

Stormwater Management Oversight Committee Meeting
November 16, 2017





Agenda

- Introduction of Committee Members and Staff
 Members
- Update on Green Stormwater Infrastructure Framework
- Update on Current and Planned Capital Improvement Program (CIP) Projects
- Election of Committee Chairperson and Vice Chairperson







Committee Members

- David Bower
- Peter Drekmeier
- Marilyn Keller
- Hal Mickelson
- Dena Mossar
- Bob Wenzlau
- Richard Whaley



Staff Members

Staff	Title	Roles
Phil Bobel	Assistant Director	Management Liaison
Maybo AuYeung	Management Analyst (Env. Svc)	Staff Liaison, Budget and Finance
Karin North	Watershed Protection Manager	Permit Compliance, Policies, Pollution Prevention Programs
Pam Boyle Rodriguez	Environmental Control Program Manager - Stormwater	Permit Compliance, Policies, Pollution Prevention Programs
Julie Weiss	Project Manager – Watershed Protection	Pollution Prevention Programs, Outreach and Communications
Michel Jeremias	Senior Engineer	Capital Improvement Projects
Rajeev Hada	Project Engineer	Capital Improvement Projects
Shari Carlet	Engineer	Capital Improvement Projects
Michelle Austin	Management Analyst (Eng. Svc)	Budget and Finance
Gina Magliocco	Senior Management Analyst	Budget and Finance



GREEN STORMWATER INFRASTRUCTURE (GSI): WHERE ARE WE NOW?

Bay Area Municipal Stormwater Regional Permit Requirements

What is GSI?





GRAY – traditional approach

Transforming/ Supplementing MS4 GREEN – veg, soils, natural processes

MS4 = Municipal Separate Storm Sewer System

GSI at Different Scales

New or retro-fitted, existing areas











What about large storms?



City of Palo Alto: Southgate Neighborhood Green Street





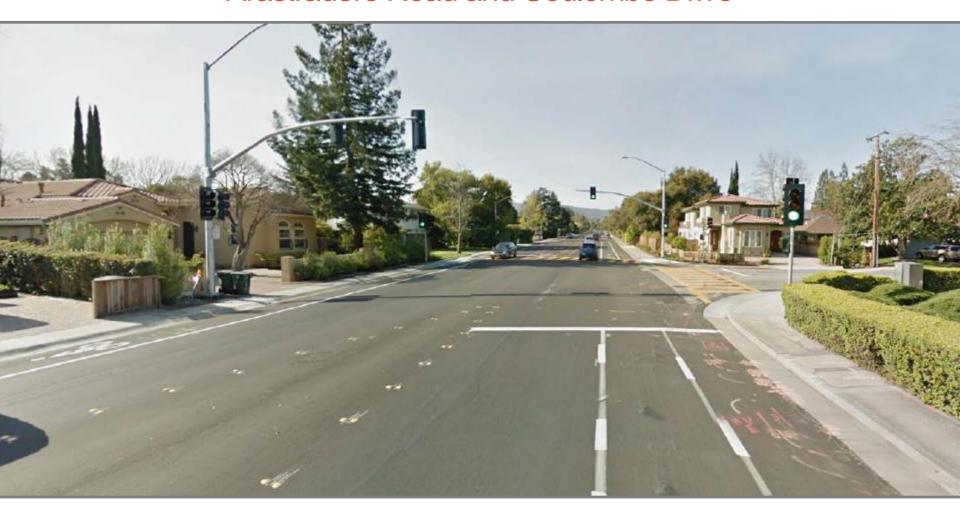
American Public Works Association (APWA) Green Stormwater Infrastructure Award 2017





Placemaking/Traffic Calming

Arastradero Road and Coulombe Drive



BEFORE

Placemaking/Traffic Calming

Arastradero Road and Coulombe Drive



Municipal Regional Stormwater Permit (MRP) Requirements

- Develop a Green Infrastructure (GSI) Plan
 - Adopt legal mechanisms for implementation
 - Conduct education and outreach
- Conduct "early implementation"
 - Assess CIP opportunities
 - Construct planned projects
- Link between GSI and pollutant controls (PCBs and mercury)
 - Must meet 2040 goals



MRP Schedule

Deliverable	Deadline
List of Current/Potential GSI Projects	Annually
Summary of Education/Outreach Efforts	Annually
Approved GSI "Framework" (Work Plan)	6/30/17
Completed GSI Plan	9/30/19
Documentation of Legal Mechanisms	9/30/19

GSI Plan Components

- 1) Project Identification & Prioritization
- 2) Project Tracking System
- 3) GSI Guidelines & Specs
- 4) Integration w/ other Muni Plans
- 5) Evaluation of Funding Options
- 6) GSI Implementation ("Legal") Mechanisms
- 7) Public Outreach for Plan/Process

City Staff
Support

SCVURPPP Templates & Guidance

Consultant Assistance

GSI Plan Countywide Collaboration & Coordination

GSI Progress

- GSI and Maint./Monitoring Workgroup meetings
- GSI Framework completed
- Consultant contract for Plan development
- List of City plans for GSI integration
- Staff outreach
- GSI bill insert to residential accounts (~26,000)
- Participation in a county-wide Stormwater Resource Plan

Next Steps

- Oversight GSI Subcommitee?
- Planning effort starting in Dec. 2017

SCC Fact Sheet Outreach

Santa Clara Valley Urban Runoff Pollution Prevention Program, 2016

Santa Clara Valley Urban Runoff Pollution Prevention Program, 2016

Greening Our Streets, Buildings, and Parking Lots

What is Stormwater Pollution?

In natural landscapes, most of the rainwater soaks into the soil. However, in our urban areas, paved surfaces such as driveways, sidewalks, roads, and streets prevent rain from soaking into the ground. As rainwater flows over these surfaces, it can pick up pollutants such as motor oil, metals, pesticides, and litter. It then carries these pollutants into storm drains which flow directly to local creeks and the San Francisco Bay, without any cleaning or filtering to remove pollutants.

Green Stormwater Features Can Reduce Flow and Pollution

Cities and towns in Santa Clara Valley are working together to create sustainable or green streets, buildings, and parking lots that mimic natural landscapes, by incorporating green stormwater features. These features allow rainwater flowing over buildings, streets, and parking lots to soak into the ground and be filtered by soil. This reduces the quantity of water and pollutants flowing into storm drains and local creeks.



Street runoff flowing into regetated area: that capture and treat polluted ctorminator (Image course) of Callander Accedess and the Co. of Compbell)

What are Green Stormwater Features?

The following green stormwater features are being integrated into local projects:



Spreading Stormwater Runoff into Landscaping

Landscaped areas can be designed to collect stormwater runoff from building roofs and paved areas. Stormwater soaks into these areas, and pollutants are filtered out or broken down by the total and plants.

Landscaped drainage areas along a walkway



Bioretention Areas or Rain Gardens

Bioretention areas or rain gardens are landscaped areas that use a special soil mix to remove pollutants from stormwater runoff. They are planted around buildings, in parking lots, curb extensions, park strips, traffic circles, along street edges, and in profiler.

Biotreatment area in a curb bulb-out in the Southgate Neighborhood, Palo Alto



Rainwater Harvesting

Green Roofs

Rain barrels or disterns can be used to collect and store rainwater for use in landscape irrigation and toilet flushing.



A rain barrel at a single-family home in Palo Alto

Building roofs covered in soil and vegetation enable rain water infiltration, storage, and evapotranspiration. In addition to stormwater benefits, Green Roofs can also mitigate urban heat island effects while improving air quality and building energy efficiency.

Green roof at 1460 North 4th Street Abartments, San Jose



Pervious Concrete, Porous Asphalt, and Pervious Pavers

Pervious surfaces let rain soak into the soil. They are generally used in erossovalles, sidewalks, plazas, driveways, parking spaces, street edges, and emergency vehicle access lanes. Pervious surfaces include the following:

- · Pervious concrete or porous asphalt
- Grid pavers with gaps filled with gravel or turf
- Interlocking pavers made of pervious material
- · Solid interlocking pavers that have gaps between them

Pervious povers at Rosita Park, Las Altas

How You Can Use Green Stormwater Features in Your Yard, Garden, and Neighborhood

- Replace concrete in driveways, patios, and walkways with pervious pavers.
- Build a rain garden. The native and drought-tolerant plants used in rain gardens reduce the need for irrigation, and attract beneficial wildlife like butterflies and hummingbirds.
- Install a rain barrel to capture rainwater for landscape watering.
- Direct rain gutter downspouts to landscaped areas instead of concrete driveways.
- Support your local municipality's efforts to include green stormwater features in neighborhood improvement projects.
- Take a tour of local buildings and streets that include green stormwater features. Find a map at www.MyWatershedWatch.org



This fact sheet was developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). For more information, visit www.scvurpop.org or call 1-866-WATERSHED

Utilities Bill Insert Outreach

WHAT IF PALO ALTO STREETS WERE DESIGNED TO REDUCE STORM RUNOFF AND WATER POLLUTION WHILE ADDING BEAUTY?

In natural landscapes, rain soaks into the soil which slows the speed of runoff and filters pollutants. In urban areas, "impervious" surfaces such as roofs, concrete and asphalt interrupt this natural process. This increases flooding risks and pollution that washes into creeks and San Francisco Bay, "Green storm water infrastructure" mimics nature by slowing, spreading, sinking and filtering runoff. The Municipal Regional Stormwater Permit requires Palo Alto and other Bay Area agencies to develop a Green Storm Water Infrastructure (GSI) Plan by September 30, 2019 and identify locations for GSI implementation.

What Green Storm Water Infrastructure Looks Like.

PERVIOUS concrete, asphalt, and pavers reduce runoff by letting rain percolate into soil below. These surfaces can be used in crosswalks, sidewalks, plazas, driveways, parking spaces and emergency vehicle access lanes.





BIORETENTION PLANTERS

are areas landscaped with native plants and underlain with layers of soil and crushed rock. These planters filter and treat storm runoff that is directed into them.

RAINWATER CISTERN

Cistems capture rainwater so that it can be used for irrigation. Reinwater Cistern in Coldwater Caryon Park, Boverly Hills. Photo courtesy of TreePeople ong





GREEN ROOFS are attractive and allow rainwater to soak into vegetation instead of running off the building. Green roofs also reduce heating and cooling costs and reduce heat-island effects. Green mod installation on Mitchell Park Library Palo Alto-



The City of Palo Alto offers commercial and residential rebates to install pervious surfaces, rain barrels and cisterns and green roofs. Visit cityofpaloalto.org/stormwater or call (650) 329-2295 to learn more.

Palo Alto's Storm Water Management **Program Reduces** Street Flooding and Protects Creeks.

PREVENTING STREET FLOODING relies on the smart design of City storm drain infrastructure and streetscapes that slow, spread and sink storm water runoff. The health of Palo Alto creeks depends on programs that keep litter, leaf debris, sewer overflows, and construction and industrial pollutants from entering our watershed.

Since 2005, Palo Alto's Storm Water Management Program fees have funded seven high-priority storm drain pipeline and pump station capital improvement projects, a precedent-setting green infrastructure project (see reverse side), and more than 100 rebates to property owners for rainwater catchment, permeable driveways, and green roofs.



The San Franciscosts Code Street Water Pump Station installed in 2009 clears storm water from streets in a 1,250 pare reighborhood in northeastwinPale Alto.



New storm drain pipes were installed along Channing Assnus in 2011 to reduce hopeint streat fleating along this important vehicle





Storm Water Management Program fees funded commercial and residential reliate propagate for pormaphic wallways and parking lets, rain barrels, cathera and green roots.



Engineered bioretention beds mimic resture by slowing spreading sisting and fittering atoms writer.



School programs, volunteer proofs clean-up ments and countrycles and industrial impaction. sprvices prevent storm water pollution.

For more information visit



cityofpaloalto.org/stormwaterfee or call (650) 329-2295.

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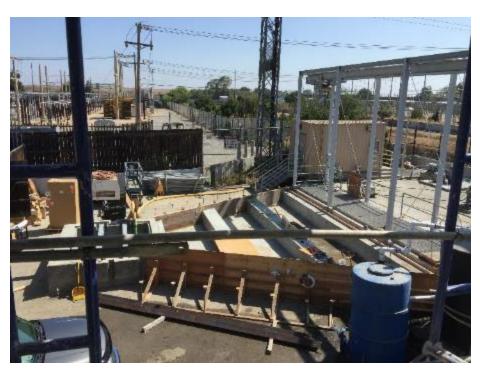
GSI examples – Middlefield x Kellogg





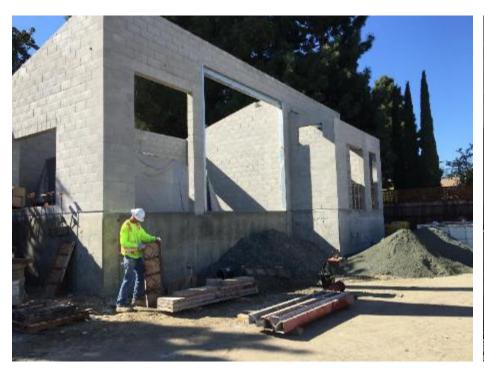
























- Previous fee was authorized in 2005, and sunset in June 2017.
- August 2016, City Council adopted resolution to propose a new fee
- October 2016, protest hearing held, City Council called a mail ballot election for April 11, 2017
- Ballot Results:
 - a. 8257 Ballots Returned and Not Withdrawn
 - b. 5161 Votes In Favor
 - c. 2931 Votes Opposed





- Previous Storm Drain Fee \$13.03 per ERU
- Current SWM Fee \$13.65 per ERU
 - Base Component \$7.84
 - Projects & Infrastructure Component \$6.17



DESCRIPTION OF THE PROPOSED STORM WATER MANAGEMENT FEE

A. Overviev

The proposed Storm Water Management Fee of \$13.65 per ERU (Equivalent Residential Unit) per month would replace the existing Storm Drainage Fee of \$13.03 per ERU per month. The Storm Water Management Fee would have two components:

- A Base Component of \$7.48 per ERU per month (adjusted annually for inflation as discussed later in this document), which would continue until terminated by the City Council.
- A Projects and Infrastructure Component of \$6.17 per ERU per month (adjusted annually for inflation as discussed later in this document), which would end after 15 years, on June 1, 2032, unless extended by the voters.

If approved, the Storm Water Management Fee would go into effect June 1, 2017. Proceeds of the Storm Water Management Fee would be available to the City exclusively to pay for:

- · Improving the quality of storm and surface water;
- The operation, maintenance, improvement and replacement of existing City storm drainage facilities: and
- . The operation, maintenance, and replacement of future such facilities.

Permissible uses would include, but not be limited to, Green Storm Water Infrastructure programs (including financial incentives to property owners) intended to reduce the quantity of storm water entering the City's public storm water system or to improve the quality of storm water before it enters that system through measures including, but not limited to, rain gardens, rain barrels/cisterns, green roofs, tree wells, bio-retention/infiltration basins and planters, and permeable pavement.

Background

The Palo Alto City Council established the Storm Drainage Fund and an associated Storm Drainage Fee in 1989 as an independent means to fund municipal storm drain capital improvements, maintenance, and storm water quality protections programs. The fee was last authorized in a 2005 property owner election, and most of the current fee will sunset in June 2017. Revenue generated by the fee since 2005 has funded seven high-priority storm drain capital improvement projects as well as ongoing operational costs. The new Storm Water Management Fee was recommended to the City Council by an appointed Blue Ribbon Storm Drain Committee of residents. Adoption of the proposed new fee will enable the implementation of additional drainage improvements throughout the City, including compliance with state permit requirements mandating green storm water infrastructure. Green storm water infrastructure reduces runoff, improves storm water quality, and restores the natural water cycle by collecting and retaining, and/or treating runoff rather than discharging it directly to storm drains.

C. Budget

1. Base Component

Each Year, the Base Component is anticipated to generate approximately \$3.8 million (to be adjusted for inflation in future years). The Base Component has been calculated based on the City's anticipated ongoing costs for the engineering, maintenance, storm water quality protection, operation and administration of the City's storm water system, including regulatory permit compliance.

Floodplain Management	\$ 101,000
Engineering	\$ 255,000
Storm Water Quality Protection	\$ 1,135,000
Storm Drain System Maintenance	\$ 1,293,000
Emergency Response	\$ 119,000
Administrative Support	\$ 1,112,000
SUBTOTAL (partially funded by other revenue)	\$ 4,015,000

Projects and Infrastructure Component

Each Year, the Projects and Infrastructure Component is anticipated to generate approximately \$3.1 million (to be adjusted for inflation in future years). The Projects and Infrastructure Component has been calculated based on anticipated 15-year costs for the Storm Drain Capital Improvement Program (which includes both major capacity upgrade projects and capital improvement repair and rehabilitation), Incentive Projects, and Green Storm Water Infrastructure Projects.

Storm Drain Capital Improvements	\$ 1,104,000
Debt Service for Past Capital Projects*	\$ 947,000
Storm Drain System Repairs	\$ 400,000
Capital Program Engineering Support	\$ 177,000
Green Storm Water Infrastructure Projects	\$ 375,000
Incentive Projects	\$ 125,000
SUBTOTAL	\$ 3,128.000

* Debt service obligations end in Fiscal Year 2024, after which this budget is available for use for new capital improvements.

The fifteen-year budget for major capital improvements was based on the following projects depicted on the attached exhibit:

- Loma Verde Avenue (Louis Road to Sterling Canal) storm drain capacity upgrade (Midtown) \$2,200,000
- b. Corporation Way/East Bayshore Road Pump Station to Adobe Creek (Baylands) \$2,420,000
- c. West Bayshore Road to Adobe Creek storm drain capacity upgrade (Palo Verde) \$1,390,000
- d. West Bayshore Road Pump Station to Adobe Creek (Palo Verde) \$1,040,000
- East Charleston Road to Adobe Creek storm drain capacity upgrade (Charleston Terrace) \$1.300,000
- East Meadow Circle storm drain connection to Adobe Creek Pump Station (E Meadow Circle)\$360,000
- g. East Meadow Drive to Adobe Creek Pump Station storm drain capacity upgrade (Ortega) \$400.000
- h. Fabian Way storm drain capacity upgrade (Fabian Way) \$580,000
- Hamilton Avenue (Center Drive to Rhodes Drive) storm drain capacity upgrade (Duveneck-St Francis) \$3.440,000
- j. Louis Road (Embarcadero Road to Seale-Wooster Canal) storm drain capacity upgrade (Garland/Midtown) \$6,910,000
- k. Louis Road (Seale-Wooster Canal to Matadero Creek) overflow storm drain (Midtown) \$1.560,000
- Colorado Pump Station integration with Matadero Pump Station (Midtown) \$430,000
- m. Center Drive storm drain capacity upgrade (Crescent Park) \$1,620,000

Project costs were estimated based upon the best information currently available for the purpose of developing a reasonable and appropriate capital improvement program budget. Final selection and sequencing of individual projects is subject to further study and analysis, such as analysis under the California Environmental Quality Act.

D. Annual Inflation Adjustment

In order to offset the effects of inflation on labor and material costs, the maximum rate for the Storm Water Management Fee (and each component of the Storm Water Management Fee) will be increased annually each July 1 (beginning July 1, 2018), by the lesser of (i) the percentage 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 during the prior calendar year or (ii) 6%.

The City Council would have the authority to set the rate for the Storm Water Management Fee (and each component of the Storm Water Management Fee) at any rate that is less than or equal to the inflation adjusted maximum rate.

E. Method of Collection and Calculated

As a general rule, ERU's are assigned to each parcel subject to the fee on the following basis:

Single-Family Residential Parcels:

Lot Size ERU's <6,000 sq. ft. 0.8 ERU 6,000 - 11,000 sq. ft. 1.0 ERU >11,000 sq. ft. 1.4 ERU

All Other Improved Parcels:

Number of ERU = Impervious Area (Sq. Ft.) / 2,500.

Assigned ERU's are rounded to the nearest one-tenth of an ERU.

Fees are generally collected on water bills. The Storm Water Management Fee would be collected and calculated in the manner set forth in City of Palo Alto Utilities Rule and Regulation No. 25 (available online at www.cityofoaloalto.org/sdbrc), subject to the following exemptions:

Unimproved parcels are not subject to the Storm Water Management Fee, and the fee will not be charged for developed parcels that (if) have their own maintained storm drainage facility or facilities, and which do not utilize City facilities or (ii) make no substantial contribution of storm or surface water to the City's storm drainage facilities.

Oversight provision for proposed fee increase

The City Council would appoint an oversight committee to monitor and review expenditures for all storm water funding elements, including, but not limited to, Green Storm Water Infrastructure projects, storm water Capital Improvement Program projects, and Incentive Project funding and ensure that the money raised from the increased storm water management fee is spent properly. The Committee would be empowered to consider and recommend consolidation of Green Storm Water Infrastructure and Incentive Project funding for particular projects. The City Council may choose to retain the members of the existing Council-appointed Storm Drain Oversight Committee to perform this oversight function. The oversight committee would report its findings to the City Council at least annually.

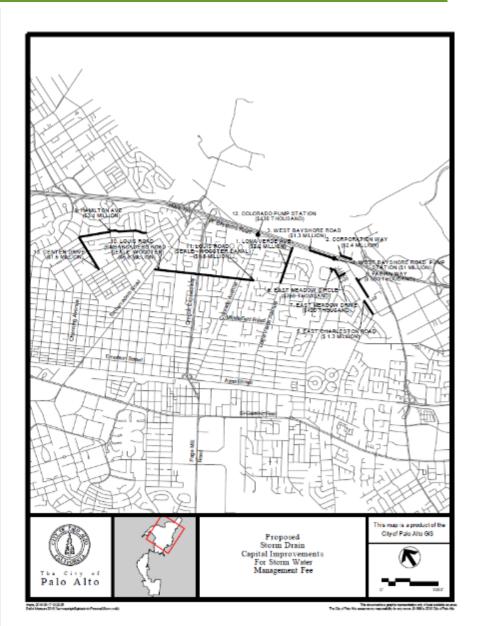
G. Pay-as-you-go funding of capital improvements

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

H. Additional Information

Should you have any questions about the public hearing, please call or write to: Beth Minor, City Clerk, P.O. Box 10250, Palo Alto, CA 94303. Telephone: (650) 329-2571.

For questions about the proposed fee, please call Joe Teresi in the Public Works Engineering Services Division at (650) 329-2129 or visit the City's web site at www.cityofpaloalto.org/sdbrc.



Utilities Bill Insert Outreach

PALO ALTO'S STORM WATER MANAGEMENT PROGRAM PROVIDES PROJECTS AND SERVICES THAT REDUCE STREET FLOODING AND PROTECT CREEKS.



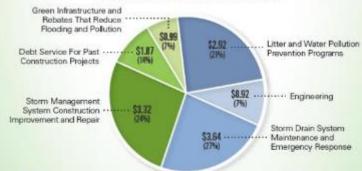
The San Francisquito Creek Storm Water Pump Station funded by the Storm Water Management Program clears water from a 1,250 acre snighborhood in Palo Alto. The Storm Water Management Program funds routine storm water system maintenance and operations that keep the system clean and at peak performance, and storm water system improvements that prevent street flooding. The Program also provides litter reduction, urban pollution prevention programs, commercial and residential rebates, and flooding emergency-response services.

Since 2005, Palo Alto's Storm Water Management Program has included seven high-priority storm drain pipeline and pump station projects, streat improvements, and provided more than 100 rebates to property owners for rainwater catchment, permeable driveways, and green roofs.

Property owners will be voting on whether to renew the monthly fee that funds the Storm Water Management Program. Ballets will be mailed to Palo Alto property owners on February 24, 2017.

If the Storm Water Management Fee is approved by a majority of Palo Alto property owners, then on June 1, 2017 the Fee will increase to approximately \$13.65 per month for a typical home. This is an average increase of 62 cents a month compared to the current Fee. If the Fee is not approved by a majority of Palo Alto property owners, it will revert to its pre-2005 level of \$4.25 per month on June 1, 2017.

SERVICES PROPOSED FOR THE STORM WATER MANAGEMENT PROGRAM RENEWAL





To learn more, see reverse for frequently asked questions, visit cityofpaloalto.org/stormwaterfee, call (650) 329-2129, or email stormwater@cityofpaloalto.org.

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Palo Alto's Storm Water Management Program provides projects and services that reduce street flooding and protect creeks.



Property owners will be voting on whether to renew the monthly fee that funds the Storm Water Management Program. Ballots will be mailed to Palo Alto property owners on February 24, 2017.



If the Storm Water Management Fee is approved by a majority of Palo Alto property owners, then on June 1, 2017 the Fee will increase to approximately \$13.55 per month for a typical home. This is an average increase of \$2 cents a month compared to the current Fee. If the Fee is not approved by a majority of Palo Alto property owners, it will revert to its pre-2005 level of \$4.25 per month on June 1, 2017.

Frequently Asked Questions

- What services does the City's Storm Water Management Program provide? The Storm Water Management Program funds routine storm water system maintenance that keeps the system clean and at peak performance. It also funds construction projects that improve Palo Alto's storm water system to prevent attest flooding. Services also include litter reduction, urban pollution prevention programs, commercial and residential rebates, and flooding emergency-response services. Some of these services are state-mandated.
- Why does Palo Alto's storm water system need apgrades and repairs? Most of Palo Alto's storm water system is between 40 and 100 years old. Current engineering standards require storm water systems to handle "10-year storms" which Palo Alto's current system cannot meet in many areas. As a result, even moderate storms can lead to street flooding, driving hozards, property damage and increased street repair costs.
- New storm drain pipes along Channing Avenue reduce street flooding along this important vehicle and bike corridor.
- Which projects were completed over the past 12 years as part of the Storm Water Management Program? Seven construction projects have been funded since 2005 including new pump stations for San Francisquito and Matadero Creeks, and atorm water system capacity improvements. Fees also funded orgoing storm water system maintenance and pollution prevention programs. More information about these projects is available at cityofpalaalto.org/storm/vaterfee.

What happens if the ballot measure is not approved by Palo Alte property ewners? If property ewners do not approve the renewed of the fee, it will revert to its pre-2005 level of \$4.25 per mosth when it expires on June 1, 2017. Because the pre-2005 level is less than the current cost to maintain and improve the existing storm drain system, the City would utilize General Fund dollars for these purposes, potentially reprioritizing other City programs and projects.



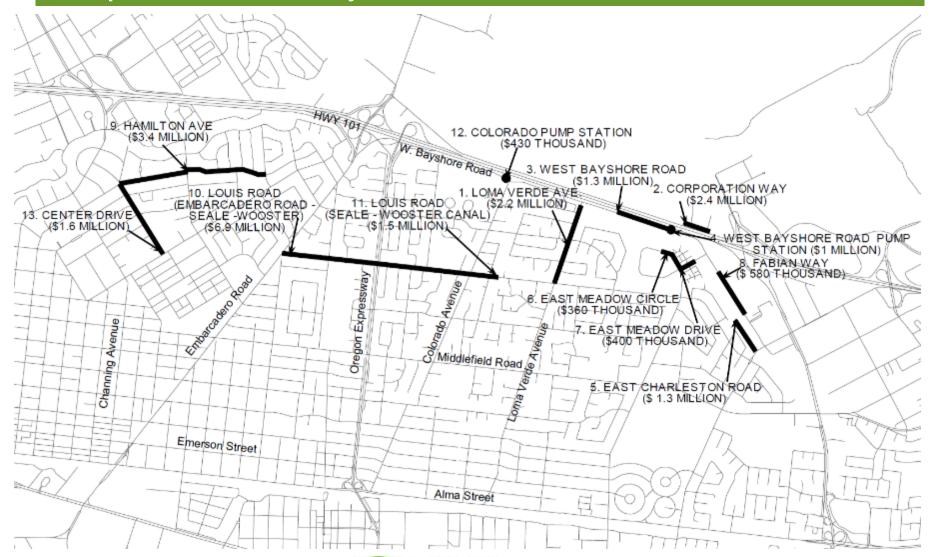
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ALTO

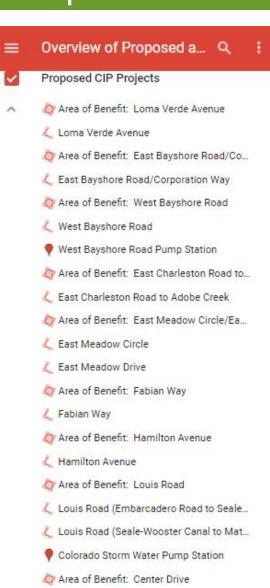
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Proposed CIP Projects

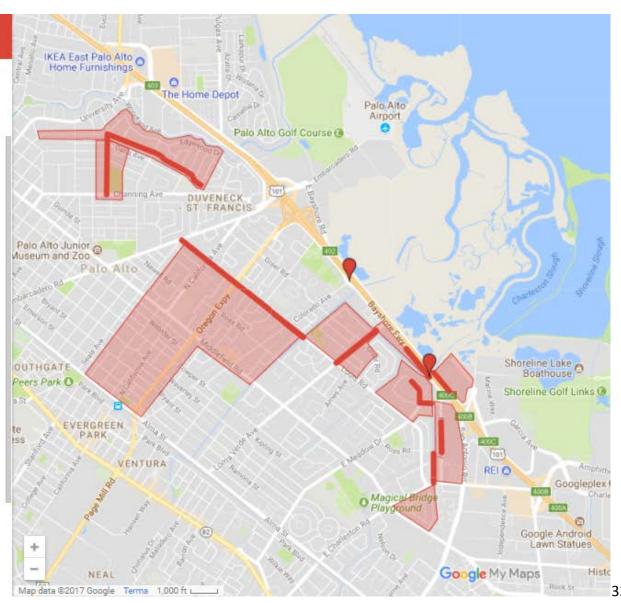




Proposed CIP Projects



Center Drive





Upcoming CIP Projects

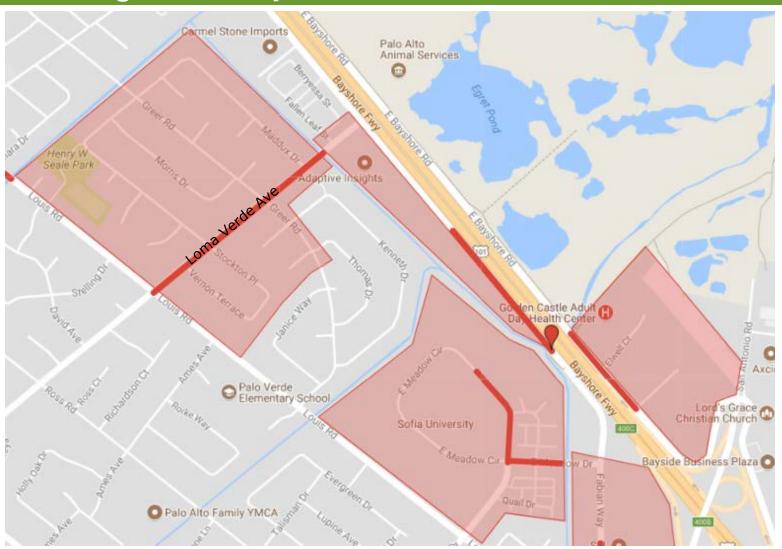
- Loma Verde Ave (#1)
- Corporation Way (#2)
- West Bayshore Road Pump Station (#4)
- East Meadow Drive (#7)

Recurring maintenance:

 Storm Drainage System Replacement And Rehabilitation



Upcoming CIP Projects





Election

- 1. Chairperson
- 2. Vice Chairperson







