



A handwritten signature in cursive script, reading 'Arnold Shadbehr'.

Arnold Shadbehr
Public Works Director/City Engineer

City Of Hawthorne
Public Works Department, Engineering
4455 West 126th Street, 2nd Floor
Hawthorne, California 90250

ENGINEER'S REPORT
SEWER SERVICE FEE
IN THE CITY OF HAWTHORNE UNDER THE
PROVISIONS
OF CHAPTER 13.74 OF THE MUNICIPAL CODE OF THE CITY OF
HAWTHORNE, CALIFORNIA

FILED with the City Clerk
On September 22, 2010

A handwritten signature in cursive script, reading 'Norbert A. Huber'.

Norbert Huber
City Clerk

The City of Hawthorne's sewer service fee was established in January 1995. It was revised in 2005 at which time the rate for sewer maintenance was set at \$0.38 per 100 cu. ft. (CCF) of water used multiplied by a factor. It was estimated that the typical monthly charge for a single family home would be \$3.70 (based on average water billing of 15 CCF/month). This fee is to provide for maintenance and capital improvements to the City sewer system. Costs relating to County trunk lines as well as the treatment and disposal of sewage are billed by the County annually via the property tax on each property. This report recommends no changes in the County portion of the sewer service.

Hawthorne's sewer system is very old - more than 70 years old in some parts of the City - and there have been almost no replacements prior to the past two years. Most authorities estimate sewer system life expectancy at 70- 90 years and thus the system is nearing the end of its useful life.

The 2005 increase in the sewer fee was an effort to generate the funding necessary to begin investigating the aging sewer system and to meet the demands of the State's new General Waste Discharge Requirements (WDR), which includes a comprehensive Sanitary Sewer Management Plan (SSMP) in order to reduce the number of sanitary sewer overflows. These new regulations created a strict timetable of tasks that local agencies are required to follow. These required tasks include the creation of a sewer system management plan (SSMP) that details: sewer operation and maintenance programs, overflow response programs, and sewer system evaluation. Additionally, agencies were required to implement a Fats, Oils and Grease (FOG) prevention program and are required to do monthly on-line reporting of sewer overflows.

Regular maintenance and proactive sewer capital improvements are necessary to not only ensure the health and safety of the community, but also to avoid the potential legal penalties for improper operation of the sewer system. In the event of a sanitary sewer overflow, the city is liable for penalties from the State of up to \$10,000 per day of violation plus an additional liability of \$10 per gallon of sewage for each gallon over 1,000 gallons where there is a discharge that is not cleaned up. This is in addition to potential fines of up to \$20,000 for not notifying the Office of Emergency Services (OES) in a timely manner of a discharge of hazardous substances that exceeds the reportable quantity or more than 1000 gallons of sewage.

The City immediately went into action by creating a Sewer Master Plan. This involved flow monitoring, video inspection of the sewer system and hydraulic modeling. The City spent over \$600,000 to create this Master Plan and hydraulic model of its entire 100 miles of sewer collection network system. As a result this master plan detailed the current condition of the City's Sewer system and prescribed a capital improvement plan to ensure the system's future adequacy. To this date we have completed the video inspection of 60 miles of sewer pipes yet we still have to investigate the remaining 40 miles to comply with the State SSMP mandate, and to update our Sewer Master plan.

The Engineering Division of the Public Works Department completed the design of our first ever Sewer Capital Improvement project tackling the most severely damaged or deficient pipes and manholes as had been identified in the Sewer Master Plan. In 2007 we advertized for construction bids and began work on the priority items of the master plan. Over \$2,500,000 of work was done including:

- Upgrading 1344 lineal feet of 8" sewer line to 12"
- Upgrading 816 lineal feet of 8" sewer line to 10"
- Upgrading 1687 lineal feet of 10" sewer line to 12"
- Rehabilitating 6623 lineal feet of sewer line with PVC lining
- Point repair and reconstruction of sewer pipes at 24 locations.
- Replacement of 15 and rehabilitating of 118 manholes
- Replacement of 73 sewer laterals

A separate project replaced 1250 lineal feet of sewer line and 4 manholes on Rosecrans Avenue. This increased the line size from 8" to 12".

In addition, the Public Works own Maintenance crew has done a number of emergency repairs including a replacement of 60 lineal feet of broken sewer line on El Segundo Blvd.

Public Works has also installed 50 Smart Cover overflow detection devices at strategic locations throughout the City that cost over \$100,000.

In summary, the City is following an ambitious program for sewer maintenance and repair to meet the needs of a growing population. To maintain this program and meet the capital improvement schedule detailed in the sewer master plan, the city must increase its sewer funding. Currently, the City receives average annual revenue from sewer fees of \$1.1 million. About seventy-five percent of this goes to regular maintenance and engineering activities leaving only \$300,000 annually for capital improvements. To replace a reasonable amount (3,000 ft.) of sewer pipe annually of the more than 60,000 ft. of sewer in need of replacement and rehabilitate 4000 ft of pipeline and 100 manholes will cost \$1.4M.

The proposed fee increase will provide funds to continue with replacement and upgrade projects although at a slower pace. There are currently places which require cleaning monthly and it is much more cost effective to replace these sections of the system than to continue the labor intensive monthly cleaning. The amount currently budgeted for capital improvements will provide for only one Capital Improvement Project once every 6 years. It does not provide sufficient funds for systematic replacement and upgrade of the oldest sections of sewer system.

The staff conducted research of the Sewer Service Fee of several different cities and agencies through their websites. Result shows that those cities use various strategies from lump sum charges/ month (or year in the case of Culver City) to more sophisticated fees based on water use and other factors. Other cities such as Manhattan Beach base the fee on a fixed amount dependent on water meter size plus a variable amount depending on water usage with a factor to account for differences in amount of irrigation. A single family house, for example, uses a

larger amount of the water for irrigation than does a typical commercial or industrial customer and thus a single family house sends less percentage of water to the sewer system. This latter strategy is believed to be more rational since some types of customers have continuous usage of the sewer system while others have a much more variable and demanding usage of the sewer system.

The staff has considered the requirements of Prop. 218 in the recommendations included and have made sure the sewer service fees are based on sewer usage and not on property sizes or values. Studies by a number of agencies have shown that sewer flows vary by land use approximately as shown below:

Sewer flow as a percentage of water billed (remainder is irrigation and other minor uses)

Single family	65%
Multi-family	85%
Commercial-industrial	95%

Thus the proposed fee in this report is based on the portion of the water which is carried to the sewer and is therefore more rational and fairer to single family homeowners since the portions used for irrigation are greater for single family homes than for other users.

Hawthorne (for the past 5 yrs.)

Based on the water used

Single family $65\% * \$0.38/CCF = 3.70/$ month for 15 CCF (1500 cu.ft.)

Sewer Service Charges in other cities:

Redondo Beach

Single Family/2-3 unit condo	\$8.40/month
2-3 unit apartment/ 4 or more unit condo complexes	\$6.45/unit/month
4 or more unit apartment	\$4.50/unit/month
Commercial/industrial	\$0.72/CCF (per hundred cu. ft. of water) Added charges for excessive maintenance.

Manhattan Beach

Single family house Approximately \$20/month which includes a flat fee
That varies per meter size and \$0.40 per CCF

Rates of other cities (monthly)

El Segundo	\$15.57 for Single Family regardless of usage
Gardena	\$10.83 for Single Family regardless of usage
Long Beach	\$9.57
Inglewood	\$6.25
Culver City	\$42.32 + \$2.23/CCF
Santa Monica	\$25.64
Los Angeles	\$49.05

ANALYSIS OF REVENUES AND EXPENDITURES FOR PROPOSED SEWER SERVICE FEE INCREASE IN THE CITY OF HAWTHORNE

REVENUES

The two water companies sell approximately four million ccf (hundred cubic feet) of water to customers per year. At the current rate of \$0.38 / ccf, which was established in 2005 approximately \$1,100,000 is generated annually. To generate approximately \$1,650,000 per year the rate must be increased to \$0.57/CCF and the approximate monthly cost to typical customers in various use categories will become as outlined below:

Typical customers	Typical customer consumption* X use factor for proposed billing	Current typical monthly charge	Proposed typical monthly charge
Single family house	15 x .65	\$3.70	\$5.56
Multi-family			
4 unit condominium	40 x .85	\$13.24	\$19.38
4 unit apartment	27 x .85	\$ 8.72	\$13.08
24 unit apartment	152 x .85	\$49.10	\$71.06
Commercial			
Small Restaurant	30 x .95	\$10.83	\$15.68
Laundry	214 x .95	\$77.25	\$111.82

* as estimated in 2005

AVERAGE ANNUAL EXPENDITURES

See discussion of needs in Sewer Service fees- discussion

Administration	\$ 90,000
Routine Sewer Maintenance and Operating Costs to prevent sewer system overflow	\$ 720,000
Equipment	\$ 50,000
Sewer Master Plan updates & Capital Improvements	\$1,400,000
CCTV investigation of pipelines	\$ 40,000
Total	\$2,300,000

The sewer fund currently has a shortfall of \$976,000. Even if the proposed sewer service fee increase is approved the projected sewer fee revenue is approximately \$1,650,000 and there will still be an operating and capital improvement deficit in an amount of \$650,000 based on the estimated total expenditures and proposed revenue. This amount will be offset by delaying upcoming capital improvement projects until sufficient funds are accumulated over the next few years.