPLIED)

NON SKID SURFACE

WATER METER

END VIEW

PLAN VIEW

BOTTOM VIEW

POLYMER CONCRETE COVER

BOLTDOWN (2X)

APPROX. WT. = 7 LBS.

1"

1"

1 1/2"

1 1/2"

1 1/2"

1 1/2"
ADJUSTABLE PIPE SUPPORT
APPROXIMATE DIMENSIONS IN INCHES

<table>
<thead>
<tr>
<th>PIPE SIZE</th>
<th>'A'</th>
<th>'B'</th>
<th>'C'</th>
<th>'D' MINIMUM</th>
<th>'D' MAXIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2</td>
<td>2-1/2</td>
<td>1-1/2</td>
<td>9</td>
<td>8</td>
<td>11-1/2</td>
</tr>
<tr>
<td>3</td>
<td>2-1/2</td>
<td>1-1/2</td>
<td>9</td>
<td>8-1/2</td>
<td>11-3/4</td>
</tr>
<tr>
<td>3-1/2</td>
<td>2-1/2</td>
<td>1-1/2</td>
<td>9</td>
<td>8-1/2</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>* 2-1/2</td>
<td>9</td>
<td>10-1/4</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>* 2-1/2</td>
<td>9</td>
<td>11-5/8</td>
<td>15-1/4</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>* 2-1/2</td>
<td>9</td>
<td>13-5/8</td>
<td>16-1/2</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>* 2-1/2</td>
<td>9</td>
<td>14-5/8</td>
<td>18-1/4</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>* 2-1/2</td>
<td>9</td>
<td>15-5/8</td>
<td>19-3/4</td>
</tr>
<tr>
<td>14</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>18-7/8</td>
<td>20-3/4</td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>19-7/8</td>
<td>22-1/4</td>
</tr>
<tr>
<td>18</td>
<td>6</td>
<td>3-1/2</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
</tbody>
</table>

* DENOTES REFERENCE TO MANUFACTURER
SINGLE SERVICE PLAN

TRAFFIC RATED (H20-44 Loading) STEEL COVER USE BH-710 SHT. 12 WITH SHT. 15

SAWCUT AC PAVEMENT

BOLT DOWN HOLE

SAWCUT AND REPLACE FULL DEPTH AC PAVEMENT FOR METER BOX REPLACEMENT

EXISTING CONCRETE COLLAR TO BE PROTECTED IN PLACE OR REPLACED IN KIND

SEE DETAIL "A"

EXISTING METER BOX TO BE PROTECTED IN PLACE OR REPLACED IN KIND USE BH-710 SHT 11. (TYPICAL FOR ALL SERVICES)

POINT OF CONNECTION JOIN CUSTOMER SERVICE AS REQUIRED

GRVEL BOTTOM REMOVE EXISTING WATER METER AND INSTALL NEW NEPTUNE T-10 METER

INSTALL 1" MUELLER COPPER FITTING

RISER TO BE 1" COPPER TUBING TYPE K

1" CORPORATION STOP, MUELLER

NEW DIP WATERLINE PER PLAN

1" DOUBLE STRAP BRONZE SADDLE MUELLER BR2B SERIES

DETAIL "A"

ELEVATION

nts

SHORT SERVICE

TRAFFIC RATED

1" AND 1 1/2" WATER SERVICE CONNECTION SHORT TR

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

WATER RESOURCES MANAGER

DATE 8/21/2020

APPROVED

CITY ENGINEER

DATE 12/04/2020
NOTES: FOR SHORT/LONG SERVICES

1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS, SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.

2. NEW SERVICES WILL NOT BE SPLICED WHEN DAMAGED, SERVICES WILL BE RENEWED.

3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWING NO. BH-710 SHEET 11 AS DIRECTED BY CITY’S FIELD REPRESENTATIVE, INSTALLATION OF NEW METER BOX SHALL INCLUDE A 6” WIDE CONCRETE COLLAR AROUND THE METER BOX (SEE DETAIL "A"). ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.

1" AND 1 1/2" WATER SERVICE CONNECTION LONG TR
SINGLE SERVICE PLAN

EXISTING METER BOX TO BE PROTECTED IN PLACE OR REPLACED IN KIND USE BH-710 SHT 7. (TYPICAL FOR ALL SERVICES)

1" ANGLE METER STOP WITH LOCK WING MUELLER

4" CONCRETE SIDEWALK OR GRASS PARKWAY

1' TO 3' AND VAR. (SEE PLANS)

POINT OF CONNECTION, JOIN CUSTOMER SERVICE AS REQUIRED

GRAVEL BOTTOM

REMOVE EXISTING WATER METER AND INSTALL NEW NEPTUNE T-10 METER

INSTALL 1" MUELLER COPPER FITTING

RISER TO BE 1" COPPER TUBING, TYPE K

1" CORPORATION STOP, MUELLER

1" DOUBLE STRAP BRONZE SADDLE MUELLER BR2B SERIES

NEW DIP WATERLINE PER PLAN

ELEVATION

SHORT SERVICE
NON-TRAFFIC RATED

1" AND 1 1/2" WATER SERVICE CONNECTION SHORT

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED

DATE 8/21/2020

APPROVED

DATE 12/04/2020

STANDARD DRAWING
BH-714

SHEET 1 OF 2
NOTES: FOR SHORT/LONG SERVICE

1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS, SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.
2. NEW SERVICES WILL NOT BE SPliced WHEN DAMAGED, SERVICE WILL BE RENEwed.
3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWING NO. BH-710 SHEET 7 AS DIRECTED BY THE CITY’S FIELD REPRESENTATIVE. ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.
TRAFFIC RATED (H=20-44 LOADING)
STEEL COVER
USE BH-710 SHT,
14 WITH SHT. 15

SAWCUT AC
PAVEMENT

BOLT DOWN HOLE

1" TO 3" AND VAR.
(SEE PLANS)

2" ANGLE METER STOP
WITH LOCK WING MUELLER

EXISTING PAVEMENT

SAWCUT AND REPLACE FULL
DEPTH AC PAVEMENT FOR METER
BOX REPLACEMENT

EXISTING CONCRETE COLLAR TO
BE PROTECTED IN PLACE OR
REPLACED IN KIND

SEE DETAIL "A"

45°

2" COPPER TUBING,
TYPE K

2" CORPORATION STOP,
MUELLER B-25028

DOUBLE STRAP BRONZE SADDLE,
MUELLER BR28 SERIES

NEW DIP WATERLINE
PER PLAN

2" GRAY CONCRETE PIPE
WITH LOCK WING MUELLER

EXISTING METER BOX TO BE
PROTECTED IN PLACE OR
REPLACED IN KIND USE
BH-710 SHT 13. (TYPICAL
FOR ALL SERVICES)

GRAVEL BOTTOM
REMOVE EXISTING WATER METER AND INSTALL
NEW NEPTUNE T-10 METER

2"x3" LONG BRASS NIPPLE INSTALL
2"x1-1/2" REDUCER FOR 1-1/2" METERS

ELEVATION
NTS

SHORT SERVICE
TRAFFIC RATED

2" WATER SERVICE CONNECTION SHORT TR

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 8/21/2020
WATER RESOURCES MANAGER

APPROVED DATE 12/04/2020
CITY ENGINEER

STANDARD DRAWING
BH-715

SHEET 1 OF 2
2" WATER SERVICE CONNECTION LONG TR

NOTES: FOR SHORT/LONG SERVICE

1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.

2. NEW SERVICES WILL NOT BE SPLICED WHEN DAMAGED, SERVICE WILL BE RENEWED.

3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWING BH-710 SHEET 13, AS DIRECTED BY THE CITY'S FIELD REPRESENTATIVE. INSTALLATION OF NEW METER BOX SHALL INCLUDE A 6" WIDE BY 6" DEEP CONCRETE COLLAR AROUND METER BOX (SEE DETAIL "A"). ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.

4. IF REQUIRED, THE CITY WILL SUPPLY A 1-1/2-INCH SERVICE METER.
SINGLE SERVICE PLAN

USE BH-710 SHT. 10

LIFT HOLE

EXISTING METER BOX TO BE PROTECTED IN PLACE OR REPLACED IN KIND USE BH-710 SHT 9. (TYPICAL FOR ALL SERVICES)

POINT OF CONNECTION, JOIN CUSTOMER SERVICE AS REQUIRED

4" CONCRETE SIDEWALK OR GRASS PARKWAY

1" TO 3" AND VAR. (SEE PLANS)

2" ANGLE METER STOP WITH LOCK WING MUELLER

42" MIN.

45"

2" COPPER TUBING, TYPE K

2" CORPORATION STOP, MUELLER B-25028

2" DOUBLE STRAP BRONZE SADDLE, MUELLER BR2B SERIES

NEW DIP WATERLINE PER PLAN

ELEVATION

NTS

SHORT SERVICE
NON-TRAFFIC RATED

2" WATER SERVICE CONNECTION SHORT

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
WATER RESOURCES MANAGER DATE 8/21/2020

APPROVED
CITY ENGINEER DATE 12/04/2020

STANDARD DRAWING BH-716 SHEET 1 OF 2
NOTES: FOR SHORT/LONG SERVICE
1. MATERIALS AND INSTALLATION SHALL CONFORM WITH THE APPLICABLE SECTIONS OF THE CITY OF BEVERLY HILLS SPECIFICATIONS FOR DOMESTIC WATER SYSTEMS.
2. NEW SERVICES WILL NOT BE SPLICED WHEN DAMAGED, SERVICE WILL BE RENEWED.
3. EXISTING OR DAMAGED METER BOXES SHALL BE REPLACED PER CITY STANDARD DRAWING BH-710 SHEET 8, AS DIRECTED BY THE CITY'S FIELD REPRESENTATIVE. ALL ASPHALT REPLACEMENT SHALL BE NEATLY SAWCUT.

2" WATER SERVICE CONNECTION LONG

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 8/21/2020

APPROVED
DATE 12/04/2020

STANDARD DRAWING
BH-716
SHEET 2 OF 2
CONSTRUCTION NOTES:

1. 1" AIR-VAC COMBO
2. 1"x1"x1" BRASS TEE
3. 1" x 3/4" BRASS BUSHING
4. 3/4" BRASS BALL VALVE
5. 3/4" x BRASS CLOSED NIPPLE
6. 3/4"-90° ELBOW
7. 1" BRASS BALL VALVE
8. 1" x DESIRED HEIGHT BRASS NIPPLE
9. REMOVABLE PLUG

1" COPPER TUBING, TYPE K

1" CORP. STOP, MUELLER

SLOPE= 3/8

NEW DIP WATER MAIN

1" DOUBLE STRAP BRONZE SADDLE, MUELLER BR2B SERIES

SCREEN END OF 1/2" NIPPLE WITH SS INSECT SCREEN & SS BAND, McMaster-Carr #9877K514

12" CEDE CO #12 12-3/4" X 18" (RED PRIMER) COVER

1" STRAIGHT COUPLING, MUELLER H15428

GROUND SURFACE

FINISHED GRADE
1" AIR-VAC FOR MAIN

LIST OF FITTINGS

A 1" AIR RELEASE VALVE, APCO NO. 140C.
B PIPELINE PRODUCT 6" O.D. x 24" HEIGHT WITH DOOR PART #RMCH0636 STEEL PIPE.
C 1" CORPORATION STOP, MUELLER.
D 1" EXTRA STRONG COPPER NIPPLE, 2" LONG.
E 1" COUPLING COMP xFIP.
F 1"-90° ELBOW SLIP x SLIP.
G 3-2" x 2" x 1/4" x 1/2" ANGLE WITH 3/8" BOLTS, GALVANIZED.
H 1" TYPE "K" COPPER TUBING
I 1" BRONZE SADDLE, DOUBLE STRAP.
J 1" BRONZE BALL VALVE.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: 
WATER RESOURCES MANAGER
DATE 8/21/2020

APPROVED: 
CITY ENGINEER
DATE 12/04/2020

STANDARD DRAWING
BH-717
SHEET 2 OF 2
CONSTRUCTION NOTES:

1. 2" AIR-VAC COMBO WHARF HEAD.
2. 2" BRASS PPE.
3. 2"-30° STANDARD BRASS ELBOW SLIP x I.P.T.
4. 2" COPPER SLIP x I.P.T. ADAPTOR.
5. 2" COPPER TUBING (TYPE K-HARD).
6. 2" STAINLESS STEEL BALL VALVE.
7. 2" BRASS NIPPLE.
8. CONCRETE VAULT & COVER PER BH-710.

2" BLOW-OFF ASSEMBLY (WHARF HEAD TYPE)
FIRE SERVICE TEE: CASE "C" TYP. INSTALLATION

REVISIONS

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED
DATE 8/21/2020
WATER RESOURCES MANAGER

APPROVED
DATE 12/04/2020
CITY ENGINEER

STANDARD DRAWING
BH-720
SHEET 1 OF 1
12" x 12" x 8" TEE
CASE "D"

NEW 12-INCH DIP
INSTALL 2-12" MJ x FLG BUTTERFLY VALVE WITH RESTRAINTS

NEW 12-INCH DIP
INSTALL 8" MJ x FLG GATE VALVE WITH RESTRAINTS

NEW 12-INCH DIP
INSTALL NEW 12" x 12" x 8" FLG DIP TEE

NEW 8"-INCH DIP

12-INCH DIP CROSS
CASE "E"

NEW 12-INCH DIP
INSTALL 3-12" MJ x FLG BUTTERFLY VALVES WITH RESTRAINTS (TYPICAL)

NEW 12-INCH DIP 45° MJxMJ BENDS WITH RESTRAINED JOINTS
INSTALL NEW 12-INCH FLG DIP CROSSING

NEW 12-INCH DIP
INSTALL 8" MJ x FLG GATE VALVES WITH RESTRAINTS

NEW 12-INCH DIP
NEW 12-INCH DIP
NEW 12-INCH DIP

NEW 12-INCH DIP
NEW 12-INCH DIP
NEW 8"-INCH DIP
NEW 12-INCH DIP
NEW 8"-INCH DIP

TYPICAL INSTALLATIONS: CASE "D" AND "E"
CONNECTIONS TO EXISTING AND PROPOSED WATER CASE "F" 

NEW 8-INCH DIP 11.25° MJ x MJ BENDS WITH RESTRAINED JOINTS 
DIP SPOOL PE x PE LENGTHEN AS REQUIRED 

EXISTING 4-INCH CAST IRON PIPE/DIP 
TO BE CAPPED AND ABANDONED PER THE CITY STANDARD BH-707 

CUT AND REMOVE PORTION OF EXISTING DIP 

NEW 8-INCH DIP 11.25° MJ x MJ BENDS WITH RESTRAINED JOINTS 
5 MIN.

INSTALL 4" MIN. DIP SPOOL PE x PE 

INSTALL COMPRESSION COUPLING WITH RESTRAINED JOINTS DRESSER, ROMAC, OR EQUIVALENT 
EXISTING 8" x 4" DI REDUCER TO BE REMOVED, CONTRACTOR TO POTHOLE AND FIELD VERIFY LOCATION 

EXISTING 8-INCH DUCTILE IRON PIPE 
EXISTING 8-INCH DIP FITTING 

TYPICAL INSTALLATION PIPELINE REPLACEMENT 

CITY OF BEVERLY HILLS, CALIFORNIA 
DEPARTMENT OF PUBLIC WORKS 
ENGINEERING DIVISION 

RECOMMENDED DATE 8/21/2020
APPROVED DATE 12/04/2020

STANDARD DRAWING BH-722
SAMPLE STATION BAC-T ASSEMBLY

NOTES:
1. THE NEW LOCATION OF BAC-T SYSTEM AND BOLLARDS SHALL BE DETERMINED BY THE CITY REPRESENTATIVE.

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED: Vern D'Amore

APPROVED: Jon Espinosa

STANDARD DRAWING

BH-723
NOTES:

1. ALL FITTINGS SHALL BE RESTRAINED WITH MEGALUGS.
2. LENGTH SHALL BE DETERMINED BY NEXT EXISTING JOINT.
3. LENGTH, DEPTH, AND HEIGHT SHALL BE FIELD DETERMINED.
4. APPLY BITUMASTIC ENAMEL COATING TO ALL NUTS AND BOLTS.
5. BACKFILL SHALL BE 90% RELATIVE COMPACTION AND CONFORM TO SPECIFICATIONS.
6. AIR RELEASE VALVES ON OVERCROSSINGS ARE REQUIRED, AND SHALL CONFORM TO DETAIL BH-717, SHEET 2 OF 2, UNLESS OTHERWISE INDICATED.

OVERCROSSING (TYPICAL)
NOTES:
1. INSTALL ONE BOND ON TOP OF EACH PIPE FOR EACH JOINT.
2. PIPE JOINT CONFIGURATION IS SCHEMATIC ONLY.

PUSH-ON OR MECHANICAL JOINT DIP
NOTES:
1. ALL FITTINGS SHALL BE RESTRAINED WITH MEGALUGS.
2. OVERALL LENGTH SHALL BE DETERMINED BY NEXT EXISTING JOINT.
3. LENGTH, DEPTH, AND HEIGHT SHALL BE FIELD DETERMINED.
4. APPLY BITUMASTIC ENAMEL COATING TO ALL NUTS AND BOLTS.
5. BACKFILL SHALL BE 90% RELATIVE COMPACTION AND CONFORM TO SPECIFICATIONS.
6. BLOW OFF VALVES ON UNDERCROSSEINGS ARE REQUIRED, SEE BH-718.

UNDERCROSSING
FLANGED COUPLING
ADAPTER BONDING DETAIL
N.T.S.

FLANGED JOINT BONDING DETAIL
N.T.S.

JOINT BONDING FOR DUCTILE IRON PIPE: FLANGED JOINT
SECTIONAL VIEW

PLAN VIEW

BACKFLOW PREVENTION OR FIRE SPRINKLER SERVICE

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>D.A. LENGTH (A)</th>
<th>MIN. / MAX. FLOW</th>
<th>WILKINS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/2&quot;</td>
<td>20-1/8&quot;</td>
<td>75 - 224 GPM</td>
<td>MODEL 375ADA</td>
</tr>
<tr>
<td>3&quot;</td>
<td>20-1/8&quot;</td>
<td>115 - 346 GPM</td>
<td>MODEL 375ADA</td>
</tr>
<tr>
<td>4&quot;</td>
<td>19-7/8&quot;</td>
<td>198 - 595 GPM</td>
<td>MODEL 375ADA</td>
</tr>
<tr>
<td>6&quot;</td>
<td>25-7/8&quot;</td>
<td>450 - 1351 GPM</td>
<td>MODEL 375ADA</td>
</tr>
<tr>
<td>8&quot;</td>
<td>38-1/2&quot;</td>
<td>780 - 2339 GPM</td>
<td>MODEL 375ADA</td>
</tr>
<tr>
<td>10&quot;</td>
<td>38-1/2&quot;</td>
<td>1229 - 3667 GPM</td>
<td>MODEL 375ADA</td>
</tr>
</tbody>
</table>

NOTE:
ALL ABOVE GROUND PIPING & VALVES SHALL RECEIVE ONE COAT RUSTOLIUM PRIMER AND TWO FINISHING COATS OF ENAMEL PAINT (COLOR SHALL BE DETERMINED BY THE CITY OF BEVERLY HILLS.)

OR USC BACKFLOW FOUNDATION APPROVED DEVICES
## LARGE IRRIGATION SERVICE BACKFLOW PREVENTER

### PLAN VIEW

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>LENGTH (A)</th>
<th>MIN. / MAX. FLOW</th>
<th>WILKINS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-1/12&quot;</td>
<td>15-7/8&quot;</td>
<td>75 - 224 GPM</td>
<td>MODEL 375 (*)</td>
</tr>
<tr>
<td>3&quot;</td>
<td>15-7/6&quot;</td>
<td>115 - 346 GPM</td>
<td>MODEL 375</td>
</tr>
<tr>
<td>4&quot;</td>
<td>19-7/6&quot;</td>
<td>198 - 595 GPM</td>
<td>MODEL 375</td>
</tr>
</tbody>
</table>

*OR USC BACKFLOW FOUNDATION APPROVED DEVICES

NOTE:
ALL ABOVE GROUND PIPING & VALVES SHALL RECEIVE ONE COAT RUSTOIL PRIMER AND TWO FINISHING COATS OF ENAMEL PAINT (COLOR SHALL BE DETERMINED BY THE CITY OF BEVERLY HILLS).

---

**SECTIONAL VIEW**

FROM CITY OF BEVERLY HILLS IRRIGATION SERVICE

- WILKINS RP BACKFLOW PREVENTER "USC" APPROVED LEAD FREE
- RW GATE VALVE WITH HAND WHEEL, FLG x FLG
- PIPE SUPPORT PER BH-711
- CONCRETE SLAB
- #4 BAR @ 6" O.C.E.W.
- IRRIGATION SERVICE LINE TO CUSTOMER

---

**CITY OF BEVERLY HILLS, CALIFORNIA**

**DEPARTMENT OF PUBLIC WORKS**

**ENGINEERING DIVISION**

**RECOMMENDED**

**APPROVED**

**STANDARD DRAWING**

**BH-733**

**REVISIONS**

**MARK** | **DATE** | **DESCRIPTION**
--- | --- | ---

**DATE 8/21/2020**

**DATE 12/04/2020**
NOTE:
1. CONTRACTOR SHALL CLEARLY AND PERMANENTLY LABEL THE PRESSURE ZONES ON THE INLET AND OUTLET PIPES. METHOD TO BE APPROVED BY THE INSPECTOR. USE 2" MINIMUM HIGH NUMERALS AND LETTERS.
2. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST.
3. FINISH SURFACE (FS) ELEVATIONS SHALL BE SHOWN ON THE PLANS.
4. PIPING SHALL BE PAINTED "SAFETY BLUE" FOR POTABLE WATER AND PANTONE PURPLE FOR RECYCLED WATER.
5. (D1) = LARGE DIAMETER (D2) = MEDIUM DIAMETER (D3) SMALL DIAMETER

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>ITEM</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(D1) PRESSURE REDUCER CLA-VALVE, FLG</td>
<td>15</td>
<td>(D2) VICTAULIC COUPLING, GROOVED</td>
</tr>
<tr>
<td>2</td>
<td>(D2) PRESSURE REDUCER CLA-VALVE, FLG</td>
<td>16</td>
<td>(D3) THREADED BRONZE UNION</td>
</tr>
<tr>
<td>3</td>
<td>(D3) PRESSURE REDUCER VALVE, FLG OR THREADED</td>
<td>17</td>
<td>(D1) 90 DEGREES ELBOW</td>
</tr>
<tr>
<td>4</td>
<td>3-1/2&quot; LIQUID FILLED PRESSURE GAUGE (0-160 PSI) ASSEMBLY</td>
<td>18</td>
<td>(D1) x (D2) FL D.I. TEE</td>
</tr>
<tr>
<td>5</td>
<td>(D1) GATE VALVE RESILIENT WEDGE TYPE 3.V. MUELLER</td>
<td>19</td>
<td>(D2) FL D.I. TEE</td>
</tr>
<tr>
<td>6</td>
<td>(D2) GATE VALVE RESILIENT WEDGE TYPE 3.V. MUELLER</td>
<td>20</td>
<td>(D2) D.I. BLIND FLANGE WITH THREADED OUTLET</td>
</tr>
<tr>
<td>7</td>
<td>(D3) BRONZE BALL VALVE</td>
<td>21</td>
<td>(D3) 90 DEGREES BRONZE ELBOW</td>
</tr>
<tr>
<td>8</td>
<td>(D1) FL x GROOVED D.I. SPOOL (LENGTH AS REQ'D)</td>
<td>22</td>
<td>PRESSURE ZONE LABEL</td>
</tr>
<tr>
<td>9</td>
<td>(D1) FL x FL D.I. SPOOL</td>
<td>23</td>
<td>4&quot; CONCRETE PAD OVER 12&quot; AGGREGATE BASE</td>
</tr>
<tr>
<td>10</td>
<td>(D2) FL x GROOVED D.I. SPOOL (LENGTH AS REQ'D)</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>(D2) FL x FL D.I. SPOOL</td>
<td>25</td>
<td>INSULATING BUSHING</td>
</tr>
<tr>
<td>12</td>
<td>(D3) BRONZE PIPE WITH THREADED ENDS</td>
<td>26</td>
<td>FOR FLANGED PRV, (D3) BRONZE FLANGE</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>(D1) VICTAULIC COUPLING, GROOVED</td>
<td>28</td>
<td>SEE PIPE SUPPORT DETAIL BH-711</td>
</tr>
</tbody>
</table>

PRESSURE REDUCING VALVE STATION DETAIL

CITY OF BEVERLY HILLS, CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

RECOMMENDED DATE 8/21/2020
WATER RESOURCES MANAGER

APPROVED DATE 12/04/2020
CITY ENGINEER

STANDARD DRAWING
BH-734
SHEET 1 OF 2
NOTES:

1. CONTRACTOR SHALL CLEARLY AND PERMANENTLY LABEL THE PRESSURE ZONES ON THE INLET AND OUTLET PIPES. METHOD TO BE APPROVED BY THE INSPECTOR. USE 2" MINIMUM HIGH NUMERALS AND LETTERS.

2. MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST.

3. FOR LIST OF MATERIALS, SEE STD. DWG. BH-734 SHEET 1 OF 2.

4. CONSTRUCTION PLANS SHALL CALL OUT ELEVATIONS.

5. FOR PIPE SUPPORT LOCATIONS, REFER TO SECTION A-A OF THIS SHEET. FOR MOUNTING, SEE CONSTRUCTION DETAIL BH-711.

6. P.R.V. STATION SHALL HAVE AN EXPANDED METAL ENCLOSURE SURROUNDING THE INSTALLATION HINGED SO IT CAN BE OPENED FOR MAINTENANCE ACCESS.
Fill top 270° area with grout or pit sand after pipe has been placed.

Continuous greased skids, notch and strap to water main.

Note: grout holes shall be provided at locations acceptable to the engineer. Fill voids outside casing pipe with grout.

15" I.D. fabricated steel casing, 1/8" thick

Fill top 90° area with grout after pipe has been placed.

Jacked casing with water main

Not to scale

Jacked casing with water main detail
CONCRETE ENCASEMENT OVER STORM DRAIN

NOTES:

1. WHEN TRENCH WORK CAN NOT BE COMPLETED WITHIN THE SAME WORKING DAY, SEE BEVERLY HILLS STANDARD DRAWING BH-113 FOR STEEL PLATE PLACEMENT.

2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BEVERLY HILLS STANDARD SPECIFICATIONS.
CONCRETE ENCASEMENT CASE NO. 1

CONCRETE ENCASEMENT CASE NO. 2

CONCRETE ENCASEMENT DETAIL

NOTES:

1. WHEN TRENCH WORK CANNOT BE COMPLETED WITHIN THE SAME WORKING DAY, SEE BEVERLY HILLS STANDARD DRAWING BH-113 FOR STEEL PLATE PLACEMENT.

2. ALL WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BEVERLY HILLS STANDARD SPECIFICATIONS.

PIPE | DIMENSIONS
--- | ---
I.D. | A | B
4" | 4" | 4"
6" | 4" | 4"
8" | 4" | 4"
10" | 4" | 4"
12" | 4" | 4"
15" | 4" | 4"
18" | 5" | 5"
21" | 5" | 5"
24" | 6" | 6"
27" | 6" | 7"
30" | 6" | 8"
SECTION 6. OVERFLOW EMERGENCY RESPONSE PLAN

6.1 Introduction

This section of the SSMP is intended to provide an overview of the City’s sanitary sewer system Overflow Emergency Response Plan. This Overflow Emergency Response Plan has been developed pursuant to State Water Resources Control Board guidelines requiring all public wastewater collection system agencies in California be regulated under General Waste Discharge Requirements. The City’s sanitary sewer overflow response procedures provide a standardized course of action for Wastewater Collection and Environmental Programs staff to follow in the event of an SSO.

The City SSO response and reporting requirements have been revised to adhere to the December 6, 2022 Statewide General Waste Discharge Requirements for Sanitary Sewer System (SSS WDRs).

6.2 Regulatory Requirements for the Overflow Emergency Response Plan Section

The requirements for the Overflow Emergency Response Plan section of the SSMP are:

GWDR (Element 6 - Overflow Emergency Response Plan) Requirement:
The GWDR requirements for the Overflow Emergency Response Plan are: Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSO’s in a timely manner;
- A program to ensure an appropriate response to all overflows;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities;
- A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States, and to minimize or correct any adverse impact on the environment resulting from the SSO’s, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge;
- Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSO’s that potentially affect public health or reach water of the State in accordance with the MRP. All SSO’s shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR’s or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification; and
- Procedures to ensure that appropriate staff and contractor personnel are aware and follow the Overflow Emergency Response Plan and are appropriately trained.
6.3 SSO Notification Procedure

The Requirement: Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSO’s in a timely manner.

Section 2.3.2 of this SSMP introduces the process and individuals responsible for reporting and notification of a sanitary sewer overflow. Table 2-1 provides contacts and phone numbers for City staff who need to be notified of SSO’s. Figure 2-2 depicts the chain of communication for responding to SSO’s. Beverly Hills keeps a large “Call” poster at the City’s Corporation Yard for clear reminders.

Any type of wastewater infrastructure failure or overflow triggers an immediate response by the Wastewater Division to isolate and correct the problem. Once a call is received the appropriate Wastewater Collection staff member(s) are notified.

For all category spills, staff is directed to immediately notify the Environmental Compliance and Sustainability Programs Manager and the Environmental Services Manager (Managers). The Managers will be responsible for reporting the SSO event to various regulatory agencies and also provide field staff assistance in remediation coordination if necessary. For after-hours response, the Stand-By staff (2 System Drainage Workers) will be deployed to mitigate the SSO and if needed, additional System Drainage Workers members will be asked to respond to the SSO. If needed, the Managers will activate mutual aid assistance from neighboring cities to assist in managing sewer overflows.

If the Managers are not available to respond to the SSO, the Wastewater Division staff members are instructed to contact the Assistant Director of Public Works to fulfill the roles of the Managers. If the Assistant Director of Public Works is not available, the Wastewater Collection staff are instructed to call the Director of Public Works to fulfill the roles filled by his/her subordinates. Figure 2-2 is the SSO Response Chain of Communications summarizing the organizational structure to respond and report SSOs.

Figure 6-1 contains a flowchart depicting the chain of communication for notification of and reporting SSO’s.
Figure 6-1. SSO Response Flow Chart

**SSO Notification**
- Public Calls
- Customer Service receive calls during Business Hours
- Emergency Response Dispatch receive calls for After-Hours

**Wastewater Division Response**
- Staff receives calls and dispatches to mitigate the SSO.
- During business hours, all available staff will respond to the SSO. Managers will be responsible for communicating the SSO to the various regulatory agencies.
- After business hours, Stand-By Operators will respond to SSOs and Managers will be contacting the various regulators as needed.
- Staff responds to SSO’s from restoring flow, SSO recovery and cleanup.

**Notify Regulatory Agencies**
- Managers notify the SWRCB, OES, County Health Department for SSO's as required.
- Managers enter SSO events into CIWQs and review SSO field worksheets.
- Environmental Compliance & Sustainability or Assistant Director of Public Works certifies CIWQs reports.
Timeframe for contacting local and other regulatory agencies depending on the SSO Category is addressed in Section 6.5 of this SSMP.

6.4 **SSO Emergency Response Procedure**

**The Requirement:** A program to ensure appropriate response to all overflows.

The City responds to all spills within City limits. During business hours, all available wastewater division staff members respond to the SSO. For after-hours, the City assigns a Stand-By which consists of two Drainage Workers crew to respond to the SSO. Staff assigned a Stand-By assignment is well versed with the sewer overflow emergency response procedures. If the emergency event needs additional support, additional operators will be asked to respond to mitigate and cleanup during an emergency event.

Section 2 of this SSMP addresses the responsibilities and authority of City staff during an emergency.

Additional operators will be asked to respond, if needed, to support assigned Stand-By operators in mitigation and cleanup.

6.4.1 **Secure the Area**

**The Requirement:** Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities.

Wastewater Division staff respond to all sewer emergencies within City limits. Other departments within the City may provide assistance for traffic and crowd control depending on the severity of the situation, including the Public Works Department that has the Streets, Water, and Solid Waste Divisions. The City’s Police Department is also available to assist in traffic and crowd control by deploying their Traffic Control Officers (TCO’s). The Fire Department can be used in this situation if they become the first responders to the SSO. Each Department described above is versed on the following methods to control traffic and crowd issues during the emergency. They know how to do the following:

- Place warning signs
- Barricades and cones (lighted barricades if needed)
- Safety tape

6.4.2 **Control the Cause of the Wastewater Spill**

**The Requirement:** A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSO’s, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.
City Wastewater Division staff are trained to use procedures identified in the City of Beverly Hills' Wastewater Division Standard Operating Procedure “Wastewater Spill Control Procedures” as provided in Appendix 6-B. Staff are trained to use best management practices to manage and recover sewer overflows.

City staff will do what is necessary to stop the cause of the spill. If the overflow is caused by a stoppage in the main line, City staff will use the hydro jet or mechanical rodder truck to relieve the stoppage immediately.

One method to contain spills includes plugging of storm drain water lines and directing sewer spill flow to storm drain for use as a temporary catch basin. If this procedure is used, the storm drain will be cleaned and disinfected after the spill is relieved. The Combination Truck which is equipped with a hydrojet and 4,000 gallon vacuum will be used to clean catch basins that were holding sewer overflows. In addition, the Wastewater Division will clean the affected storm drain line by recovering sewage overflow and wash water. If necessary, the City will report spills immediately to the **Los Angeles County Department of Public Health (LACDPH)** for monitoring water quality and posting hazard notices.

If there is a significant sewer overflow emergency event, the City of Beverly Hills has the major equipment (cranes, fencing, pumping) to respond to these issues locally. For those emergencies requiring additional support and mitigation, the City Manager has the authority to execute an emergency contract work from the contractors listed in Table 6-1:

**Table 6-1. Contractors/Emergency Resources**

<table>
<thead>
<tr>
<th>Contractors</th>
<th>Phone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Insituform Technologies, LLC</td>
<td>(714) 278-1900</td>
</tr>
<tr>
<td>b. Williams Pipeline Contractors, Inc</td>
<td>(805) 644-1277</td>
</tr>
</tbody>
</table>

If the sewer overflow event requires the general public to be notified, the City has an internal Public Information Office (PIO) that is responsible for informing all necessary media outlets during Emergency responses. Therese Kosterman is the current PIO for Beverly Hills. She can be contacted at (310) 285-2456.

**6.4.3 Clean Up the Wastewater Spill**

To minimize health impacts to the public and to protect the environment, the City will begin cleaning the wastewater spill site as soon as possible or immediately after the overflow stops.

The City will remove debris found on the surface streets, catch basin, or storm drain lines. Liquid and debris collected during clean-up will be properly disposed in either the sewer collection system or in a refuse solid waste system.
Surface areas exposed to sewer overflows will be disinfected by applying a mild industrial grade disinfectant over the area. In addition, the streets are always exposed to sunlight where the ultraviolet rays from the sun kills harmful organisms as a result of the sewer overflows.

The wash water from the cleanup process will be either vacuumed or diverted to a downstream sewer manhole. If necessary, a deodorizer will be used to eliminate odor issues in the area. During cleanup, Drainage Maintenance Workers wear personal protective equipment (PPE) while performing cleanup. PPEs will protect the operators from being exposed to health hazard conditions caused by sewer discharge and cleaning agents.

Before leaving the affected area, the Wastewater Division will conduct a final inspection of the spill area and the system to make sure that it has been restored to normal conditions.

### 6.4.4 Spill Documentation

The City has implemented additional documentation procedures for SSOs.

The City is using an SSO field worksheet that provides pertinent information for SSO events. The field worksheet was based off the CIWQS forms.

As of January 2016, the City uses the City of San Diego Metropolitan Wastewater Department Reference Sheet to estimate SSO’s. The City utilizes efforts to contact members of the public who are in close proximity to a sewer overflow on a “maximum extent possible” for Category 1 and 2 spills.

The City has implemented procedures to take photographs of manhole flows at the SSO site to have a better determination of SSO flowrates. Photographs are also taken during cleanup and recovery to demonstrate the City’s commitment to recovering overflows and safely restoring the affected areas. Photographs will only be taken if they can be obtained without substantially impeding response measures.

For Category 1 SSO’s that are greater than 1,000 gallons and non-recoverable, the City coordinates with the Los Angeles County Flood Control District to assess if the overflow has in fact reached the surface waters. If it has, the City is prepared to take photographs and collect water quality samples at Ballona Creek to determine the impact of the SSO in the watershed.

The City also reviews water quality results from the Ballona Creek Watershed Management Group (“BC-WMG”). The Ballona Creek Watershed is subject to Bacteria Total Maximum Daily Limits (TMDLs) water quality regulations. With a TMDL, the watershed is subject to bacterial limits for non-rainy season (dry-weather) and rainy seasons (wet-weather). If any levels of bacterial constituents are determined to be higher than background levels and determined to be caused by an SSO, the City will perform any necessary maintenance undertaken at the time of the spill (i.e. line condition assessment, line maintenance activities, spot repair or replacement). Thus far, the results do not correlate to any SSO events that have occurred.
6.4.5 Post Spill Investigation

Following a SSO event, an investigation will be conducted to determine the cause and identify actions needed to reduce or eliminate the potential for the SSO to repeat. The investigation will include the following:

- Review of past maintenance records;
- Review of available photographs taken during the spill;
- Conducting a CCTV inspection to determine the condition of the line segment immediately following SSO and reviewing the video and logs; and;
- Conduct an investigation with staff involved with the spill, customers and nearby residents.

The post spill investigation should lead to the cause of the SSO, lead to corrective actions that need to be made, and accurate reporting.

6.5 Sanitary Sewer Overflow Reporting

The Requirement: Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected agencies (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSO’s that potentially affect public health or reach water of the State in accordance with the MRP. All SSO’s shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDR’s or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.

City policy is to report spills, depending upon size, significance, and/or containment, to the Los Angeles Regional Water Quality Control Board, Los Angeles County Public Health, and the California Emergency Management Agency. The City has a responsibility to provide full disclosure of its operations and performance, and has adopted the spill reporting format referenced in the reporting requirements of the State General Permit. A sample of the SSO field worksheet is included in Appendix 6-C.

Reporting time frames vary by agency. Spills are categorized and reported as identified in Table 6-2. The City utilizes the City of San Diego Metropolitan Wastewater Reference Sheet for Estimating Sewer Spills Overflowing Sewer Manholes which is included in Appendix 6-D.
### Table 6-2. Regulatory Agencies Notification and Time Frame

<table>
<thead>
<tr>
<th>SSO Category</th>
<th>Type or Description</th>
<th>Agencies to be Notified</th>
<th>Type of Notification and Timeframe</th>
<th>Written Report/Online Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>≥1,000 gallons of Untreated or partially treated SSO:</td>
<td>OES (&gt; 1,000 gallons)</td>
<td>As soon as possible, but no later than 2 hours after becoming aware of the spill.</td>
<td>Call and obtain control number.</td>
</tr>
<tr>
<td></td>
<td>- Discharge to a storm drain and not fully captured and returned to the sanitary sewer system or not captured and disposed of properly.</td>
<td>Los Angeles County Department of Public Health (LACDPH)</td>
<td>Within 15 minutes after becoming aware of the spill.</td>
<td>Call and obtain operator number.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Los Angeles County Flood Control District (only if entered into storm drain)</td>
<td>As soon as possible, but no later than 1 hour after becoming aware of the spill.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LACDPH (&gt; 50,000)</td>
<td>As soon as possible, but no later than 2 hours after becoming aware of the spill.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RWQCB (Region 4)</td>
<td>As soon as possible, but no later than 2 hours after becoming aware of the spill.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SWRCB</td>
<td>As soon as we become aware of the SSO, reporting is possible and can be provided without substantially impeding cleanup or other measures.</td>
<td>NA</td>
</tr>
<tr>
<td>2</td>
<td>≥1,000 gallons of Untreated or partially treated SSO:</td>
<td>Los Angeles County Flood Control District (only if entered into storm drain)</td>
<td>As soon as possible, but no later than 2 hours after becoming aware of the spill.</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>- Does not reach surface water, drainage channel or storm drain unless discharge to storm drain system is fully recovered and disposed of properly.</td>
<td>LACDPH</td>
<td>Same as above</td>
<td>NA</td>
</tr>
</tbody>
</table>
### Table 6-3. Regulatory Agency Contacts

<table>
<thead>
<tr>
<th>Agency</th>
<th>Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>California Emergency Management Agency (Cal-EMA)</td>
<td>(800) 852-7550</td>
</tr>
</tbody>
</table>
Overflow Emergency Response Plan

6.6  Emergency Response Plan Distribution and Training

The Requirement: Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Overflow Emergency Response Plan and are appropriately trained.

The role of the Wastewater Division staff is clearly established and described in Section 2 of this SSMP. All City personnel who may have a role in responding to, reporting, and/or mitigating a SSO will receive training on the contents of the City’s Overflow Emergency Response Plan. New employees will receive training and current employees will receive annual refresher training on this plan and the overflow emergency response procedures. All Wastewater Division staff are required to be familiar with this SSMP prior to fulfilling Stand-by assignments.

The City’s Sewer Spill Prevention Contingency Plan and SSMP are available digitally and in printed form for the Wastewater Division staff.
APPENDIX 6-A. MONITORING AND REPORTING PROGRAM

State Water Resources Control Board
Order No. WQ 2013-0058-EXEC

Amending Monitoring and Reporting Program For
Statewide General Waste Discharge Requirements
Sanitary Sewer Systems

This Monitoring and Reporting Program (MRP) establishes monitoring, record keeping, reporting and public notification requirements for Order No. 2006-0003-DWQ, “Statewide General Waste Discharge Requirements for Sanitary Sewer Systems” (SSS WDRs). This MRP shall be effective from September 9, 2013 until it is rescinded. Revisions to this MRP may be made at any time by the Executive Director, and may include a reduction or increase in the monitoring and reporting requirements. All site specific records and data developed pursuant to the SSS WDRs and the MRP shall be complete, accurate, and justified by evidence maintained by the enrollee. Failure to comply with the MRP may subject an enrollee to civil liabilities pursuant to Water code section 13350; Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. The State Water Resources Control Board reserves the right to take any further enforcement action authorized by law.

A. SUMMARY OF MRP REQUIREMENTS

Table 1 – Spill Categories and Definitions

<table>
<thead>
<tr>
<th>CATEGORIES</th>
<th>DEFINITIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATEGORY 1</td>
<td>Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary sewer system failure or flow condition that:</td>
</tr>
<tr>
<td></td>
<td>• Reach surface water and/or reach a drainage channel tributary to a surface water; or</td>
</tr>
<tr>
<td></td>
<td>• Reach a 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.</td>
</tr>
<tr>
<td>CATEGORY 2</td>
<td>Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.</td>
</tr>
</tbody>
</table>
| CATEGORY 3                      | Discharges of untreated or partially treated wastewater greater than or equal to 50 gallons and less than 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and
disposed of properly.

| CATEGORY 4 | Discharges of untreated or partially treated wastewater less than 50 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly. |
| 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 enrollee’s sanitary sewer system or from other private sewer assets. PLSDs that the enrollee becomes aware of may be reported to the CIWQS Online SSO Database. |

Table 2 – Notification, Reporting, Monitoring, and Record Keeping Requirements

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>REQUIREMENT</th>
<th>METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTIFICATION (see section B of MRP)</td>
<td>• 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 number.</td>
<td>Call Cal OES at: (800) 852-7550</td>
</tr>
</tbody>
</table>
| REPORTING (see section C of MRP) | • 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.  
• 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.  
• Category 3 SSO: Submit certified report within 30 calendar days of the ended of month in which SSO occurred.  
• Category 4 SSO: Submit certified report within 30 calendar days of the ended of month in which SSO occurred.  
• 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.  
• “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. | Enter data into the CIWQS Online SSO Database (http://ciwqs.waterboards.ca.gov/), Certified by enrollee’s Legally Responsible Official(s). |
B. NOTIFICATION REQUIREMENTS

Although Regional Water Quality Control Boards (Regional Water Boards) and the State Water Board (collectively, the Water Boards) staff do not have duties as first responders, this MRP is an appropriate mechanism to ensure that the agencies that have first responder duties are notified in a timely manner in order to protect public health and beneficial uses.

1. 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 Wastewater Supervisor 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 California Office of Emergency Services (Cal EOS), and obtain a notification control number.

2. To satisfy notification requirements for each applicable SSO, the Wastewater Supervisor, or Lead Operator, 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 phone number)
c. Date and time enrollee became aware of the SSO
d. Name of sanitary sewer system agency causing the SSO
e. SSO cause (if known)
v. Indication of whether the SSO has been contained
vi. Indication of whether surface water is impacted
vii. Name of surface water impacted by SSO, if applicable
viii. Indication of whether a drinking water supply is or may be impacted by the SSO
ix. Any other known SSO impacts
x. SSO incident location (address, city, state, and zip code)

3. Following the initial notification to Cal OES and until such time that the SSO report is certified in the CIWQS Online SSO Database, the Wastewater Supervisor 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 know impact(s).

4. PLSDs: The Wastewater Supervisor is strongly encouraged to notify Cal OES of discharges greater than or equal to 1,000 gallons of untreated or partially treated wastewater that results or may result in a discharge to surface water resulting from failures or flow conditions within a privately owned sewer lateral or from other private sewer asset(s) if the enrollee becomes aware of the PLSD.

C. REPORTING REQUIREMENTS

1. CIWQS Online SSO Database Account: All enrollees shall obtain a CIWS Online SSO Database account and receive a “Username” and “Password” by registering through CIWQS. These accounts allow controlled and secure entry into the CIWQS Online SSO Database.

2. SSO Mandatory Reporting Information: For reporting purposes, if one SSO event results in multiple appearance points in a sewer system asset, the enrollee 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.

3. SSO Categories
   i. Category 1 – Discharges of untreated or partially treated wastewater of any volume resulting from an enrollee’s sanitary 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 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.

ii. **Category 2** – Discharges of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that does not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

iii. **Category 3** – Discharges of untreated or partially treated wastewater greater than or equal to 50 gallons and less than 1,000 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

iv. **Category 4** - Discharges of untreated or partially treated wastewater less than 50 gallons resulting from an enrollee’s sanitary sewer system failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

4. **Sanitary Sewer Overflow 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 Database within three business days of the enrollee becoming aware of the SSO. Minimum information that shall be reported in a draft Category 1 SSO report shall include all information identified below under ‘Mandatory Information to be Included in SSO Online Reporting.

      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 in the final Category 1 SSO report shall include all information identified below under ‘Mandatory Information to be Included in SSO Online Reporting.

   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). Minimum information that shall be certified in a final Category 3 SSO report shall include all information identified below under ‘Mandatory Information to be Included in SSO Online Reporting.

   iii. **Category 4 SSOs** - – All SSOs that meet the above criteria for Category 4 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 4 SSOs occurring in the month of February shall be entered into the
database and certified by March 30). Minimum information that shall be certified in a final Category 4 SSO report shall include all information identified below under ‘Mandatory Information to be Included in SSO Online Reporting.

iv. **“No Spill” Certification** – if there are no SSSOs during that calendar month, the enrollee 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-March, Q2 – April – June, Q3 – July-September, Q4 – October – December.

v. **Amended SSO Reports** – the enrollee 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. After the 120 days, the enrollee may contact the SSO Program Manager to request to amend an SSO report if the enrollee also submits justification for why the additional information was not available prior to the end of the 120 days.

5. **SSO Technical Report**

   The enrollee shall submit an SSO technical report in the CIWQS Online SSO Database within 45 calendar days of the SSO end date for an SSO in which 50,000 gallons or greater are spilled to surface waters. This report, which does not preclude the Water Boards form requiring more detailed analyses if requested, shall include at a minimum, the following:

   **i. 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 causes(s) of the SSO.
   e. Copies of original field crew records used to document the SSO.
   f. Historical maintenance records for the failure location.

   **ii. Enrollee’s Response to SSO:**
   a. Chronological narrative description of all actions taken by enrollee to terminate the spill.
   b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
   c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.
iii. **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.

6. **PLSDs**
   Dischargers of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sanitary sewer system assets may be voluntarily reported to the CIWQS Online SSO Database.
   a. The enrollee is also encouraged to provide notification to Cal OES 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 enrollee is also encouraged to file a spill report as required by Health and 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 enrollee 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 enrollee), if known. Certification of PLSD reports by enrollees is not required.

7. **CIWQS Online SSO Database Unavailability**
   In the event that the CIWQS Online SSO Database is not available, the enrollee 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 enrollee must also enter all required information into the CIWQS Online SSO Database when the database becomes available.

8. **Mandatory Information to be Included in SSO Online Reporting**
   All enrollees must obtain a California Integrated Water Quality System (CIWQS) Online SSO Database account and receive a “Username” and “Password” by registering through the CIWQS which can be reached at CIWQS@waterboards.ca.gov or by calling (866) 792-4977, M-F, 8 A.M. to 5 P.M. These accounts will allow controlled and secure entry into the CIWQS SSO Database. Additionally, within 30 days of receiving an account and prior to recording SSO’s into the SSO Database, all Enrollees must complete the “Collection System Questionnaire,” which collects pertinent information regarding the Enrollee’s collection system. The “Collection System Questionnaire” must be updated at least every 12 months.
   i. **SSO Reports**
      At a minimum, the following mandatory information must be included prior to finalizing and certifying an SSO report for each category of SSO:
      a. **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 enrollee 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 enrollee 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, the Cal OES control number.

b. **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 in the Draft Category 1 SSO.

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.

c. Draft Category 2 SSOs: At a minimum, the following mandatory information shall be reported for a drafty Category 2 SSO report:
   1. Items 1-14 under Draft Category 1 SSO.

d. Certified Category 2 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 2 SSO report:
   1. Items 1-14 under Draft Category 1 SSO and Items 1-9, and 17 under Certified Category 1 SSO.

e. Certified Category 3 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 3 SSO report:
   1. Items 1-14 under Draft Category 1 SSO and Items 1-5, and 17 under Certified Category 1 SSO.

f. Certified Category 4 SSOs: At a minimum, the following mandatory information shall be reported for a certified Category 4 SSO report:
   1. Items 1-14 under Draft Category 1 SSO and Items 1-5, and 17 under Certified Category 1 SSO.

ii. Reporting SSOs to Other Regulatory Agencies
    These reporting requirements do not preclude an Enrollee from reporting SSO’s to other regulatory agencies pursuant to California state law. These reporting requirements do not replace other Regional Water Board notification and reporting requirements for SSOs.
The Enrollee shall report SSO’s to OES, in accordance with California Water Code Section 13271.

Office of Emergency Services
Phone (800) 852-7550

The Enrollee shall report SSO’s to County Health officials in accordance with California Health and Safety Code Section 5410 et seq. The SSO database will automatically generate an e-mail notification with customized information about the SSO upon initial reporting of the SSO and final certification for all Category 1 SSO’s. E-mails will be sent to the appropriate County Health Officer and/or Environmental Health Department if the county desires this information, and the appropriate Regional Water Board.

iii. **Collection System Questionnaire**

The required Questionnaire provides the Water Board with site-specific information related to the enrollee’s sanitary sewer system. The enrollee shall complete and certify the Questionnaire at least every 12 months to facilitate program implementation, compliance assessment, and enforcement response.

iv. **SSMP Availability**

The enrollee shall provide the publicly available internet web site address to the CIWQS Online SSO Database where a downloadable copy of the enrollee’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 enrollee shall comply with the following procedure:

a. Submit an electronic copy of the enrollee’s approved SSMP, critical supporting documents referenced in the SSMP, and proof of local governing board 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

**D. WATER QUALITY MONITORING REQUIREMENTS**

The enrollee 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:

1. Contain protocols for water quality monitoring.
2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible.
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.

4. 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.

5. Within 48 hours of the enrollee becoming aware of the SSO, require water quality sampling for, at a minimum, the following constituents:
   i. Ammonia
   ii. 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.

E. RECORD KEEPING REQUIREMENTS

The following records shall be maintained by the enrollee for a minimum of five years and shall be made available for review by the Water Boards during an onsite inspection or through an information request:

1. General Records: The enrollee 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 an enrollee’s sanitary sewer system contractor(s).

2. SSO Records: The enrollee shall maintain records for each SSO event, including but not limited to:
   i. Complaint records documenting how the enrollee 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:
      a. Date, time, and method of notification.
      b. Date and time the complainant or informant first noticed the SSO.
      c. 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 received surface waters, drainage channels or storm drains.
      d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously.
      e. Final resolution of the complaint.
   ii. Records documenting the steps and/or remedial actions undertaken by enrollee, using all available information.
   iii. Records documenting how all estimate(s) of volume(s) discharged and, if applicable, volume(s) recovered were calculated.

3. 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.
4. Electronic monitoring records relied upon for documenting SSO event and/or estimating the SSO volume discharged, including, but not limited to records from:
   i. Supervisory Control and Data Acquisition (SCADA) systems
   ii. Alarm Systems(s)
   iii. Flow monitoring device(s) or other instrument(s) used to estimate wastewater levels, flow rates and/or volumes.

F. CERTIFICATION

1. 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). An enrollee may have more than one LRO.

2. 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.

3. Data Submitter (DS): Any enrollee employee or contractor may enter draft data into the CIWQS Online SSO Database on behalf of the enrollee if authorized by the LRO and registered with the State Water Board. However, only LROs may certify reports in CIWQS.

4. The enrollee shall maintain continuous coverage by an LRO. Any change of a registered LRO or DS (e.g., retired staff), shall be submitted by the enrollee to the State Water Board within 30 days of the change by calling (866) 792-4977 or e-mailing help@ciwqs.waterboards.ca.gov.

5. A registered designated person (i.e., an LRO) shall certify all required reports under penalty of perjury laws of the states as stated in the CIWQS Online SSO Database at the time of certification.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Board.

[Signature]

Date: 7/30/13

Jeanine Townsend
Clerk to the Board
APPENDIX 6-B. WASTEWATER SPILL PROCEDURE (SOP)
PURPOSE: Procedures for response teams to meet the requirements of the Sewer System Master Plan (SSMP)

REFERENCES: City of Beverly Hills Sewer System Master Plan (SSMP).

1. DEFINITIONS

Best Management Practices (BMPs): Procedures and equipment used to minimize and prevent sanitary sewer overflows (SSO) from reaching the catch basin, storm drain system and the waters of the US. Procedures and equipment used to clean debris caused by an SSO. For the purposes of this document, BMPs is referring to the following:

1. The use of berms to divert SSOs to downstream catch basin.
2. The use of berms to prevent SSOs flowing into a catch basin.
3. The use of drain plug(s) to hold SSO in a catch basin.
4. The use of vacuum truck to recover SSO flow during an SSO event.

CCTV: Closed Circuit TV. Equipment used to video log the condition of the sanitary sewer segment.

CIWQS: California Integrated Water Quality System

Catch Basin: The catch basin where the sewer overflow enters the storm drain system and discharges to the waters of the US.

Response Team 1 (RT1): First team to arrive at the SSO site.

Response Team 2 (RT2): Second team to arrive at the SSO site.

Response Team 3 (RT3): Third team to arrive at the SSO site.

SSO: Sanitary Sewer Overflow

Waters of the United States (US): For the purpose of this SOP, waters of the United States is defined as the storm drain system (catch basins, storm drain lines, storm drain channels that discharges to Ballona Creek.)
2. **PROCEDURES**

When a sanitary sewer overflow (SSO) is reported to the City, the Wastewater Division responds and uses Best Management Practices (BMPs) to mitigate the SSO and prevent discharge from entering the catch basins and entering waters of the United States (US). On a typical business week, two (2) to three (3) response teams (RT) responds to an SSO. During after hours, one (1) or two (2) Response Teams will be performing the following procedures.

Below are procedures for each Response Team (RT). These are standard guidelines that comply with regulations.

2.1. **Response Team 1 (RT1): 1st Team to arrive at the SSO site.**

2.1.1. Confirm the SSO event. When the SSO is confirmed, report the event to the Wastewater Supervisor and/or Environmental Compliance and Sustainability Programs Manager and/or Solid Waste Manager.

2.1.2. Take a photo of the discharge. The photo will be used to confirm the discharge flowrate.

2.1.3. Place BMP equipment(s) to prevent SSO from reaching the catch basin or the waters of the US.

2.1.3.1. Equipment can be used to divert the discharge to the downstream manhole; or

2.1.3.2. Equipment can be used to divert the discharge to the street; or

2.1.3.3. Equipment can be used to block the discharge from entering the storm drain; or

2.1.3.4. Equipment can be used to plug the catch basin to prevent flow from entering the storm drain system.

Note: RT1 will decide the best BMP option to use to prevent additional flow from entering the catch basin or waters of the US.

2.1.4. **If, there is no Response Team 2 (RT2) and/or Response Team 3, then Response Team 1 breaks the sewer blockage after setting up the BMPs.**

2.2. **Response Team 2 (RT2) and/or RT3: 2nd and 3rd Teams to arrive at the SSO site.**

2.2.1. Assess the BMP conditions.

2.2.2. If necessary, place or secure additional BMPs (See 2.1.2, above for options) to prevent SSO flow from entering the catch basin and flowing into the storm drain system.
2.2.3. If the RT is not using the Combination Truck, break the sewer blockage.

2.2.4. If the RT is using the Combination Truck, setup to recover discharge from the curb and gutter, catch basin or storm drain line. Return the discharge to the sanitary sewer.

2.2.5. Take photo evidence of SSO contained in the catch basin, curb and gutter or storm drain line. This photo will be used as an attachment to the CIWQS report.

2.3. **When an SSO discharge is not fully contained or recovered, RT2 and/or RT3 will need to do the following:**

2.3.1. Look at the storm drain system map.

2.3.2. Open downstream storm drain manhole(s) to determine the distance traveled by the SSO.

2.3.3. Recover any remaining flow and/or debris in the storm drain system.

2.3.4. Take photo evidence of that discharge was recovered.

2.4. **When the sewer blockage has been broken, prepare for cleanup.**

2.4.1. Wash and clean the affected areas. Estimate how much cleanup water was used and record it.

2.4.2. Return cleanup water to the sanitary sewer system.

2.5. **Perform public SSO inquiry.**

2.5.1. Talk to witnesses (i.e. neighbors, homeowner, contractors, etc.) to confirm the Estimated Spill Start Date/Time.

2.5.2. If this was not successful, record the attempt in the SSO Field Worksheet.

2.5.3. Record this information when completing the SSO Field Worksheet.

2.6. **Complete the SSO Field Worksheet.**

2.6.1. Location of SSO

2.6.2. Date and time when the SSO was discovered or reported to the City.

2.6.3. Estimated spill start date & time.

2.6.4. Estimated operator arrival date/time.

2.6.5. Spill appearance point
2.7. Notify necessary regulatory agencies (varies depending on SSO Category)

2.7.1. Call all State and Local regulators.

2.7.2. Record the case number, time called, and contact person. Include this information in the SSO Field Worksheet.

2.8. CCTV the sewer line segment and laterals where the SSO occurred.

2.8.1. CCTV from manhole to manhole (upstream to downstream)

2.8.2. CCTV lateral connections within the line segment.

2.8.3. Take observational notes (i.e. line conditions, lateral connection condition, root intrusion, etc.)

2.8.4. Identify the cause of the SSO (i.e. lateral condition, line condition, root intrusion, etc.)

2.8.5. Print photo evidence of key observations during CCTV.

2.8.6. Note for Private Laterals: An enforcement letter will be sent to property owners whose laterals are not in good condition (i.e. collapsed, root intrusion, etc.) and provide a compliance period action plan.

2.8.7. Note for Sewer Main Conditions: Report the findings to supervisors and managers. Cases will be evaluated for immediate repair, action or included in the CIP program.

2.9. Post SSO Damages

2.9.1. Staff should also advice the property owner to contact their insurance company to file a claim.

2.9.2. Staff should advice the property owner to call a restoration company to clean and restore the damaged areas.

2.9.3. Staff shall advice the property owner to contact the City’s Risk Management at (310)285-1073 to file a claim against the City.

2.9.4. Staff shall take photo evidence of private property damages. This will be useful for Risk Management assessing the case.
2.10. **Report the SSO Event in CIWQS**

2.10.1. Wastewater Supervisor, and/or Environmental Compliance and Sustainability Programs Manager and/or Solid Waste Manager will need to report the SSO event in the CIWQS database.

2.10.2. The report must be certified in CIWQS after all the SSO information is confirmed to be accurate.

2.11. **Post SSO Enforcement**

   When CCTV investigation determines that a property owner is responsible for the SSO, staff shall do the following:

   2.11.1. Issue a corrective action notice to property owner.

   2.11.2. If no action is taken, staff shall issue a Notice of Violation and/or pursue higher enforcement actions pursuant to the Municipal Code.
3. **SAFETY**

3.1. All waste water staff responding to sanitary sewer surveys will use all precautions and safety practices in operating equipment, implementing BMP equipment and entering into sanitary sewer system and storm drain systems.

3.2. All waste water staff operating equipment shall be using safety equipment prescribed in the operations manual of all equipment.

4. **PERSONNEL/ EQUIPMENT/ MATERIALS**

**Personnel:**

2 to 7 Wastewater Collection System Operators

1 Wastewater Collection System Supervisor

1 Environmental Compliance and Sustainability Programs Manager

1 Solid Waste Manager

**List of Vehicle and Equipment:**

1. Mechanical Rodder (Truck No. 746)
2. Jet Rodder (Truck No. 797)
3. Combination Truck (Truck No. 799)
4. Vacuum Trailer (Truck No. 793)
5. CCTV Truck (Truck No. 798)
## Waste Water Operating Procedure: SSO Field Response

<table>
<thead>
<tr>
<th>Reason For Change</th>
<th>Date</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Include Follow-Up investigation and inquiry around the neighborhood to determine the accurate time when the SSO started. California River Watch (CRW) Settlement</td>
<td>August 15, 2016</td>
<td>Version A</td>
</tr>
<tr>
<td>2. Added Section 2.4.4 and Section 2.4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Assigned “Report the SSO Event in CIWQS” to Section 2.4.6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Update to include changes in SSO Response Procedures for each response team.</td>
<td>October 26, 2016</td>
<td>Version B</td>
</tr>
<tr>
<td>2. Update to include changes in post SSO investigation, damage and enforcement actions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

List other Operating Procedures impacted by this revision.
Appendix 6-C
Rev. 1

APPENDIX 6-C. SEWAGE SPILL REPORT FORM (SAMPLE)
City of Beverly Hills  
Wastewater Disposal Services

SSO Field Worksheet

Location of SSO:  
(closest street address to overflow/cross street)

Operators On Duty:

Date and time sanitary sewer system agency (Time drainage staff was informed) was notified or discovered spill:

Estimated spill start date/time:
(Same as time immediately above unless you have reliable info of earlier start)

Estimated operator arrival date/time:

Spill appearance point (Check one):
- Building or structure
- Force main or pressure sewer
- Gravity sewer
- Manhole
- Other sewer system structure
- Pump station
- Other (Specify) ________________________________

(circle one)

Private lateral spill?

Yes/No

If no – move on to Estimated spill end date/time:

If yes - move on to County Health Department notification if private lateral spill reached public right of way. No further notification is required. Clean-up sewage on public right of way. Notify property owner/resident of requirement to correct or risk water shutoff. Private lateral spills are NOT SSO’s as of this revision.

Estimated spill end date/time:

Supervisor Notified: ________________________
Health Department notified within 15 mins of arrival on scene?  

(Yes/No)  

24 Hour Number  (213) 974-1234

Note: Health Dept. Notification required for all SSO’s even if they never make it to a public right of way.

Time County Health Department Notified

Operator #: __________________________ Date

Ticket #: ____________________________

Spill response activities (Check all that apply):

- Cleaned-up (mitigated effects of spill)
- Contained all or a portion of spill
- Inspected sewer using CCTV to determine cause
- Restored flow
- Returned all or a portion of the spill to the sanitary sewer system
- Other (Specify) ____________________________

Answer the following three questions about this event:

#1. Did the spill discharge to a drainage channel or surface water?  

(Yes/No)

#2. Did the spill discharge to a storm drain pipe that was not fully captured and returned to the sanitary sewer system?  

(Yes/No)

#3. Is the spill volume greater than 1,000 gals?  

(Yes/No)

#4. Is the spill volume between 50 and 1,000 gals?  

(Yes/No)

Did you answer “yes” to any of the above questions?  

(Yes/No)

If Yes to #1 or #2, SSO is-----------------------------------------------  

Category 1

If Yes to #3, SSO is-----------------------------------------------  

Category 2

If Yes to #4, SSO is-----------------------------------------------  

Category 3

If No to all, SSO is-----------------------------------------------  

Category 4

Final spill destination (Check all that apply):

- Building or structure
- Other paved surface
- Storm drain
- Street/curb and gutter
- Surface water
- Unpaved surface
- Other (Specify)______________________________.
Estimated **total** spill volume:  (Attach Calculations)   A. _________ gallons
Estimated volume of spill recovered:                       B. _________ gallons

Estimated volume of spill that reached surface water, drainage channel, or not recovered from storm drain:  C. _________ gallons

Did you answer yes to questions #1 and #3 or #2 and #3 above?........ Yes/No

If Yes call OES within 2 hrs. of time agency notified or discovered spill.

OES Phone # 1-800-852-7550

OES Control # ___________________________ Time OES notified __________  __________

    MM/DD/YY          Time 24 hrs.

OES Operator: ___________________________

**If the spill is greater than or equal to 1,000 gallons:**

Call LA County Flood Control District within 1 hr. of time agency was notified or discovered spill:

LACFCD Phone # (626) 458-4357

If the sewer overflow requires assistance from the City of Los Angeles, call the City of Los Angeles within 1 hr. of time agency was notified or discovered spilled:

City of Los Angeles Phone # (213) 485-7575
Additional Notes (attach additional sheets if needed):
Wastewater Disposal Services

SSO Volume Estimating Worksheet

Did an overflowing manhole reach a storm drain or surface water? Yes/No

If yes – Go to Step 1.

If no – perform wetted street volume calculations on reverse.

Step 1. Determine Estimated Spill Volume to Street from overflowing Manhole.

A. Estimated spill start date/time: 

B. Estimated spill end date/time: 

C. Total spill time in minutes = B. – A.

D. Estimated Overflow Rate

References (P, A, B, C)

1. Pictures (P), 2. Table A, 3. Table B, 4. Table C

E. Estimated Spill Volume to Street = _______ X _______ = _______ C. D. gals.

Did sewer overflow inside a building or residence? Yes/No

If yes – Go to Step 2.

If no – Go to Step 3.

Step 2. Estimate Spill Volume to Building or Residence.

F. Determine total wetted floor area in sq. ft.

1. Room Inventory Length (ft.) X Width (ft.) = Area (ft.²)
   a. _______ = _______
   b. _______ = _______
   c. _______ = _______
   d. ___________________ _______ = _______
   e. _______ = _______

G. Total wetted floor area (add 1. a thru 1. e.) = _______
H. Estimated average depth of wetted floor in inches = _______ (in.)

Note: If can’t actually measure, make a reasonable assumption ¼” -1/2”.

I. Convert depth in inches to ft. H. / 12 = _______ (ft.)

J. Estimated Spill Volume (Building or Residence) = G. x I. = _______ (ft³)

K. Convert Estimated Spill Volume (Building or Residence) to gals. J. x 7.48 = _______ (gals.)

Step 3. Determine Total Estimated Spill Volume

L. Total Estimated Spill Volume = E. + K. = _______ (gals.)

Step 4. Determine Estimated Volume of Spill Vacuum Recovered

M. Estimated Vacuum Recovery Start date/time: _______ _______ MM/DD/YY Time 24 hr

N. Total Vacuum Recovery Time in minutes B. – M. = _______ (mins.)

O. Est. Volume of Spill Vacuum Recovered = _______ X _______ = _______ N. D. = _______ (gals.)

Step 5. Estimated volume of spill that reached surface water, drainage channel, or not recovered from storm drain:


E. – O. – Volume Captured (below) = _______ (gals.)

Determine Wetted Street Volume or Volume Captured

1. Attach copy of sketch from stoppage report.

Depth Information in Ft:

1/8” = 0.01 FT

1/4” = 0.021 FT

3/8” = 0.031 FT

Length (L) = _______ ft.

Width (W) = _______ ft.

Depth (D) = Average Observed (in.) = _______ / 12 = _______ ft.

wetted street volume = _______ L X _______ W X _______ D = _______ ft³ X 7.48 = _______ gals.
APPENDIX 6-D. REFERENCE SHEET FOR ESTIMATING SEWER SPILLS OVERFLOWING SEWER MANHOLES
Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

5 gpm

25 gpm

50 gpm

100 gpm

150 gpm

200 gpm

225 gpm

250 gpm

275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.
SECTION 7. SEWER PIPE BLOCKAGE CONTROL PROGRAM

7.1 Introduction
This section of the SSMP describes the sewer pipe blockage control measures for all known sources of fats, oils, and grease, roots and debris discharged to the City’s sanitary sewer system. The City additionally contracts with the County of Los Angeles to implement the Sewer Pipe Blockage Control Program under their agreement with the County as outlined in Section 3 of this SSMP.

7.2 Regulatory Requirements for the Sewer Pipe Blockage Control Program
Summarized requirements for the Sewer Pipe Blockage Control Program section of the SSMP are:

GWDR (Element 7 – Sewer Pipe Blockage Control Program Requirements:
The Sewer System Management Plan must include procedures for the evaluation of the Enrollee’s service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed.

The procedures must include, at minimum:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;
- A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of substances generated within a sanitary sewer system service area;
- The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages;
- Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance;
- An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and
- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.

7.3 Nature and Extent of Sewer Pipe Blockage Problem
The City’s sanitary sewer collection system serves approximately 35,000 residents and can reach up to 200,000 people due to business, shopping and tourism. There are approximately three hundred (300) food service establishments within the City. Food service establishments
(FSE’s) are the largest population of fats, oils, and grease producers within the City. Most FSE’s are located in downtown Beverly Hills known as the Golden Triangle. The Golden Triangle is between Santa Monica Boulevard, Crescent Drive and Wilshire Boulevard. Other restaurant areas are located in South Beverly Drive, La Cienega Boulevard, Robertson and Olympic Boulevard. Figures 7-1 through 7-4 identify general locations of FSE’s in Beverly Hills.

Figure 7-1. General Locations of FSE’s in Beverly Hills – Golden Triangle.  
(Image source: Beverly Hills GIS)
Figure 7-2. General Locations of FSE’s in Beverly Hills – Robertson and La Cienega. (Image source: Beverly Hills GIS)
Figure 7-3. General Locations of FSE’s in Beverly Hills – South Beverly Drive.  
(Image source: Beverly Hills GIS)
Existing sewer pipe blockage-control measures have prevented sewer pipe blockage-related SSO’s. Grease traps, interceptors and bins are required for grease producing FSE’s. The City provides a two-system inspection/enforcement mechanism for FSE’s. FSE’s are inspected to comply with Industrial Waste Discharge regulations and also the Municipal Separate Storm Sewer System (MS4) NPDES Permit.

Roots intrusion is also a common source of sewer blockages. Depending on the depth of a sewer pipe, material of pipe, roots seek out the moisture thru small crack and/or joints and eventually grow within the sewer. Beverly Hills has noted root intrusion within residential sewer laterals and had a program for identifying and notifying residents to remove roots in private laterals.

7.4 Public Outreach

The Requirement: An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances.

The City of Beverly Hills has an aggressive educational outreach sewer pipe blockage control program for FSEs and its residents. The FSEs are inspected at least two times a year by either the Los Angeles County Department of Public Works Environmental Programs and the City’s Environmental Compliance and Sustainability Programs. Both programs ensure that FSEs practice sewer pipe blockage control BMPs in grease disposal and proper maintenance of grease interceptors or traps. In addition, both programs provide the most up to date educational materials to FSEs. FSEs are informed that their failure to practice BMPs will result in violation notices and monetary fines.

In addition, the City provides grease, roots and debris control practices for residents and businesses in the Backbone, which is a Public Works monthly newsletter. These practices include recommending annual sewer lateral cleaning and reminding property owners that only liquids are discharged to the sewer system.
7.4.1 Residential Service Areas

As for the residential program, the City’s website provides general guidelines on managing fats, oils, and grease (FOG), debris and roots on private lateral system. In addition, the monthly Backbone newsletter provides best practices such as annual lateral cleaning and prohibiting the disposal of debris and FOG into the sewer system. Thus far, these efforts have been effective in managing FOG and improvements have been observed in debris and root issues on private laterals.

Besides collateral materials, the City’s CCTV program has been effective in curtailing the root problems in private laterals. The program includes inspecting each lateral at the point of connection. If root blockage is present, the City informs property owners to perform maintenance of their lateral to prevent potential issues. This service includes distributing a brochure with guidelines. (Appendix 7-A)

These efforts have been effective in minimizing FOG issues in the City’s residential areas and improving on the roots and debris issues in private lateral systems. The City will continue these practices to prevent sewer overflows caused by FOG, debris and roots.

7.4.2 Commercial Service Areas

The City funds the purchase and distribution of sewer pipe blockage control material for commercial service areas. Sewer pipe blockage control materials include:

- Brochure “Good Cleaning Practices” (See Appendix 7-A)
- Trap the Grease (See Appendix 7-B)

The City provides sewer pipe blockage control material to all FSE’s. The Environmental Compliance Inspector visits all restaurants annually (approximately around 200 restaurants) to perform visual inspections of operations, grease control, and required grease traps/interceptors and BMPs. In addition, the County of Los Angeles Industrial Waste Program also perform annual inspection annually. Enforcement is done collaboratively between the two agencies. As a result of an aggressive program, there is a low incidence of sewer pipe blockage related SSO’s in commercial service areas. The Environmental Compliance Inspector may periodically organize and facilitate workshops for restaurant owners and managers depending on need.

7.5 Plan and Schedule for Disposal of Fats, Oils, and Grease

The Requirement: A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of substances generated within a sanitary sewer system service area.

Solidified fats found in the collection system during cleaning operations are trapped, collected, and taken to the maintenance yard refuse bins. These and other debris collected from the...
system are taken to the City’s Material Recovery Facility (MRF). Businesses are required to contract fats, oil and grease disposal to a reputable grease collection company.

The majority of sanitary sewer overflows over the past 10 years have been caused by roots penetrating into private sewer laterals and extending into the City’s sewer mains. To mitigate the root problem, staff provides educational materials to residents year-round and utilizes its CCTV program to inform affected private lateral connections. Staff recommend residents to maintain their laterals annually and discourage them from disposing non-liquid materials to the sewer system.

7.6 Legal Authority

The Requirement: The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages.

The City’s legal authority to prohibit discharges to the system and identify measures to prevent SSO’s and blockages caused by fats, oils, and grease are handled by their agreement with Los Angeles County as outlined in Section 3. The County’s authority is as follows:

The Director of Public Works and Transportation under the LACO Plumbing Code, Title 28, has the legal authority to require the installation of grease interceptors at restaurants and other food establishments that generate grease. Section 20.36.560 of LACO Code also gives the Director of Public Works and Transportation the authority to require the installation of treatment facilities, including grease interceptors, at any facility that generates fats, oils, and grease in the amount that will damage or increase the maintenance costs of the sewer collection system. The LACO Code Section 20.24.090 gives the Director of Public Works and Transportation the legal authority to inspect mainline sewers, sewage pumping plants, interceptors, etc., as often as he deems necessary, to ascertain whether such facilities are maintained and operated in accordance with the provisions of Division 2 of the LACO Code. Section 20.36.400 of the LACO Code prohibits the discharge of fats, oils, and grease, and other substances that may, among other things, clog, obstruct, fill, or necessitate frequent repairs, cleaning out, or flushing of sewer facilities in the sewer system.

7.7 Grease Removal Device Requirements

The Requirement: Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements.

The County of Los Angeles Department of Public Works supplies Standard Plans for Grease Interceptors, Standard Plan 2046-0 and 2041-0 (See Appendix 7-C).
7.7.1 Maintenance Requirements

The Requirement: Requirements to install grease removal devices (such as traps or interceptors), design standards for removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements.

Each food service establishment is responsible for scheduling maintenance of their grease interceptors and traps. Inspections from the City and County of Los Angeles may require more frequent maintenance as needed and per inspection results.

Thru CCTV inspections, if a sewer later connection point is observed to have roots, Residents are recommended to perform lateral maintenance annually by either hydro jet or mechanical rodding (snaking). Residents are advised to coordinate with staff at the time of maintenance to prevent blockage from occurring at the sewer main.

7.8 Inspection Authority

The Requirement: Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.

Section 3 of the SSMP addresses legal authority to conduct inspections and enforce sewer ordinances.

The City’s Environmental Compliance Inspectors and County Industrial Waste Program Inspectors performs inspections yearly. The City’s municipal code authorized the City to inspect private facilities and equipment if it endangers public health and safety. This includes inspections for tree roots.

When sizable grease deposits are discovered during cleaning or inspection of the sanitary sewer system, the City’s Inspector notifies the fats, oils, and grease producer and documents the incident in writing.

7.9 Sewer Pipe Blockage Hot Spots and Preventive Maintenance

The Requirement: An identification of sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning maintenance schedule for each section.

7.9.1 Sewer Pipe Blockage Hot Spots

Sewer Pipe Blockage Hot Spots are sections of the City’s sanitary sewer system that are prone to sewer pipe blockages and sewer pipe blockage related SSO’s. The City’s Sewer Pipe Blockage Hot Spots are routinely maintained based on the 30-60-90 Day Maintenance Schedule. These locations are identified in Figure 7-4.
7.9.2 Preventive Maintenance of Sanitary Sewer System

The City’s Wastewater Division is responsible for maintenance of the sanitary sewer collection system. The Wastewater Division provides routine maintenance for Sewer Pipe Blockage Hot Spots sections. Given the low incidence of sewer pipe blockage related SSO’s, the sewer pipe blockage maintenance schedule is effective and requires re-evaluation to make the operation more efficient and address other problematic areas.

Although the City is not responsible for the individual sewer laterals, the City has implemented a program whereby the lateral point of connection can be observed while performing the Sewer Main CCTV efforts. In the event roots are observed at the lateral point of connection, a letter with a brochure is sent to the resident informing the of the problems and solutions.

7.10 Implementation of Source Control Measures

The City’s program for developing and implementing fat, oils, and grease control measures is described above. Elements of the program include the following:

- Public Outreach,
- Plan and Schedule for Disposal of fats, oils and grease,
- Legal Authority,
- Grease Removal Device Requirements,
- Inspection Authority, and
- Sewer Pipe Blockage Hot Spots and Preventive Maintenance.

The program will be evaluated periodically by the City and adjusted as needed.
Figure 7-4. 30-60-90 Day Maintenance Line Map, (Image source: Beverly Hills GIS)
APPENDIX 7-A. BROCHURE
WHAT IS A LATERAL SEWER LINE?

A lateral sewer line, also known as a house sewer connection, is the pipe that connects a house or a business to a city sewer system. Because the City of Beverly Hills does not allow septic systems, all houses and businesses must be connected to the City sewer system through one of these lines.

It is the responsibility of the home or business owner to maintain this line, including wye connections and all appurtenances to the sewer main. If the lateral is not properly maintained, it can lead to sewage blockages and overflow, which is not only an issue of public and environmental health, but can result in costly property damages and repairs.

CONTACT US

For more information about maintaining your sewer lateral, and our wastewater services, please visit our website www.beverlyhills.org/living/utilities/wastewatersewer/ or email us at AskPW@beverlyhills.org.
ADDITIONAL WASTEWATER INFORMATION

In addition to awareness of issues with your house sewer connection, it is important to be aware of other wastewater issues as well, such as sewer overflows. Any sort of sewer overflow, whether that be at your residence or on a city street, should be reported right away, as this leakage can pose threats to the public and environmental health.

To report an overflow or leak, contact Beverly Hills Public Works Customer Service.

Business Hours:
Monday - Thursday 7:30 am - 5:30 pm,
Friday 8:00 am - 5:00 pm
(310) 285-2467

After Hours:
(310) 550-4900

HOW TO MAINTAIN YOUR PRIVATE SEWER LATERAL LINE

Do's and Don'ts of Disposal

Yes: human waste, soaps, water, toilet paper
No: solids (feminine products, q-tips, wipes, diapers, cloth, etc.) fats/oils/grease, paper towels and other paper products, food waste, pharmaceuticals, hazardous waste, cements and soils.

It is important that only allowable materials are sent down the drain so blockages in private laterals and the City main can be avoided. Also be mindful of what you send through your drains, especially hazardous wastes and pharmaceuticals, as these materials can have an impact on the treatment of your wastewater.

Annual Maintenance

Lateral lines should be inspected and cleaned annually by a licensed plumber to avoid blockages and overflows. Cleaning involves either the use of a hydrojet or a snake to clear the line of any build up or tree roots that may have come into the line. Make sure to notify the Public Works Department when you have scheduled your inspection so personnel can be present to collect and remove debris that is deposited into the City sewer system.

SOME TIPS WHEN SCHEDULING YOUR ANNUAL MAINTENANCE

1. Get three different quotes
2. Make sure you are using a licensed plumber or contractor who has all required permits
3. Ask for a video inspection for a view of the pipe before and after the work is done

TO MAINTAIN, CONNECT, OR ABANDON A LINE

A permit is required to connect or abandon a sewer lateral. Please call:

Beverly Hills Public Works Department at
(310) 285-2467
GOOD CLEANING PRACTICES
Managing FATS, OIL and GREASE
POST IN CLEANUP/WORK AREA

THE RIGHT WAY

1. Wipe pots, pans, and work areas prior to washing.
2. Dispose of food waste directly into the trash.
3. Collect waste oil and store for recycling.
4. Clean mats inside over a utility sink. Use dry clean up for spills.

THE WRONG WAY

1. Do not pour cooking residue directly into the drain.
2. Avoid using the garbage disposal. Place greasy food in the trash.
3. Do not pour waste oil directly into the drain, parking lot or street.
4. Do not wash floor mats outside where water will run off directly into the storm drain. Do not rinse spills into the street.

For more information call (888) CLEAN LA or visit www.888CleanLA.com
APPENDIX 7-B. TRAP THE GREASE
Check out the Do's and Don'ts of FOG.

<table>
<thead>
<tr>
<th>DON'T</th>
<th>DO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash food scraps (solid or liquid) down the drain, dump them in the</td>
<td>Use mesh drain strainers to catch solid food scraps for disposal in a</td>
</tr>
<tr>
<td>toilet, or grind them up in the garbage disposal.</td>
<td>trash can.</td>
</tr>
<tr>
<td>Wash contents of soaking pots and pans down the drain.</td>
<td>Pour liquid food scraps, e.g. sauces, milkshakes, into a container</td>
</tr>
<tr>
<td></td>
<td>and place in the trash can.</td>
</tr>
<tr>
<td>Pour used oil down the drain.</td>
<td>Scrape plates over the trash can or dry wipe with a paper towel.</td>
</tr>
<tr>
<td>Pour hot grease (including poultry skimming) down the drain.</td>
<td>Pour used oil into a container with a top (the original if available)</td>
</tr>
<tr>
<td></td>
<td>so it can be reused, recycled, or placed in the trash can for</td>
</tr>
<tr>
<td></td>
<td>disposal.</td>
</tr>
<tr>
<td>Pour grease down the storm drain.</td>
<td>Pour cooled grease into a grease can or other container for</td>
</tr>
<tr>
<td></td>
<td>disposal and/or absorb with paper towels or newspaper.</td>
</tr>
<tr>
<td></td>
<td>Pour cooled grease into a container, seal it and place it in the</td>
</tr>
<tr>
<td></td>
<td>trash.</td>
</tr>
</tbody>
</table>

Mesh drain screens, paper towels and original oil containers are good tools for fighting FOG.

Other ways to be a part of the FOG solution include reporting any illegal dumping or spills immediately. You can also help by educating your neighbors and others in your community by sharing this website.
APPENDIX 7-C. GREASE TRAP STANDARD DETAILS
NOTES

1. THE APPROVAL OF THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS MUST BE OBTAINED BEFORE INSTALLATION.
2. THE INTERCEPTOR IS TO BE CONSTRUCTED OF TYPE II PORTLAND CEMENT CONCRETE.
3. INTERCEPTOR EXCEEDING 6'-6" IN DEPTH MUST BE CONSTRUCTED OF REINFORCED CONCRETE.
4. IF INSTALLED INSIDE OF BUILDING THE TOP OF INTERCEPTOR MAY BE LEVEL WITH FLOOR PROVIDED THAT WASTES ENTER THROUGH INLET PIPE ONLY.
5. ALL SURFACE WATER MUST DRAIN AWAY FROM INTERCEPTOR TO EXCLUDE RAIN WATER TO PUBLIC SEWERS.
6. ALL PIPING SHALL BE CAST IRON.
7. MANHOLE COVERS SHALL BE OF METAL.
8. STRUCTURE NOT FOR TRAFFIC LOADING.
OPTIONAL SIDE INLET

CLEANOUT, TRAP AND VENT AS REQUIRED BY PLUMBING CODE

NOTE:
INTERCEPTOR AND SAMPLING BOX MAY BE MONOLITHIC OR CAST SEPARATELY AND JOINED TOGETHER WITH EPOXY RESIN

PLAN

SECTION A-A

INLET

CLASS 6.0-5-3000 CONCRETE

MATERIALS

STATIC WATER LEVEL

RECTANGULAR SLOTS F & G, SEE TABLE

1/4 BEND CI SOIL PIPE

METAL COVERS

INLET

OUTLET

<table>
<thead>
<tr>
<th>CAPACITY</th>
<th>DIMENSIONS</th>
<th>COVER SIZE</th>
<th>METAL COVERS</th>
<th>PIPE SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>510</td>
<td>3'-0&quot; 9'-6&quot; 3'-0&quot; 2'-6&quot; 18&quot; 4 1/2&quot; 18&quot;</td>
<td>2'-10&quot; x 3'-4&quot;</td>
<td>1/4&quot; STEEL PLATE</td>
<td>4&quot; MIN.</td>
</tr>
<tr>
<td>866</td>
<td>3'-6&quot; 10'-3&quot; 4'-0&quot; 2'-9&quot; 24&quot; 6&quot; 21&quot;</td>
<td>3'-1&quot; x 3'-10&quot;</td>
<td>3/8&quot; ALUMINUM PLATE</td>
<td>4&quot; MIN.</td>
</tr>
<tr>
<td>1250</td>
<td>4'-0&quot; 12'-6&quot; 4'-0&quot; 3'-6&quot; 24&quot; 6&quot; 24&quot;</td>
<td>3'-10&quot; x 4'-4&quot;</td>
<td>3/8&quot; ALUMINUM PLATE</td>
<td>4&quot; MIN.</td>
</tr>
</tbody>
</table>

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

SAND & GREASE INTERCEPTOR

APPROVED

SUPERSEDES COUNTY ENGINEER STD. 1-2

STANDARD PLAN 2041-0

5/31/1992

DATE

SHEET 1 OF 2

DIRECTOR OF PUBLIC WORKS
NOTES

1. THE APPROVAL OF THE COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS MUST BE OBTAINED BEFORE INSTALLATION.

2. THE INTERCEPTOR TO BE CONSTRUCTED OF TYPE II PORTLAND CEMENT CONCRETE.

3. INTERCEPTOR EXCEEDING 6' - 6" IN DEPTH MUST BE CONSTRUCTED OF REINFORCED CONCRETE.

4. IF INSTALLED INSIDE OF BUILDING, THE TOP OF INTERCEPTOR MAY BE LEVEL WITH FLOOR PROVIDED THAT WASTES ENTER THROUGH INLET PIPE ONLY.

5. ALL SURFACE WATER MUST DRAIN AWAY FROM INTERCEPTOR TO EXCLUDE RAIN WATER FROM PUBLIC SEWERS.

6. STRUCTURE NOT FOR TRAFFIC LOADING.
SECTION 8. SYSTEM EVALUATION, CAPACITY ASSURANCE, AND CAPITAL IMPROVEMENTS

8.1 Introduction
This section of the SSMP outlines the City’s programs and activities to provide adequate hydraulic capacity in its collection system.

8.2 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan Section
The requirements for the System Evaluation and Capacity Assurance Plan section of the SSMP are:

GWDR (Element 8 – System Evaluation and Capacity Assurance Plan) Requirement:
The GWDR requirements for the System Evaluation and Capacity Assurance Plan are: Enrollee shall prepare and implement a capital improvement plan that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

- **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSO’s that escape the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.

- **Design Criteria**: Where design criteria do not exist or are deficient, undertake the evaluation identified in the Evaluation requirement above to establish appropriate design criteria.

- **Capacity Enhancement Measures**: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

- **Schedule**: The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed above in Evaluation, Design Criteria, and Capacity Enhancement Measures requirements. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D.14 (of the GWDR).

8.3 System Evaluation and Condition Assessment
The City of Beverly Hills has completed a condition assessment of the collection system by closed circuit television (CCTV) as was recommended in the 2010 Sewer Master Plan. The City
completed the CCTV inspection for the entire system by 2021. Repair and rehabilitation projects were initiated and completed as a result of the inspection.

The City is implementing an in-house CCTV program. The goal of the program is to inspect 20 miles of sewer main annually and complete system inspection in 5-years. The program will be utilizing PACP ratings as standard regulations and the approach will be the following:

1. Hot spots
2. None-lined or non-replaced sewer mains
3. Easements
4. Remaining parts of the City.
5. Quality Control/Quality Assurance (QA/QC) of the maintenance program

The City commits funds in its budget for operations to provide for a condition assessment of all manholes, gravity sewer main and pipe connections in its collection system on an ongoing ten-year cycle. The City currently places defective sewer main segments, manholes and other parts of the system on a CIP project that will address the defective parts of the system until a new CIP is established.

8.4 System Evaluation

In order to analyze the City’s sewer collection system and plan for upgrades, the City completed the Sewer System Master Plan in 2010 and an Integrated Water Resources Master Plan (IWRMP) in 2020. These planning documents provide a comprehensive assessment of the sewer system and provided guidelines and lists of potential projects to address deficiencies. Copies of these planning documents are publicly available at the Department’s website.

The major elements completed as a part of the 2010 Sewer System Master Plan and the 2020 Integrated Water Resources Master Plan include:

- A GIS of the sewer system
- CMMS that manages assets by maintenance and inspection
- Implemented a flow monitoring system to evaluate inflow and infiltration within the City
- Completed a design criteria
- Implemented a CCTV program and developed a CIP program resulting from CCTV inspection.
- Provided capital monies to implement system improvements.

The City of Beverly Hills sewer system is a gravity flow system consisting primarily of vitrified clay pipe constructed from the 1920s to the present. The local sewer collection pipelines are predominantly 8-inch in diameter, but diameters range from 6-inch to 36-inch and total over 100 miles. Approximately 35,000 residents are served by the City’s sewer system. The City’s sewer system has enough capacity to accommodate all wastewater flows. Wastewater generated in the City of Beverly Hills is conveyed by the City-owned gravity sewer (mains) pipelines into the sewer system owned by the City of Los Angeles and finally into the Hyperion Treatment Plant in Playa del Rey.
Flow monitoring was conducted for a period of 28 days to evaluate the normal flow conditions within the system and an extended flow data analysis was performed to assess the amount of rainfall entering the sanitary sewer collection system through defects. The analysis found the majority of the water entering the sewer system is through inflow directly into the sewer system. Included in the Capital Improvement Program (CIP), is an Inflow and Infiltration Study to develop a plan to reduce direct flows into the sewer system.

A system capacity analysis was conducted with the use of the updated and calibrated hydraulic model. The software used for the hydraulic model is Hydra by Pizer Incorporated. The purpose of the analysis was to simulate varying scenarios of different flow conditions to identify system deficiencies. As a result of the hydraulic model analysis, three projects were identified to alleviate the hydraulic capacity problems.

Table 8-1. Recommended Projects from Capacity Analysis

<table>
<thead>
<tr>
<th>Priority</th>
<th>Street</th>
<th>Diameter</th>
<th>Proposed Diameter</th>
<th>Total Length (LF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Peck Drive</td>
<td>8&quot;- 21&quot;</td>
<td>12&quot;- 27&quot;</td>
<td>5,891</td>
</tr>
<tr>
<td>2</td>
<td>Gregory Way</td>
<td>24&quot;- 30&quot;</td>
<td>30&quot;- 39&quot;</td>
<td>4,286</td>
</tr>
<tr>
<td>3</td>
<td>Oakhurst Drive</td>
<td>10&quot;-15&quot;</td>
<td>15&quot;- 21&quot;</td>
<td>2,915</td>
</tr>
</tbody>
</table>

Thus far, the existing lines have not shown capacity issues during normal and wet weather conditions. The City is planning to expand capacity for the Gregory Way sewer main by FY26/27.

8.5 Planning and Design Criteria

The 2010 Sanitary Sewer Master Plan established several criteria to model and evaluate the City’s sewer system, as described in this section. For a more detailed account of the planning and design criteria refer to Chapter 3 (Inflow and Infiltration Analysis and Chapter 6 System Analysis) of the 2010 Master Plan.

8.5.1 Flow Monitoring

In addition to the recommendations in the 2010 Sewer System Master Plan, the 2020 IWRMP completed follow-up and additional flow monitoring for the system. There were eleven (11) temporary flow monitoring locations installed and monitored for 28 days. Additionally, the City has eight permanent flow monitors in the collection system (owned by the City of Los Angeles) that monitor where the flow enters and leaves the City of Beverly Hills city limits. These flows were utilized to determine Dry Weather, Wet Weather, and Storm Events impacts on the sewer system. The temporary and permanent flow monitoring locations are summarized in Table 8-2 and 8-3.
Table 8-2. Temporary Sewer Flow Monitor Locations

<table>
<thead>
<tr>
<th>Flow Monitor</th>
<th>Location</th>
<th>Pipe Diameter (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHA01</td>
<td>157 S. Canon Drive</td>
<td>18</td>
</tr>
<tr>
<td>CRE02</td>
<td>141 S. Crescent Drive</td>
<td>15</td>
</tr>
<tr>
<td>WIL03</td>
<td>9244 Wilshire Blvd</td>
<td>21</td>
</tr>
<tr>
<td>OAK04</td>
<td>118 Oakhurst Drive</td>
<td>15</td>
</tr>
<tr>
<td>ECR05</td>
<td>358 S. Reeves Drive</td>
<td>18</td>
</tr>
<tr>
<td>GRG06</td>
<td>9328 Gregory Way</td>
<td>24</td>
</tr>
<tr>
<td>ROX07</td>
<td>1016 S. Roxbury Drive</td>
<td>8</td>
</tr>
<tr>
<td>BED08</td>
<td>809 N. Bedford Drive</td>
<td>15</td>
</tr>
<tr>
<td>OAK09</td>
<td>454 Oakhurst Drive</td>
<td>15</td>
</tr>
<tr>
<td>FTH10</td>
<td>322 Foothill Road</td>
<td>12</td>
</tr>
<tr>
<td>CRS11</td>
<td>806 N. Crescent Drive</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 8-3. Permanent Sewer Flow Monitor Locations

<table>
<thead>
<tr>
<th>Flow Monitor</th>
<th>Responsible Agency</th>
<th>Location</th>
<th>Pipe Diameter (in)</th>
<th>&quot;In&quot; or &quot;Out&quot; of City or BH?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LTM01</td>
<td>Los Angeles</td>
<td>Benedict Canyon &amp; Leona Dr.</td>
<td>12</td>
<td>In</td>
</tr>
<tr>
<td>LTM15</td>
<td>Los Angeles</td>
<td>Whittier Dr. &amp; Trenton Dr</td>
<td>10</td>
<td>In</td>
</tr>
<tr>
<td>LTM18</td>
<td>Los Angeles</td>
<td>Beverly Dr. &amp; Sutton Way</td>
<td>8</td>
<td>In</td>
</tr>
<tr>
<td>LTM19</td>
<td>Los Angeles</td>
<td>1240 Coldwater Canyon Rd.</td>
<td>8</td>
<td>In</td>
</tr>
<tr>
<td>AZ01</td>
<td>Beverly Hills</td>
<td>Arnaz Dr. &amp; Gregory Way</td>
<td>30</td>
<td>Out</td>
</tr>
<tr>
<td>GR01B</td>
<td>Beverly Hills</td>
<td>8704 Gregory Way</td>
<td>27</td>
<td>Out</td>
</tr>
<tr>
<td>LC01B</td>
<td>Beverly Hills</td>
<td>La Cienega, north of Olympic</td>
<td>36</td>
<td>Out</td>
</tr>
<tr>
<td>WH01B</td>
<td>Beverly Hills</td>
<td>8800 Whitworth Drive</td>
<td>18</td>
<td>Out</td>
</tr>
</tbody>
</table>

8.5.2 Dry Weather flow

The average dry weather flow is defined as wastewater production (WWP) and base infiltration and inflow (BI/I). The wastewater production is the actual wastewater flow that is generated as a result of water use. The BWW factor varies from 1.0 to 0.75 and averages to 0.80 for predominately residential basins like Beverly Hills. BI/I occurs from naturally high ground water tables, irrigation drainage or faulty plumbing. BI/Is are considered to be constant.

8.5.3 Wet Weather Flow

Wet weather is the total flow as a result of how the collection system responds to rainfall events. Therefore, this is considered Rainfall Infiltration and Inflow (RFI/I) and it can be dominated by quick inflow (defects in system) or by slow infiltration (rainfall induced).
8.5.4 Flow Allocation

In the hydraulic model, the flow allocation is completed with two techniques based on dry weather and wet weather flow conditions. The dry weather flow used the sub-basin manhole flow allocation. The wet weather flow used the parameter Inch Diameter Mile (IDM) method for allocating flow.

8.5.5 Future Population and Projected Flows

The projected population and corresponding flow projections were used for the future flow conditions. The California Department of Finance and the Southern California Council of Governments were consulted for existing and future projections. The ultimate future flow scenario represents the sanitary flow increase of only 7.2 percent from existing flows to year 2030. Redevelopment Project Flow Projections for various identified projects were also considered with the flow projections. The Redevelopment flow projections are located in Table 6-7 of the Sanitary Master Plan.

8.5.6 Flow Depth Criteria

Flow depth criteria were established as part of the master planning effort. These criteria are typically expressed in terms of maximum flow depth to pipe diameter (d/D) ratio. The following table indicates the classifications considered in the analysis of pipe capacity.

<table>
<thead>
<tr>
<th>Pipe Diameter (in)</th>
<th>d/D Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50 to 0.75</td>
<td></td>
</tr>
<tr>
<td>0.75 to 0.90</td>
<td></td>
</tr>
<tr>
<td>&gt; 0.90</td>
<td></td>
</tr>
<tr>
<td>&lt;18 “</td>
<td>Watch</td>
</tr>
<tr>
<td>&gt;18”</td>
<td>OK</td>
</tr>
</tbody>
</table>

8.6 Service Lateral Inspections

The City notifies a private property owner of record when there is a probable blockage in a lateral line based upon CCTV or other inspections of the main sewer lines.

The City has a standard plan review process to assess new sewer lateral connections to the system. Plan reviewers ensure that new connections do not exceed the sewer system capacity. Plan reviewers also ensure that the integrity of the sewer lateral and connection are in good condition. If they are not, plan reviewers and building inspectors require it to be replaced.

8.7 Smart Cover Monitoring System

SmartCover monitors provide both a way to immediately alert staff when an SSO occurs and, even more importantly, provides a predicative function using data collection and analysis in
order to identify emerging problems that could lead to SSOs and address them before a spill can occur.

This is achieved by continual monitoring of the water level within designated manholes in a collection system. When the water level rises above the customer predetermined acceptance level due to a constriction downstream or capacity issue, an alarm is sent directly to the wastewater staff. This enables the City to receive advance notice of an issue arising in the collection system so that corrective action can be taken before an overflow occurs.

The City purchased and installed thirteen (13) SmartCover units. These units were purchased to provide a warning system for potential sewer overflows. In addition, these units were purchased to measure sewer levels on certain locations of the City. Currently, ten (10) units are installed permanently, and three (3) temporary placed to further evaluate potential issues.

Since the installation, the SmartCover system has prevented potential sewer overflows and have been instrumental in sewer system maintenance and capital improvement planning.

8.8 Completed and Future Projects

As a result of the Sanitary Sewer Master Plan, Integrated Water Resources Master Plan, and any concurrent CCTV of the collection system, the City has completed and planning to implement the following projects. Below is a summary of those projects:

Table 8-3. Completed City Sewer Project

<table>
<thead>
<tr>
<th>Contractor</th>
<th>Date</th>
<th>Estimated Qty</th>
<th>Unit</th>
<th>Description</th>
<th>Total Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southwest Pipeline</td>
<td>September 2019 – August 2021</td>
<td>102,000</td>
<td>Linear Ft</td>
<td>Structural Lining of sewer main</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>121,000</td>
<td>Linear Ft</td>
<td>Cleaning and CCTV inspection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>150,000</td>
<td>Linear Ft</td>
<td>CCTV inspection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>85</td>
<td>Manhole</td>
<td>Sewer Manhole Rehabilitation (Structural lining, bottom remodel)</td>
<td>$5,254,211.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>170 (21 Locations)</td>
<td>Linear Ft</td>
<td>Sewer line point repairs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>Manhole</td>
<td>Adjust manholes to grade with new ring and covers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Manhole</td>
<td>New manhole installation</td>
<td></td>
</tr>
<tr>
<td>Mike Prlich and Sons</td>
<td>February 2020 to Present</td>
<td>14,000</td>
<td>Linear Ft</td>
<td>Cleaning, Heavy Cleaning, and CCTV inspection</td>
<td>$1,345,825.57</td>
</tr>
<tr>
<td></td>
<td></td>
<td>246</td>
<td>Linear Ft</td>
<td>Sewer line point repairs</td>
<td></td>
</tr>
<tr>
<td>Linear Ft</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>275</td>
<td>Sewer main – segment replacement (manhole to manhole)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Manhole</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjust manholes to grade with new ring and covers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Linear Ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sectional Structural Lining of Sewer Line (point repair)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>936</td>
<td>Linear Ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Structural Lining of sewer main</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>389</td>
<td>Linear Ft</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lining Drains within Easement</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In addition to projects initiated by the CCTV program, the Wastewater Division is planning to implement the Gregory Way Trunkline Expansion Project, the Roxbury Park Realignment Project, and the Sewer Rehabilitation and Easement Inspection Project. The Gregory Way Trunkline Expansion project will be initiated to provide relief to a trunk line close to 50% capacity.

The Roxbury Park Realignment Project will be initiated to address a sewer line that surcharges regularly during wet weather events. This line flows to Los Angeles so coordination with the LA Sanitation Bureau is necessary for this project.

The Sewer Rehabilitation and Easement Inspection Project will address various sewer rehab needs throughout the City. The Project is expected to last two years and cost around 8 million dollars.
SECTION 9. MONITORING MEASUREMENT AND PLAN MODIFICATION

9.1 Introduction
This section of the SSMP outlines the process that the City will follow to evaluate the effectiveness of the SSMP and to identify updates that may be needed for a more effective program. The City will be using the following methods to verify that the SSMP goals are being met and these goals are adequate for meeting the intent of the program, which is to minimize sanitary sewer overflows.

9.2 Regulatory Requirements for Monitoring Measurement and Plan Modification
The requirements for the Monitoring Measurement and Plan Modification section of the SSMP are:

GWDR (Element 9 – Monitoring Measurement and Plan Modification) Requirement:
The Plan must include an Adaptive Management section that addresses Plan-implementation effectiveness and the steps for necessary Plan improvement, including:

- Maintaining relevant information, including audit findings, to establish and prioritize appropriate Plan activities;
- Monitoring the implementation and measuring the effectiveness of each Plan Element;
- Assessing the success of the preventive operation and maintenance activities;
- Updating Plan procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and
- Identifying and illustrating spill trends, including spill frequency, locations and estimated volumes.

9.3 Operations and Maintenance Monitoring
The City uses Infor, a CMMS system, to monitor, record, and track maintenance activities in the sewer collection system. These include sanitary sewer overflows, blockages and their causes, sewer line cleaning and videoing, and sewer pipe blockage control activities. The data captured during these activities and the number of SSOs are used to evaluate the effectiveness of this program.

Since the implementation of Infor in 2018, tracking maintenance work order and scheduling have improved. Infor helped assessed problematic areas and address them with increase cleaning, plan for repair or contact property owners to address their lateral issues. Infor has also helped the City surpass its annual maintenance goals as shown in Table 9-3 and resulting to reduced sewer overflows as shown in Figure 9-1.
9.4 Performance Measurement

The City adopted the following performance measures for its wastewater collection system and for the effectiveness of its SSMP:

- Total number of SSO’s on an annual basis.
  - Goal: Less than industry standard of six (6) overflows per 100 miles of pipe.
- Number of SSO’s by each cause (roots, grease, debris, structural failure, inadequate hydraulic capacity, other)
- Portion of Volume Contained compared to Total Volume Spilled
- Volume of Spilled Sewage Discharged to Surface Water (direct vs indirect)
- Planned # of Preventative Maintenance Activities, Planned Total Pipe Cleaned, and Actual Total pipe cleaned

The City utilizes Infor and the California Integrated Water Quality Systems (CIWQS) to record and evaluate the information discussed above.

9.5 Performance Evaluation

The City’s performance data is based on the performance measurement listed in Section 9.4. Table 9-1 and Figures 9-1 through 9-2 provide an in-depth analysis of SSOs; Table 9-2 and Figure 9-3 provide SSOs by categories; and Table 9-3 provides maintenance goals and performance measures for the sewer system.

As identified in this plan, roots, roots from laterals and debris are the main causes of sanitary sewer overflows. Each type of blockage can be attributed to either maintenance quality, completing scheduled maintenance, and maintenance of private laterals.

Generally, roots and grease blockages are indicators for maintenance failure because these build-up over time. However, root blockages are more complex because roots can be introduced to the system in the following manner:

1. Growth in unlined pipes (typically coming from the pipe joints).
2. Growth from private laterals and protruding to the sewer main.
3. Root masses from private laterals are pushed to the sewer main during maintenance.

Root analysis in recent years is attributed to the growth from private laterals that protrudes into the sewer main. The City is not responsible in maintaining private laterals system and therefore utilizes public outreach and direct contact to recommend maintenance.

On the other hand, debris blockages are considered episodic and relatively not indicative of maintenance performance issues. Typically, debris blockages are caused by non-dissolvable materials like paper, rag, feminine hygiene products, and cement in the system.
9.5.1 System Performance Analysis

The City shall include a running 10-year system performance analysis. The performance analysis shall include the last ten (10) years of sewer overflows, category spills (i.e. CAT 1, 2, 3, etc.) and total spill volume. This analyses is reported annually to the State using the CIWQs. Tables 9-1 & 9-2 and Figures 9-1 through 9-4 summarizes the system’s performance in the last 10-years.

Table 9-1. Sanitary Sewer Overflows

<table>
<thead>
<tr>
<th>YEAR</th>
<th># OF SSO’S</th>
<th>SSO CAUSE</th>
<th>AVERAGE VOLUME CONTAINED</th>
<th>VOLUME SPILLED DISCHARGED TO SURFACE WATER</th>
<th>AVERAGE VOLUME SPILLED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DIRECTLY</td>
<td>INDIRECTLY</td>
</tr>
<tr>
<td>2013</td>
<td>8</td>
<td>3 - Roots 1 - Roots from lateral 1 - Grease 3 - Debris</td>
<td>106</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
<td>3 - Roots 1 - Grease</td>
<td>817</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2015</td>
<td>7</td>
<td>3 - Roots 2 - Roots from lateral 2 - Debris</td>
<td>46</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>2016</td>
<td>14</td>
<td>10 - Roots 1 - Roots from lateral 3 - Debris</td>
<td>1,051</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>2017</td>
<td>8</td>
<td>3 - Roots 4 - Roots from lateral 1 - Debris</td>
<td>1,109</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>2018</td>
<td>8</td>
<td>2 - Roots 1 - Roots from lateral 1 - Grease 3 - Debris 1 - Other</td>
<td>974</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>2019</td>
<td>3</td>
<td>3 - Debris from lateral</td>
<td>1723</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2020</td>
<td>1</td>
<td>1 - Roots</td>
<td>1080</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2021</td>
<td>4</td>
<td>1 - Roots 1 - Debris 2 - Debris from lateral</td>
<td>615</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2022</td>
<td>1</td>
<td>1 - Roots</td>
<td>155</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

1 – The spill volume of 2018 was caused by potable water pipe break which caused dirt and debris to enter the sewer system and cause a sewer system overflow. Because it was water main break, the City could not recover the mix of
Monitoring Measurement and Plan Modification

potable water and SSO discharge to the catch basin.

9.5.2 Future Prevention
The City will utilize the following preventive measures to reduces the number and likelihood of SSO's in the future:

- Assess maintenance scheduling effectiveness.
- Improve spill recovery.
- Expand lateral inspection.
- Notify homeowners to maintain their sewer lateral.
- Enforce lateral maintenance requirements.
- Reach out to the public regarding SSO’s.
- Modify plumbing code policy to prevent future overflows.
- Amend the City’s Municipal Code.

Figure 9-1. Total Number of SSOs
Table 9-2. Sanitary Sewer Overflows by Category

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Total #SSO</th>
<th># CAT 1 SSO</th>
<th># CAT 2 SSO</th>
<th># CAT 3 SSO</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>2016</td>
<td>14</td>
<td>3</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>2017</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>2018</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2019</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2020</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2021</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>2022</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>58</td>
<td>22</td>
<td>9</td>
<td>27</td>
</tr>
</tbody>
</table>

1. **CAT 1: SSO of any volume** resulting from a sanitary sewer failure or flow condition that:
   a. Reach surface water and/or reach a drainage channel tributary to a surface water; or
   b. Reach a MS4 and 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 the surface water unless the storm drain system discharges to a dedicated storm or groundwater infiltration basin.

2. **CAT 2: Discharges of untreated or partially treated wastewater greater than or equal to 1000 gallons** resulting from a sanitary sewer failure or flow condition that do not reach a surface water, a drainage channel, or the MS4 unless the entire SSO volume discharged to the storm drain system is fully recovered and disposed of properly.

3. **CAT 3: All other discharges of untreated or partially related wastewater resulting from a sanitary sewer system failure or flow condition.**
1 – The spill volume of 2018 was caused by potable water pipe break which caused dirt and debris to enter the sewer system and cause a sewer system overflow. Because it was water main break, the City could not recover the mix of potable water and SSO discharge to the catch basin.
In the last 10 years, Beverly Hills has a total of fifty-eight (58) overflows. Forty-one (41) occurred between 2013 to 2017 and seventeen (17) occurred between 2018 to 2022. There are a total of twenty-two (22) Category 1, nine (9) Category 2 and twenty-seven (27) Category 3 overflows during this time span. Roots, debris and roots from laterals are the major causes of sewer overflows. There’s been a significant decrease in sewer overflow in the last five years. This is attributed to maintenance improvements, including the implementation of Infor, installation of the Smart Covers, extensive public education to perform private lateral maintenance, CCTV inspection and repairing and rehabilitating the infrastructure. Tables 9-3 and 9-4 are examples of maintenance and system improvements that helped reduce sewer overflows.

Table 9-3. Maintenance Activity

<table>
<thead>
<tr>
<th>CALENDAR YEAR</th>
<th>ANNUAL PRIORITY SCHEDULED LINE CLEANING GOAL (FT)</th>
<th>ANNUAL NON-PRIORITY LINE CLEANING GOAL (FT)</th>
<th>TOTAL CLEANING GOAL (FT)</th>
<th>TOTAL PIPE CLEANED (FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>476,514.8</td>
<td>464,794.8</td>
<td>941,309.6</td>
<td>1,079,602.64</td>
</tr>
<tr>
<td>2019</td>
<td>476,514.8</td>
<td>464,794.8</td>
<td>941,309.6</td>
<td>1,167,878.97</td>
</tr>
<tr>
<td>2020</td>
<td>476,514.8</td>
<td>464,794.8</td>
<td>941,309.6</td>
<td>1,207,691.29</td>
</tr>
<tr>
<td>2021</td>
<td>476,514.8</td>
<td>464,794.8</td>
<td>941,309.6</td>
<td>1,109,493.93</td>
</tr>
<tr>
<td>2022</td>
<td>476,514.8</td>
<td>464,794.8</td>
<td>941,309.6</td>
<td>1,370,731.66</td>
</tr>
</tbody>
</table>

1. Yearly line footage for the 30/60/90 Day Priority Maintenance Schedule
2. Yearly line footage total not in the 30/60/90 Priority Maintenance Schedule
### Table 9-4. Lined Footage per Sewer District

<table>
<thead>
<tr>
<th>District</th>
<th>Number of Lines</th>
<th>Status</th>
<th>Lined Footage (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>42</td>
<td>Lined</td>
<td>13,887.96</td>
</tr>
<tr>
<td>2</td>
<td>81</td>
<td>Lined</td>
<td>18,427.15</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>Lined</td>
<td>6,911.15</td>
</tr>
<tr>
<td>4</td>
<td>70</td>
<td>Lined</td>
<td>24,835.82</td>
</tr>
<tr>
<td>5</td>
<td>60</td>
<td>Lined</td>
<td>16,620.76</td>
</tr>
<tr>
<td>6</td>
<td>67</td>
<td>Lined</td>
<td>19,419.23</td>
</tr>
<tr>
<td>7</td>
<td>78</td>
<td>Lined</td>
<td>17,417.26</td>
</tr>
<tr>
<td>8</td>
<td>47</td>
<td>Lined</td>
<td>13,880.79</td>
</tr>
<tr>
<td>9</td>
<td>77</td>
<td>Lined</td>
<td>22,403.98</td>
</tr>
<tr>
<td>10</td>
<td>58</td>
<td>Lined</td>
<td>18,214.35</td>
</tr>
<tr>
<td>11</td>
<td>68</td>
<td>Lined</td>
<td>19,630.20</td>
</tr>
<tr>
<td>12</td>
<td>72</td>
<td>Lined</td>
<td>14,714.50</td>
</tr>
<tr>
<td>13</td>
<td>47</td>
<td>Lined</td>
<td>13,325.06</td>
</tr>
<tr>
<td>14</td>
<td>44</td>
<td>Lined</td>
<td>13,145.34</td>
</tr>
<tr>
<td>15</td>
<td>84</td>
<td>Lined</td>
<td>13,581.95</td>
</tr>
<tr>
<td>16</td>
<td>39</td>
<td>Lined</td>
<td>9,739.58</td>
</tr>
<tr>
<td>17</td>
<td>56</td>
<td>Lined</td>
<td>10,138.12</td>
</tr>
<tr>
<td>18</td>
<td>66</td>
<td>Lined</td>
<td>12,603.94</td>
</tr>
<tr>
<td>19</td>
<td>21</td>
<td>Lined</td>
<td>5,863.56</td>
</tr>
<tr>
<td>20</td>
<td>18</td>
<td>Lined</td>
<td>4,422.45</td>
</tr>
<tr>
<td>21</td>
<td>19</td>
<td>Lined</td>
<td>4,122.96</td>
</tr>
</tbody>
</table>

A total of 293,306 ft (55.6 miles) of the City’s sewers have been lined. This is 57% of the City’s entire gravity sewer network, which is approximately 98 miles in total length.

Between maintenance activity and sewer lining, the City is managing the root intrusion issue in the sewer system. The City will continue to evaluate additional sewer lining to further reduce root intrusion problems in the system.

### 9.6 Program Modifications

Based on the Performance Evaluation in Section 9.5, the City has been implementing changes to improve its performance and meet the goals of the SSMP. First, the City has implemented Infor, a CMMS system, that has helped the City manage its maintenance schedule and provides a complete assessment of the system. The Infor system has helped the City properly plan upgrades and adjustment to maintenance schedule. Secondly, the City is addressing
lateral root issues by extensive public education, lateral inspection, and notification. The lateral noticing program enables the City to inform property owners to maintain their lateral connections to prevent blockages and reduce the risks for property damage. As an extension of the program, the City will begin recommending an inspection of private laterals for new and substantially remodeled projects. This recommendation would help property owners address lateral system issues prior to the construction of new buildings.

The City is also considering amending the municipal code to address the roots intrusion from abandoned private laterals. The municipal code can be updated by terminating lateral connections at the sewer main and not at the property line.

For subsequent years, the City will review the performance measurements and make modifications to its program. Formalizing modifications will be part of updating the SSMP every 3 and 6 year cycle. The City will determine the need to update its SSMP more frequently based on the results of the audits and performance of its collection system.

The City staff will seek approval from the City Council for any significant changes to the SSMP. Minor changes such as employee names, contact information, or minor procedural revisions can be handled by the Environmental Compliance and Sustainability Manager.
SECTION 10. SSMP PROGRAM AUDITS

10.1 Introduction
This section of the SSMP outlines the City’s audit process and effectiveness of the SSMP. The audit program is critical to ensure the City’s sewer system is operating properly and correct any deficiencies that can lead to SSO’s.

10.2 Regulatory Requirements for SSMP Program Audits
The requirements for the SSMP Program Audits section of the SSMP are:

GWDR (Element 10 – SSMP Program Audits) Requirement:
The GWDR requirements for the SSMP Program Audits are:

- As part of the SSMP, Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSO’s.
- At a minimum, these audits must occur every three years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee’s compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them.

10.3 Audits
The City of Beverly Hills will conduct periodic internal audits at a minimum of at least once every three calendar years and submit it six (6) months after the end of the 3-year audit period. The audit will be conducted by a team consisting of the Environmental Compliance and Sustainability Programs Manager, Drainage System Supervisor and remaining operators. The audit may also include outside sister agencies and/or consultants.

The scope of the audit will cover each of the major sections of the SSMP and will be summarized through the completion of Table 10-1, Audit Checklist and an accompanying Audit Report. The Report will address the following topics and will be submitted to CIWQS 6-months after the 3rd-year audit has been completed. The audit report at minimum should contain the following elements:

- Evaluate the implementation effectiveness of the City’s SSMP in preventing spills
- Evaluate the City’s compliance with the General Order
- Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and
- Identify necessary modifications to the SSMP to correct the deficiencies.
- A proposed schedule for the City to address the identified deficiencies.

10.4 Updates
The City will determine the need to update its SSMP based on the results of the audit and the performance of its wastewater collection system determined from the Monitoring and Measurement Program Modification Section 9 of the SSMP. In the event the City decides that
an update is warranted, the process to complete the update will be identified in the Audit Report. The City will then strive to complete the update within the same calendar year as the audit takes place.
Table 10-1. Audit Checklist

<table>
<thead>
<tr>
<th>SECTION</th>
<th>TITLE</th>
<th>REQUIREMENT</th>
<th>IS SSMP CURRENT?</th>
<th>ITEMS TO CONFIRM</th>
<th>IMPLEMENTATION SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Goals</td>
<td>Provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system in order to reduce and prevent SSOs, and mitigate any SSOs that do occur.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce, prevent, and mitigate SSO’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Organization</td>
<td>Provide the names, contact information, and chain of communication of the management, administrative, and maintenance positions responsible for implementing the SSMP program.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Designate LRO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Names and phone numbers for key management personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Names and phone numbers for key administrative personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Names and phone numbers for key maintenance personnel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chain of communication for reporting SSO’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Legal Authority</td>
<td>Demonstrate the City possesses the necessary legal authority to prevent illicit discharges, require proper sewer design and construction, ensure access for maintenance and inspection, limit FOG and debris, and enforce violations.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prevent illicit discharges to sanitary sewer system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Require sewers and connection be properly designed and constructed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ensure access for inspection, maintenance, and repairs (includes public portion of lateral)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Limit discharge of FOG and debris that may cause blockages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Require the installation of grease removal devices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ability to inspect FOG producing facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enforce violations of the City’s sewer ordinances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>O&amp;M Program</td>
<td>Maintain up-to-date sanitary sewer system map, describe O&amp;M activities, develop a rehabilitation and replacement plan, and provide equipment and replacement part inventories.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECTION</td>
<td>TITLE</td>
<td>REQUIREMENT</td>
<td>Is SSMP CURRENT?</td>
<td>ITEMS TO CONFIRM</td>
<td>IMPLEMENTATION SCHEDULE</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Maintain up-to-date maps of sanitary sewer system</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Describe routine preventive maintenance program</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Document completed preventive maintenance using system such as work orders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rehabilitation and replacement plan that identifies and prioritizes sanitary sewer system defects</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide regular technical training for City sanitary sewer system staff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Require contractors to provide training for their workers who work in the City’s sanitary sewer system facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maintain equipment inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maintain critical spare part inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Have a reliable and operating sewer cleaning and CCTV Inspection equipment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Design and Performance Provisions</td>
<td>Provide design and construction standards for new construction as well as procedures and standards for inspection and testing.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design and construction standards for new sanitary sewer system facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Design and construction standards for repair and rehabilitation of existing sanitary sewer system facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Procedures for the inspection and acceptance of new sanitary sewer system facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECTION</td>
<td>TITLE</td>
<td>REQUIREMENT</td>
<td>IS SSMP CURRENT?</td>
<td>ITEMS TO CONFIRM</td>
<td>IMPLEMENTATION SCHEDULE</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedures for the inspection and acceptance of repaired and rehabilitated sanitary sewer system facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>OERP (SSORP)</td>
<td>Prepare and implement an overflow emergency response plan that identifies measures to protect public health and the environment.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedures for the notification of primary responders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedures for the notification of regulatory agencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program to ensure appropriate response to all SSO’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proper reporting of all SSO’s</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedure to ensure City staff are aware of and follow SSORP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedure to ensure City staff are trained in the SSORP procedures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedure to ensure contractor personnel are aware of and follow SSORP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedure to ensure contractor personnel are trained in the SSORP procedures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedures to address emergency operations such as traffic and crowd control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program to prevent the discharge of sewage to surface waters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program to minimize or correct the impacts of any SSO’s that occur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program of accelerated monitoring to determine the impacts of any SSO’s that occur</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>FOG Control Program</td>
<td>Prepare and implement a FOG source control program to reduce the amount of these substances discharged into the sanitary sewer system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public outreach program that promotes the proper disposal of FOG</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECTION</td>
<td>TITLE</td>
<td>REQUIREMENT</td>
<td>IS SSMP CURRENT?</td>
<td>ITEMS TO CONFIRM</td>
<td>IMPLEMENTATION SCHEDULE</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Plan for the disposal of FOG generated within the City’s service area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrate that the City has allocated adequate resources for FOG control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of sanitary sewer system facilities that have FOG-related problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Program of preventive maintenance for sanitary sewer system facilities that have FOG-related problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>System Evaluation, Capacity Assurance and Capital Improvements</td>
<td>Prepare and implement a capital improvement plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather and wet weather flow conditions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identification of elements of the sanitary sewer system that experience or contribute to SSO’s caused by hydraulic deficiencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Established design criteria that provide adequate capacity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term CIP that address known hydraulic deficiencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term CIP that address known hydraulic deficiencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedures that provide for the analysis, evaluation, and prioritization of hydraulic deficiencies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The short- and long-term CIP’s include schedules for the correction of each identified hydraulic deficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Monitoring, Measurement, and Program Modifications</td>
<td>Maintain relevant SSMP information, monitor the SSMP implementation, assess and update SSMP elements, and identify SSO trends.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECTION</td>
<td>TITLE</td>
<td>REQUIREMENT</td>
<td>IS SSMP CURRENT?</td>
<td>ITEMS TO CONFIRM</td>
<td>IMPLEMENTATION SCHEDULE</td>
</tr>
<tr>
<td>---------</td>
<td>-------</td>
<td>-------------</td>
<td>------------------</td>
<td>------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Maintain relevant information to establish, evaluate, and prioritize SSMP activities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Monitor implementation of the SSMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Measure, where appropriate, performance of the elements of the SSMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assess success of the preventive maintenance program</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Update SSMP program elements based on monitoring or performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Identify and illustrate SSO trends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>SSMP Program Audits</td>
<td>Conduct periodic internal audits, evaluating the effectiveness of the SSMP and the Enrollee’s compliance with the SSMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conduct periodic audits</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Record the results of the audit in a report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Record the changes made and/or corrective actions taken</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Comms. Program</td>
<td>Communicate on a regular basis with the public on the development, implementation, and performance of the SSMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communicate with the public regarding the performance of the SSMP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communicate with tributary or satellite sewer systems</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SECTION 11. COMMUNICATION PROGRAM

11.1 Introduction
This section of the SSMP outlines the process involved in communicating with interested members of the public regarding the development, implementation, and performance of this plan.

11.2 Regulatory Requirements for Communication Program
The requirements for the Communication Program section of the SSMP are:

GWDR (Element 11 – Communication Program) Requirement:
The GWDR requirements for the Communication Program are:
• The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.
• The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee’s sanitary sewer system.

11.3 Communication during SSMP Development (and Updates)
The City announced that it was requesting proposals for the SSMP Document update as required per the General Waste Discharge Requirements (GWDR). This update incorporated the amended MRP Order Number WQ 2022-0103-DWQ changes. Cannon Corporation was retained to develop an update to the City’s 2023 SSMP Document. Recertification by the City Council is required.

Future updates will be announced in a similar manner or completed in-house.

11.4 Communication regarding Sewer System Performance
The City will make information on the performance of its sanitary sewer system performance available for review. The performance information will include the performance indicators listed in Section 9 of the SSMP and will be compiled annually. The report will be made available annually during the Public Works Commission meetings. Public Works Commission reports are available in this website:
https://www.beverlyhills.org/departments/publicworks/publicworkscommission/agendasandminutes/

The most recent compilation of the City’s sanitary sewer system performance information is available for review during normal business hours. Interested parties can contact Josette Descalzo (jdescalzo@beverlyhills.org & 310-285-2554) for additional information.
The City reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data, as well as information regarding regulatory actions, is available at:

http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.shtml

The City will direct interested parties to the CIWQS public access website. In addition, the City will report the performance of its sanitary sewer system to the Public Works Commission quarterly at a regularly scheduled meeting and the performance information will be included in the minutes of that public meeting. The performance information will include the performance indicators listed in Section 9 of the SSMP and will be compiled annually as stated above.

11.5 Communication with Satellite Collection Systems

City of Los Angeles: The City of Beverly Hills entered into an agreement with the City of Los Angeles on March 9, 1999 for the conveyance, treatment and disposal of wastewater. This agreement is included as Appendix 3-B in this SSMP.

County of Los Angeles: The City of Beverly Hills entered into an agreement with the County of Los Angeles on August 14, 1990 for the enforcement of the industrial waste provisions of the City’s Municipal Code. These services include, but are not limited to providing inspections, filing of required reports, and issuing permits. The services shall also include the inspection of open sanitary spills only in the event that the City, by action of City Council, requests such services. This agreement is included as Appendix 3-C in this SSMP.