

# Flood Resilience in the County of San Mateo

*in Collaboration with its Partner Cities*



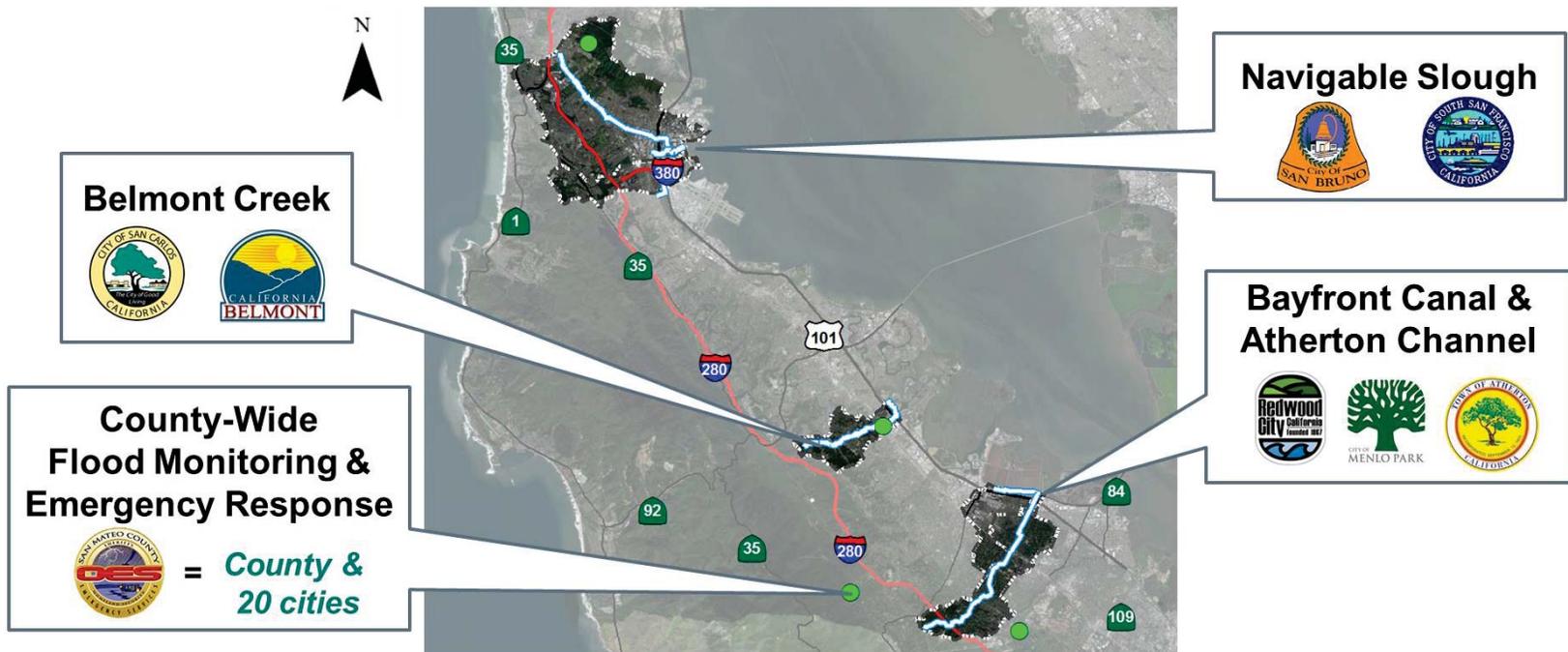
**Erika Powell, P.E.**  
Manager  
Flood Resilience Program

**May 17, 2019**



# Agenda

## Flood Resilience Program Actions



*Bonus Efforts*  
Q&A



# Our Purpose



Mobile Home Park  
Redwood City, 2014



SSF- King Tide January  
2017)



Atherton Channel at Haven Avenue  
and Marsh Road in Menlo Park  
February 7, 2017





# **Bayfront Canal Design & Watershed Management Plan**

# Bayfront Canal and Atherton Channel



# What's at Stake?

Economically  
Challenged  
Communities

Access to Medical  
Care



Emergency  
Access

Restoration

Transportation

Recreation

The Menlo Park Fire Protection District: "Flooding near Marsh Rd. & Haven - Please avoid!"



# Bayfront Canal/Atherton Channel Collaboration



FEMA



US Army Corps  
of Engineers®



COUNTY OF SAN MATEO  
DEPARTMENT OF PUBLIC WORKS  
FLOOD RESILIENCE PROGRAM

# Bayfront Canal and Atherton Channel Next Steps



**Projecto de restauración e inundaciones del canal de Bayfront y Atherton**

**¿QUÉ ES EL PROYECTO DE GESTIÓN Y RESTAURACIÓN DE INUNDACIONES?**  
El Condado de San Mateo está colaborando con las ciudades de Redwood City, Menlo Park y Atherton para desarrollar proyectos de restauración de canales y de inundaciones en las comunidades afectadas por las inundaciones en el canal Atherton. Los trabajos subsiguientes se centrarán en el canal Atherton y el canal de Bayfront para reducir el riesgo de inundación en las zonas de inundación y proporcionar beneficios a largo plazo.

**PROPOSITO DEL PROYECTO**  
Las vertientes adyacentes al canal Bayfront y el canal Atherton han experimentado frecuentes inundaciones por más de 60 años. Estas inundaciones están sujetas a variaciones anuales, ya que están ubicadas río abajo de la cuenca. Las inundaciones se agravan con mayor frecuencia durante las tormentas que impactan que las canales de Bayfront y Atherton en San Francisco. El proyecto de restauración del canal al área de restauración que incluye el canal de Bayfront para aliviar algunas de las inundaciones en estas comunidades.

**MEJORAS PROPUESTAS**  
Las mejoras del proyecto incluyen la instalación de estructuras de restauración que se extienden desde el canal de Bayfront hasta el área de inundación de restauración del canal Atherton. La estructura de restauración de Bayfront también mejorará los drenajes laterales y ayudará a reducir el riesgo de inundación en las zonas de inundación que se encuentran río abajo.

**PROYECTO DE RESTAURACIÓN E INUNDACIONES DEL CANAL DE BAYFRONT Y ATHERTON**

**SI TIENE ALGUNA PREGUNTA, POR FAVOR**  
Comuníquese con Erika Powell, Gerente del Programa de Restauración contra Inundaciones en el Departamento de Obras Públicas del Condado de San Mateo [epowell@smcgov.org](mailto:epowell@smcgov.org). Escúchela en línea <https://publicworks.smcgov.org/flood-resilience>

**WHAT IS THE FLOOD MANAGEMENT & RESTORATION PROJECT?**  
San Mateo County is collaborating with Redwood City, the City of Menlo Park and the Town of Atherton to develop projects that provide flood relief in the low-lying communities of the Bayfront Canal and Atherton Channel. The proposed underground pipes are the first of a series of efforts to reduce the impact of flooding in the region and provide benefits such as:

- Protecting people and property from flooding
- Helping flooding insects to Bayfront Atherton and Menlo Park
- Improving streamwater quality

**PROJECT PURPOSE**  
Woods adjacent to the Bayfront Canal and Atherton Channel have experienced frequent flooding for over 60 years. These inundations are subject to annual flooding as they are located in the downstream part of the watershed in San Francisco Bay. The project will restore the canal to the South Bay San Flood Restoration area of the flooding in these communities.

**IMPROVEMENTS**  
Include the installation of 10' x 10' underground pipes to restore the Bayfront Canal and Atherton Channel. The structure of restoration of Bayfront will also capture flooding going into the Bay.

**PROJECT SCHEDULE**

2018	Fall 2018	Spring 2019	Fall/Winter 2019
Construction of the Bayfront Canal and Atherton Channel	Construction of the Atherton Channel	Construction of the Bayfront Canal and Atherton Channel	Construction of the Atherton Channel

**GET INVOLVED**  
Please contact Erika Powell, Flood Resilience Program Manager at the San Mateo County Department of Public Works [epowell@smcgov.org](mailto:epowell@smcgov.org) or 650.699.1458. Find us online: <https://publicworks.smcgov.org/flood-resilience>

First project out of the Gate  
Tide



# **Belmont Creek Watershed Management Plan**

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# Belmont Creek Watershed Management Plan



## Project Objectives



Flood protection



Water quality



Green Infrastructure



Groundwater Recharge



Permitting requirements



Resilience to climate change



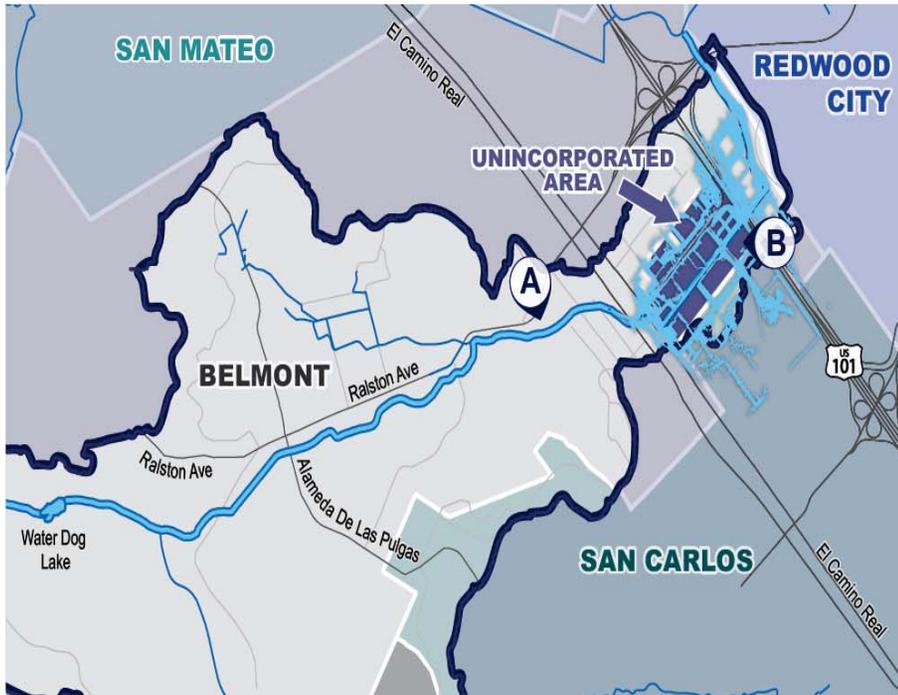
Construction/maintenance costs



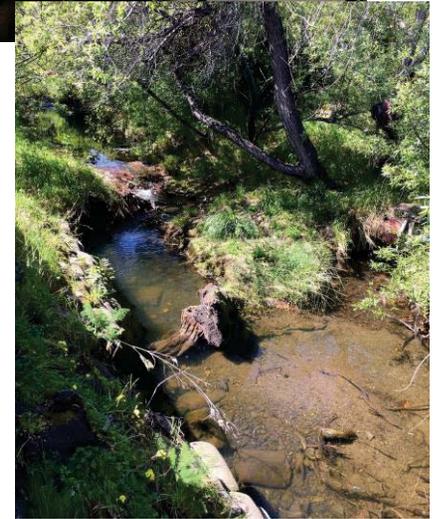
Grants/Funding Partnerships



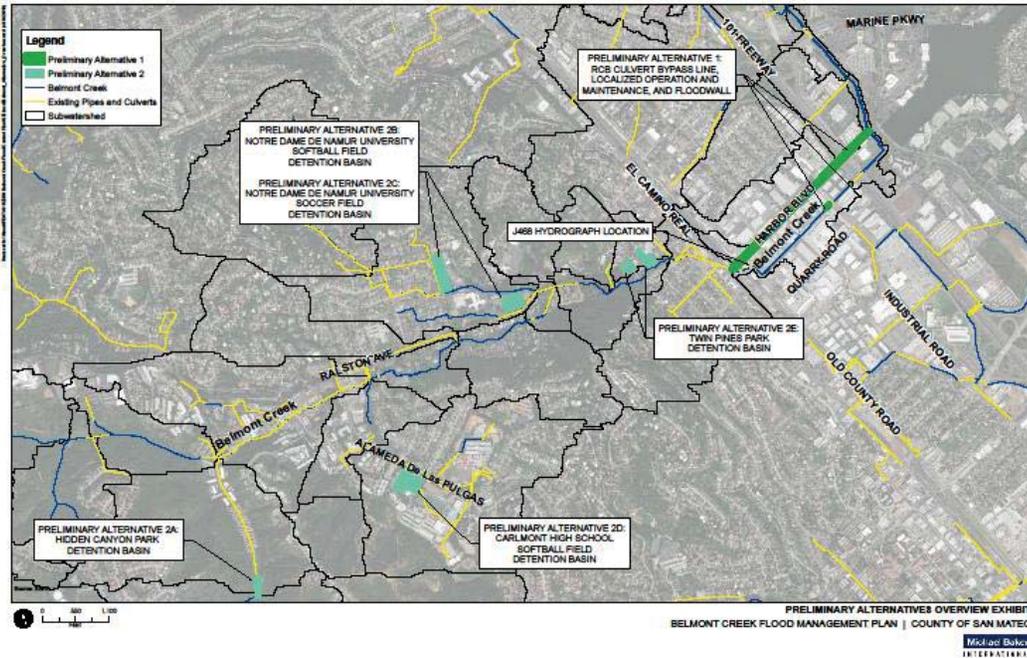
# Belmont Creek Watershed Management Plan



-  Belmont Creek
-  Belmont Creek Watershed Boundary
-  100-year flood flood limits  
(1% probability of occurring any year)



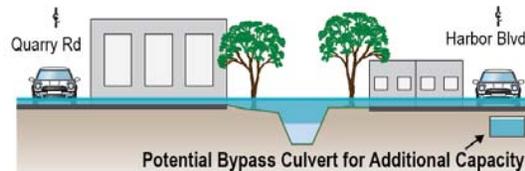
# Belmont Creek Watershed Management Plan



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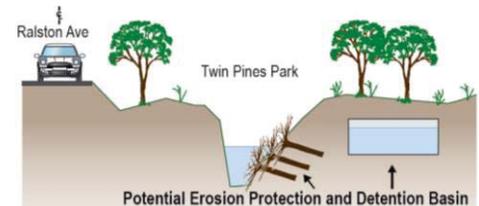
## Lower creek cross-section example

100-year storm, which has a 1% probability of occurring any year



**A**

## Upper creek cross-section example

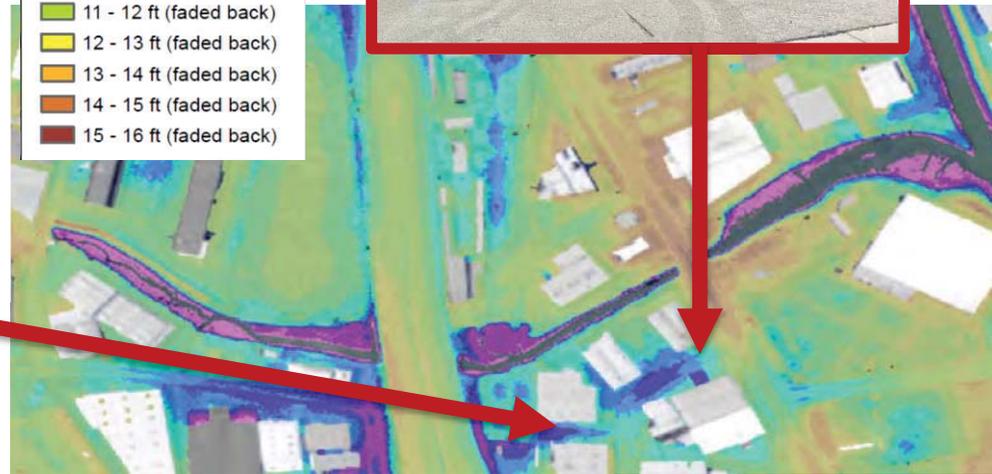
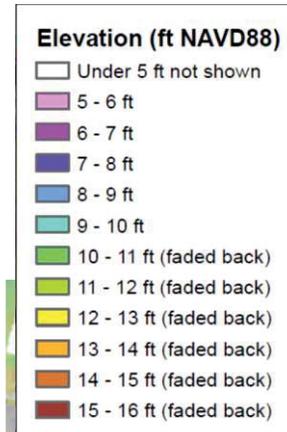




# **Navigable Slough Flood Management Plan**

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# Navigable Slough



# Navigable Slough Flood Management Plan



*Navigable Slough Low Tide*

*Colma Creek King Tide – Jan 2019*



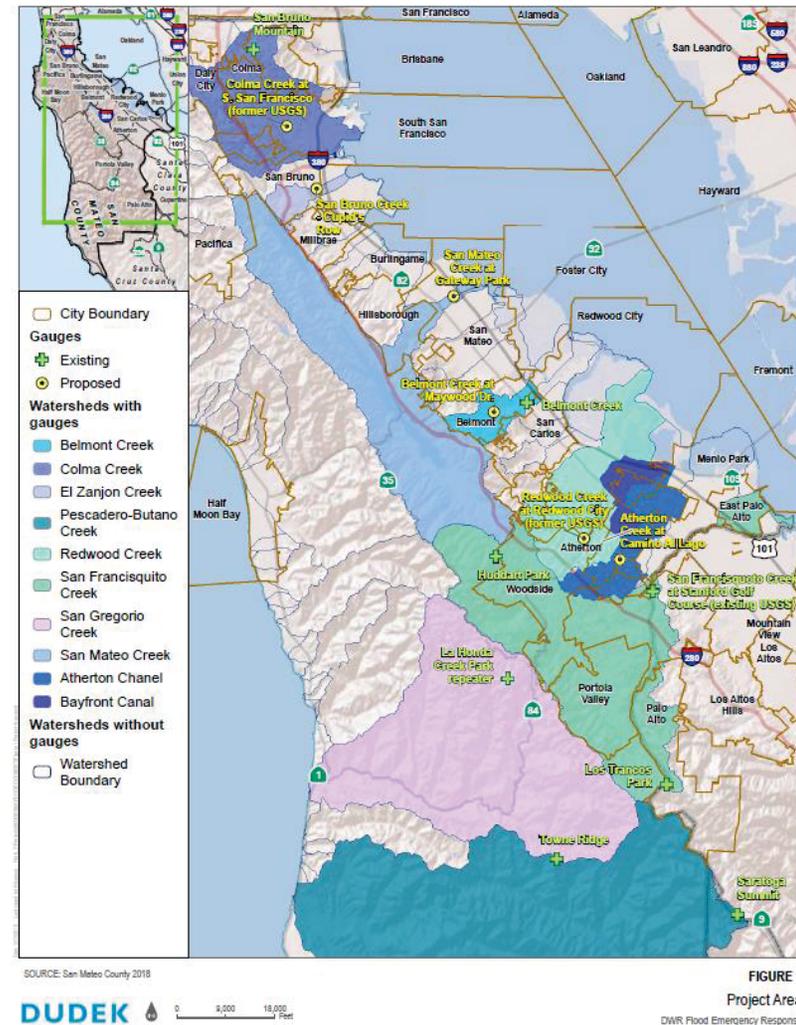


# County-Wide Flood Warning System

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# County-Wide Flood Warning System

- Update Emergency Operation Plan
- Develop Watershed-specific Emergency Action Plans
- Upgrade existing flood monitoring network
- Create a web-accessible data display portal
- Establish new stream/rain monitoring stations



# Cross-jurisdiction Coordination





# **Anscillary Services**



# *Anscillary Services*

- *Staff Training Initiative*
- *Resilience by Design*
- *San Francisco Bay Restoration Authority*
- *County Community Rating System*
- *Flood Control Districts*
- *US Army Corp of Engineers CAP program*
- *Relationships with Watershed Management Community – State and Local*
- *Flood and Sea Level Rise Resiliency Agency*



# *Miramar Beach Sunset*



Simone Anne Photography

