



Public Works Department  
Engineering Division

## MEMORANDUM

---

**Date:** March 14, 2012

**To:** Storm Drain Oversight Committee

**From:** Joe Teresi (x2129)  
Senior Engineer

**Subject:** Submittal of the Storm Drainage Fund year-end report for FY 2010-11

Attached please find documents to assist the Committee with its assigned task of comparing the Storm Drainage Fund FY 2010-11 Year-End Report with the 2005 Storm Drainage Fee increase ballot measure approved by Palo Alto property owners. Staff believes that the materials are presented in a manner which demonstrates that the FY 2010-11 Storm Drainage Fund expenditures are compatible with the approved ballot measure.

The following materials are provided for your review:

1. "Description of Proposed Storm Drainage Fee Increase," included with the official notices mailed to each property owner prior to the March 7, 2005 public hearing on the proposed fee increase.
2. "Resolution No. 8483," adopted by the City Council on December 6, 2004 and included with the storm drain ballots mailed to each property owner prior to the April 26, 2005 Storm Drainage Fee increase ballot proceeding.
3. Summary of Use of Storm Drainage Fee Increase for FY 2010-11
4. Matrix comparing approved Storm Drainage Fee increase ballot measure with 2010-11 Storm Drainage Fund expenditures.
5. Highlights of 2010-11 Storm Drainage Year-End Report.

If you have any questions or need further information regarding the attached information, please contact me at (650) 329-2129.

# **DESCRIPTION OF PROPOSED STORM DRAINAGE FEE INCREASE**

**Reason for the Proposed Fee Increase.** The storm drainage fee was established by the City Council in 1989 as a means to fund storm drain capital improvements, maintenance, and storm water quality protection programs. Although several key storm drain projects have been implemented, significant additional drainage improvements are needed throughout the City. The fee was last increased in 1994. Revenues under the current fee structure are inadequate to fund current operations, which has necessitated a subsidy from the General Fund for the past several years. The proposed increased fee would pay for the following items:

A. Seven proposed storm drain capital improvement projects

A detailed description and map of the proposed capital improvement projects are provided below.

B. Proposed funding for enhanced maintenance of the City's storm drain system

1. \$500,000 budgeted annually (subject to annual adjustment for inflation) to replace and/or rehabilitate deteriorated components of the City's storm drain system, including pipelines, catch basins, and manholes.
2. \$90,000 budgeted annually (subject to annual adjustment for inflation) to fund additional storm drain maintenance resources, including staff and/or contract services, to perform services including, but not limited to, storm drain cleaning, minor storm drain repairs, and/or video inspection of storm drain pipelines.

C. Funding of innovative projects

\$125,000 budgeted annually (subject to annual adjustment for inflation) for innovative projects to reduce the amount of storm water runoff and environmental pollutants that enter storm drains and creeks.

D. Funding of storm water quality protection activities

\$100,000 budgeted annually (subject to annual adjustment for inflation) to pay for existing services related to storm water quality protection currently funded through the Wastewater Treatment Fund.

E. Funding of additional engineering staff

\$115,000 budgeted annually (subject to annual adjustment for inflation) for an additional staff engineer to assist with implementation of the recommended storm drain capital improvements.

## **PROPOSED STORM DRAIN CAPITAL IMPROVEMENT PROJECTS**

**1. Construct pump station at 96" storm drain outfall to San Francisquito Creek (estimated cost = \$4.5 million)**

A 1250-acre area in the northeastern portion of the City drains through a single 96" outfall pipe into San Francisquito Creek downstream of Highway 101. High creek levels prevent this pipe from draining freely, causing storm runoff to back up and pond in streets and gutters. Street flooding frequently occurs on streets throughout the Green Gables, Crescent Park, and Walnut Grove neighborhoods.

Installation of a pump station at the 96" outfall is the initial step in improving drainage in this watershed. The pump station will alleviate chronic street flooding by allowing the streets to be drained regardless of the creek level. This work will be carefully coordinated with the Santa Clara Valley Water District and the San Francisquito Creek Joint Powers Authority in order to avoid any negative flooding impacts on San Francisquito Creek.

**2. Install new storm drain pipelines to increase drainage capacity on Channing and Lincoln Avenues (from Channing/Heather to Lincoln/Alma) (estimated cost = \$4.6 million)**

The existing Channing Avenue box culvert between Heather Lane and Newell Road is at a higher elevation than the tributary storm drains that feed into it at Newell Road and from De Soto and Walter Hays Drives. This hydraulically inefficient condition causes

the upstream pipes to back up and water to pond onto the street surface at multiple locations upstream of the Newell Road/Channing Avenue intersection. Drainage in the Professorville neighborhood is extremely poor due to undersized storm drain pipelines.

Installation of new storm drains along Channing and Lincoln Avenues will provide needed drainage capacity. The Green Gables, Walnut Grove, Community Center, and Professorville neighborhoods will benefit from this proposed project.

**3. Install Southgate neighborhood storm drain system (estimated cost = \$2.0 million)**

The Southgate neighborhood drains to a single storm drain inlet at the corner of Mariposa and Sequoia Avenues. There are no underground storm drain pipelines to serve the neighborhood, and there are many sections of uneven curb and gutter that pond water during rain events.

The recommended infrastructure improvements include the construction of additional storm drain inlets, new pipelines, and curb and gutter repairs to eliminate street flooding in the Southgate neighborhood.

**4. Extend Gailen Avenue/Bibbits Drive storm drain outfall to the Adobe Storm Water Pump Station (estimated cost = \$650 thousand)**

A 280-acre watershed in the Charleston Terrace, Greenhouse, and Greenmeadow neighborhoods is served by a 36" storm drain that flows by gravity into Adobe Creek behind Bibbits Drive. Once the water level in Adobe Creek rises, the pipeline cannot drain by gravity. Subsequently, water begins ponding on Bibbits Drive and Gailen Avenue, and causes back-ups upstream in the drainage system.

The recommended infrastructure improvements involve the construction of 1,800 feet of 36" storm drain to connect the existing gravity outfall to the Adobe Pump Station. Connection of this watershed's drainage system to the pump station will allow the streets to be drained regardless of the creek level.

**5. Connect the Clara Drive storm drains to the Matadero Storm Water Pump Station (estimated cost = \$900 thousand)**

Clara Drive currently drains to Matadero Creek by gravity. Street flooding occurs during even moderate storm events, with the extent of the ponding increasing with the creek level.

Connection to the pump station will allow Clara Drive to drain regardless of the creek level.

**6. Construct improvements to the Matadero Storm Water Pump Station and install new storm drain pipelines to increase drainage capacity leading to the Matadero Storm Water Pump station (estimated cost = \$3.0 million)**

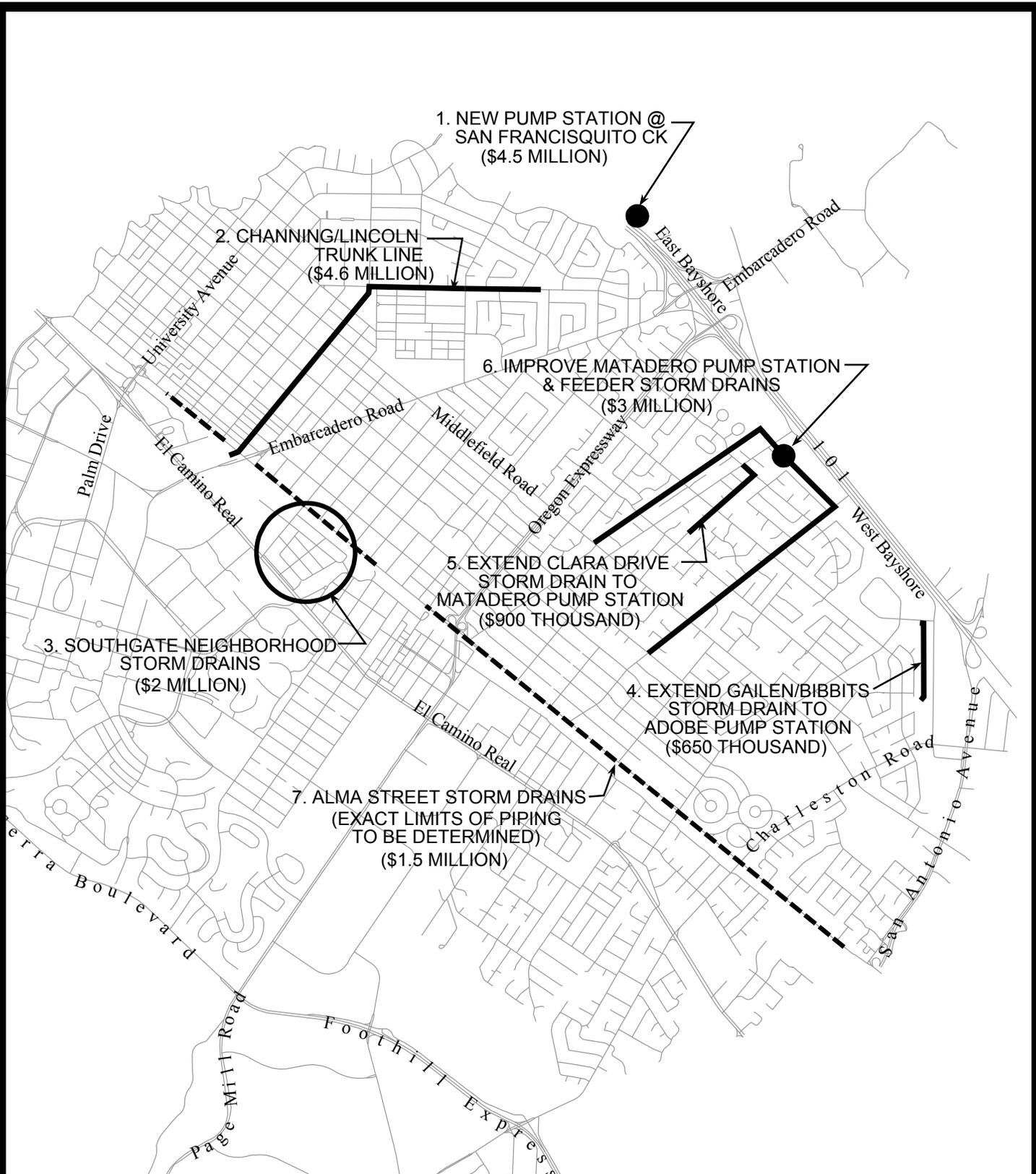
A 1200-acre area of southeastern Palo Alto drains to Matadero Creek via the Matadero Storm Water Pump Station. Much of the land in this watershed, particularly the eastern portion near Highway 101, is lower than the creek water level during storm events. Without the pump station, this area would be unable to drain until the creek recedes, several hours after the rainfall stops. Problems in this watershed, which encompasses the Midtown and Palo Verde neighborhoods, include the capacity of the pump station and the storm drain pipelines leading to it.

The recommended infrastructure improvements include upgrades to the Matadero Pump Station and the construction of new storm drains feeding the pump station. Storm drains along Loma Verde Avenue, the former Seale-Wooster Canal right-of-way north of Colorado Avenue, and the former Sterling Canal right-of-way east of Maddux Drive and Kenneth Drive are undersized and need to be replaced with larger pipelines or supplemented with parallel pipelines.

**7. Install storm drainage improvements along southbound Alma Street (estimated cost = \$1.5 million)**

There are several locations along southbound Alma Street that do not have adequate storm drain capacity. Due to nonexistent or undersized storm drains, excess storm runoff ponds along the roadway edge, causing dangerous road conditions for motorists.

The recommended infrastructure improvements include the construction of numerous new catch basins along the southbound side of Alma Street and installation of approximately 4,400 linear feet of new storm drain pipelines to properly drain this heavily traveled roadway.



The City of Palo Alto



## Proposed Storm Drain Capital Improvements

This map is a product of the City of Palo Alto GIS



RESOLUTION NO. 8483

RESOLUTION OF THE COUNCIL OF THE CITY OF PALO ALTO ADOPTING THE AMOUNT OF THE PROPOSED STORM DRAINAGE FEE INCREASE, DESCRIBING THE STORM DRAIN CAPITAL IMPROVEMENTS AND PROGRAM ENHANCEMENTS ON WHICH THE PROPOSED FEE WILL BE SPENT IF APPROVED, AND ADOPTING A SCHEDULE FOR THE PROTEST HEARING AND MAIL BALLOT PROCEEDING ON THE PROPOSED FEE INCREASE

[Approved By Palo Alto City Council on December 6, 2004]

**EXHIBIT “A”**  
**Description Of Amount Of The Proposed Storm Drainage Fee Increase**

A. Summary of current storm drainage fee system

The City’s current storm drainage billing system is based on Equivalent Residential Units (“ERU”), which are generally determined by the square footage of impervious surface area on a property. One ERU equals 2500 square feet of impervious surface area on a property, and the current fee for one ERU is four dollars and twenty-five cents (\$4.25). The ERU calculation was based on a sampling of single-family and duplex properties in the City, in which the typical impervious surface area was 2500 square feet. Thus, all single-family and duplex residential properties in the City are presumed to have one ERU of impervious surface area and are currently charged \$4.25 per month for that ERU, regardless of the actual impervious surface area of their property. Commercial, industrial, institutional, government, and multi-family residential properties are charged for their actual amounts of impervious surface area, at a rate of one ERU per 2500 square feet of impervious area.

B. Proposed storm drainage fee increase

1. *New residential rate structure and increased fee*

The proposal to increase storm drainage fees involves two components. First, the charge per ERU would be raised from four dollars and twenty-five cents (\$4.25) to ten dollars (\$10). Second, the impervious surface area would no longer be presumed to be one ERU for all single-family and duplex properties. Instead, those properties would be placed into one of three ERU tiers based on the size of the property. Commercial, industrial, institutional, government, and multi-family residential properties would continue to be charged based on actual impervious surface area, but at the increased rate of \$10 per ERU.

The following tables describe the changed rate structure and proposed fee increase:

<b>RESIDENTIAL RATES (Single-Family &amp; Duplex)</b>		
PARCEL SIZE (sq.ft.)	ERU	PROPOSED RATE
< 6,000 sq.ft.	.8 ERU	\$8.00
6,000-11,000 sq.ft.	1 ERU	\$10.00
> 11,000 sq.ft.	1.4 ERU	\$14.00

<b>COMMERCIAL RATES (Commercial, industrial, multifamily res.)</b>
\$10.00 per 2,500 square feet of impervious surface area (ERU), rounded to the nearest 0.1 ERU.

2. *Annual inflation adjustments to proposed fee increase*

In order to offset the effects of inflation on labor and material costs, the proposed fee increase would be subject to annual increases beyond the initial \$10.00 per ERU rate as of July 1 of each year, starting in 2006. Inflation adjustments would be based on the lesser of the local rate of inflation (based on the change in the Consumer Price Index [CPI] for the San Francisco-Oakland-San Jose CSMA, published by the United States Department of Labor, Bureau of Labor Statistics) or 6 percent. The City Council would have the authority and discretion to implement inflation adjustments on an annual basis as part of the City budget process.

3. *Twelve year sunset provision for proposed fee increase*

The proposed storm drainage fee increase would sunset twelve (12) years from the date the fee increase is implemented, as the storm drain capital improvements to be funded by the increase would be completed by that time.

4. *Oversight provision for proposed fee increase*

The City Council would appoint an oversight committee to monitor and review the proposed storm drain capital improvements and insure that the money raised from the increased Storm Drainage Fee is spent in accordance with this resolution. The oversight committee would report its findings to the City Council at least annually.

5. *Applicability of the Rate Assistance Program*

The City's existing Rate Assistance Program, which provides a 20% discount to qualified low-income utility customers, would apply to the Storm Drainage Fee.

6. *Pay-as-you-go funding of capital improvements*

The storm drain capital improvements to be funded through the proposed Storm Drainage Fee increase would be paid for on a pay-as-you-go basis, without debt financing.

7. *Up-front payment of Storm Drainage Fees by City of Palo Alto*

In order to accelerate the construction of the proposed storm drain capital improvements, the City of Palo Alto would pre-pay in advance the Storm Drainage Fees attributable to City-owned properties for a period of twelve years, upon approval of the increased Storm Drainage Fee.

## **EXHIBIT "B"**

### **List Of Storm Drain Capital Improvements And Program Enhancements To Be Completed With Funding From The Proposed Fee Increase**

A. Seven proposed storm drain capital improvement projects

1. Construct pump station at 96" storm drain outfall to San Francisquito Creek (estimated cost = \$4.5 million)
2. Install new storm drain pipelines to increase drainage capacity on Channing and Lincoln Avenues (from Channing/Heather to Lincoln/Alma) (estimated cost = \$4.6 million)
3. Install Southgate neighborhood storm drain system (estimated cost = \$2.0 million)
4. Extend Gailen Avenue/Bibbits Drive storm drain outfall to the Adobe Storm Water Pump Station (estimated cost = \$650 thousand)
5. Connect the Clara Drive storm drains to the Matadero Storm Water Pump Station (estimated cost = \$900 thousand)
6. Construct improvements to the Matadero Storm Water Pump Station and install new storm drain pipelines to increase drainage capacity leading to the Matadero Storm Water Pump station (estimated cost = \$3.0 million)
7. Install storm drainage improvements along southbound Alma Street (estimated cost = \$1.5 million)

A map of the proposed projects is included in this exhibit.

B. Proposed funding for enhanced maintenance of the City's storm drain system

1. \$500,000 budgeted annually (subject to annual adjustment for inflation) to replace and/or rehabilitate deteriorated components of the City's storm drain system, including pipelines, catch basins, and manholes.
2. \$90,000 budgeted annually (subject to annual adjustment for inflation) to fund additional storm drain maintenance resources, including staff and/or contract services, to perform services including, but not limited to, storm drain cleaning, minor storm drain repairs, video inspection of storm drain pipelines, and/or curb and gutter repairs.

C. Funding of innovative projects

1. \$125,000 budgeted annually (subject to annual adjustment for inflation) for innovative projects to reduce the amount of storm water runoff and environmental pollutants that enter storm drains and creeks.

D. Funding of storm water quality protection activities

1. \$100,000 budgeted annually (subject to annual adjustment for inflation) to pay for existing services related to storm water quality protection currently funded through the Wastewater Treatment Fund.

E. Funding of additional engineering staff

1. \$115,000 budgeted annually (subject to annual adjustment for inflation) for an additional staff engineer to assist with implementation of the recommended storm drain capital improvements.

**Summary of Use of Storm Drainage Fee Increase for FY 2010-11**

Line Item	Revenue		Expenditures			Total Use of Funds
	Storm Drainage Fees	Carryover	Expended	Committed by Contract	Remaining Appropriation	
<b>Fee Increase Revenue</b>						
SD Fee Increase	\$3,399,975					
<b>Capital Improvements and Program Enhancements</b>						
<b>A. One-time SD CIP Projects</b>						
San Francisquito Creek Pump Station		\$117,982	\$41,622	\$46,139	\$30,221	\$117,982
Channing/Lincoln Storm Drain		\$1,404,287	\$437,864	\$1,442,783	\$418,639	\$2,299,286
Southgate Neighborhood Storm Drains		\$0	\$0	\$0	\$0	\$0
Gailen/Bibbits SD Improvements		\$0	\$0	\$0	\$0	\$0
Clara Drive SD Improvements		\$0	\$0	\$0	\$0	\$0
Matadero Creek Pump Station & Trunks		\$0	\$0	\$0	\$0	\$0
Alma Street SD Improvements		\$94,675	\$39,558	\$0	\$55,117	\$94,675
<b>B. Enhanced Maintenance</b>						
SD Replacement/Rehabilitation CIP		\$940,168	\$441,845	\$160,597	\$901,725	\$1,504,167
Augmented SD Maintenance			\$60,242	\$0	\$0	\$60,242
<b>C. Innovative SD Projects</b>		\$629,869	\$12,647	\$0	\$758,222	\$770,869
<b>D. Augmented Storm Water Quality</b>			\$84,749	\$0	\$0	\$84,749
<b>E. New CIP Engineer</b>			\$121,103	\$0	\$0	\$121,103
<b>F. General Fund Loan Repayment</b>			\$574,255	\$0	\$0	\$574,255
<b>SUBTOTALS</b>	<b>\$3,399,975</b>	<b>\$3,186,981</b>	<b>\$1,813,885</b>	<b>\$1,649,519</b>	<b>\$2,163,924</b>	<b>\$5,627,328</b>
To Storm Drainage Fund Reserves						\$765,201
Other storm drain expenses previously covered by General Fund subsidy						\$194,427
<b>TOTALS</b>		<b>\$6,586,956</b>				<b>\$6,586,956</b>

# **Approved Storm Drainage Fee Increase Ballot Measure vs.** **FY 2010-11 Storm Drainage Fund Expenditures**

## **BALLOT MEASURE**

1. Implementation of seven (7) high-priority storm drain capital improvement projects.
2. \$ 500,000 annually (adjusted annually for inflation) for storm drain system repair and rehabilitation.
3. \$ 90,000 annually for augmented storm drain system maintenance.
4. \$ 125,000 annually (adjusted annually for inflation) for innovative projects to reduce storm water runoff and pollutant levels.
5. \$ 100,000 annually to fund storm water quality protection activities formerly funded by the Wastewater Treatment Fund.
6. \$ 115,000 annually for an engineer to assist with implementation of storm drain capital improvement projects.
7. Pre-payment of Storm Drainage Fees for City-owned properties to accelerate implementation of storm drain capital improvement projects.

## **FY 2010-11 EXPENDITURES**

1. \$41,622 expended and \$46,139 committed for San Francisquito Creek Pump Station project (CIP SD-06102). \$437,864 expended and \$1,442,783 committed for Channing Avenue Storm Drain Improvements (CIP SD-11101). \$39,558 expended for Alma Street Storm Drain Improvements (CIP SD-08101).
2. \$441,845 expended and \$160,597 committed for Storm Drain System Replacement and Rehabilitation (CIP SD-06101).
3. \$60,242 was expended from the augmented maintenance funds.
4. \$12,647 expended for Innovative Storm Drain Improvements (Storm Water Rebates).
5. \$84,749 expended to fund 0.6 FTE staff and additional non-salary expenditures for Storm Water Quality Protection.
6. \$121,103 expended to fund Associate Engineer position (1.0 FTE) to assist with implementation of storm drain capital improvement projects.
7. Pre-payment of Storm Drainage Fees by General Fund properties was completed in FY 2007-08.

## **Highlights of 2010-11 Storm Drainage Fund Year-End Report**

- Actual Storm Drainage Fund revenue generated by customer sales (monthly Storm Drainage Fee) was 99% of expected revenue (\$5,470,160 vs. \$5,506,376).
- Capital program highlights included completion of another storm drain rehabilitation project and initiation of construction of the first phase of the Channing Avenue Storm Drain Improvement Project.
- The Storm Drain Rebate Program was continued, providing financial rebates to residents and businesses for the installation of rain barrels, cisterns, permeable pavement, and green roofs. The rebate program was paid for with monies from the Innovative Storm Drain Improvement fund. A large balance has accrued in this fund, and staff has reallocated a share of the monies (beginning in FY2011-12) towards the implementation of a “green street” drainage improvement project in the Southgate neighborhood.
- Expenditures in most non-capital expense categories were less than budgeted, resulting in a higher than expected transfer to the Storm Drainage Fund reserves.
- The Storm Drainage Fund completed final repayment of the loan secured from the General Fund to help pay for the construction of the San Francisquito Creek Storm Water Pump Station.