

San Pablo Ave Green Stormwater Spine

June 10, 2021

Santa Clara Valley Urban Runoff Pollution Prevention Program
Annual C3 Workshop



San Francisco
ESTUARY PARTNERSHIP

Federal, State, Local Partnerships

ABAG/
MTC

SFEP

EPA

- Collaborative, Non-regulatory Public Agency
- Protect and improve water quality & habitats
- *Estuary Blueprint* – 5-year workplan

Project Concept Overview

Implement green retrofits in 4 cities along San Pablo Ave (originally 7)

Treat 6 acres of impervious surface (originally 7)

Emphasis on vegetated approaches in public right-of-way



Key Project Goals

Demonstrate Multiple Benefits of GSI

Improve Water Quality

Increase Public Awareness

Increase Public Agency Acceptance

Transform the Public Right-of-Way



Project Funding and Team

Task	Funder	Amt	Project Team
Plans, Specs, Engineering, Interpretive Signage	US EPA/DWR-IRWM/ MTC-BATA	\$450K	Wilsey Ham (civil engineering), Quadriga (landscape design), Kevin Michael Perry (visioning)
Construction Management, Plant Establishment, Water Quality Monitoring	DWR-IRWM/ MTC-BATA	\$2M*	Harris and Associates/ MNS Engineering (CM), San Francisco Estuary Institute (Monitoring)
Construction Activities	Caltrans/ MTC-BATA	\$1.8M*	Ghilotti Bros, Inc.
El Cerrito 3 Site - Standalone	NRA-Strategic Growth Council/ MTC-BATA	\$720K*	Same as above
Total		\$4.97M*	*Final tally not in yet

An aerial photograph of a large body of water, likely a bay or estuary, with a green overlay at the bottom. The water is dark blue, and the surrounding land is a mix of green fields and brownish soil. In the distance, a long line of wind turbines is visible against a clear blue sky. The green overlay is semi-transparent and contains the text "Project Sites Constructed" in white.

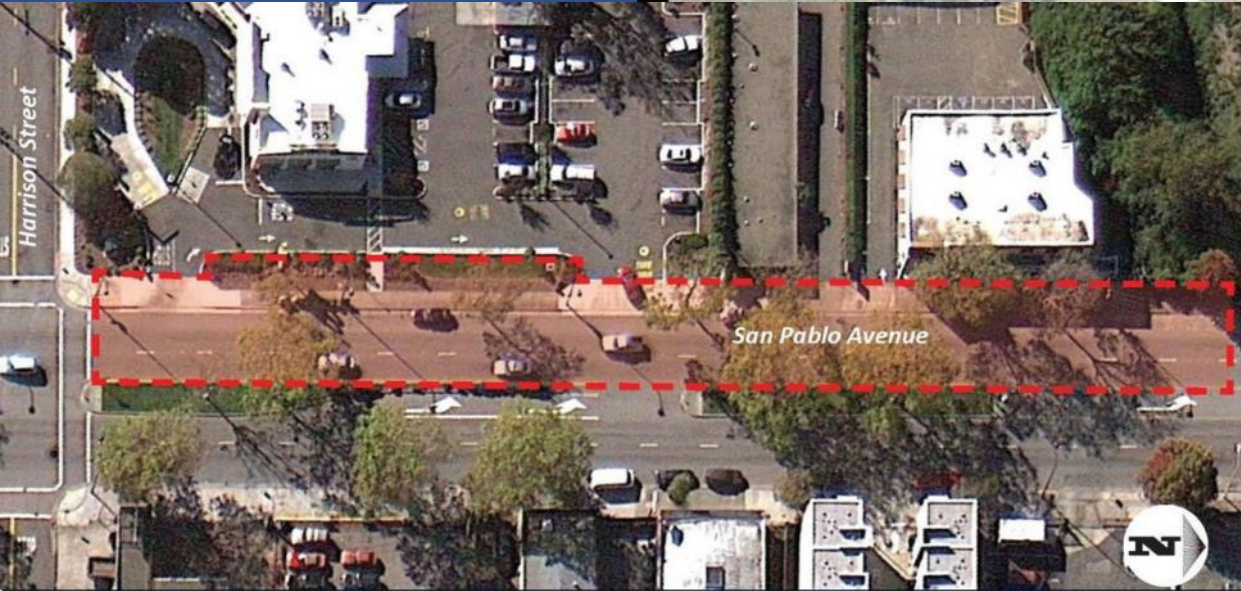
Project Sites Constructed



Berkeley Site - Before

Conceptual Design

Aerial View



Concept Plan

Scale: 1"=25'
January 2013

- 4 Sidewalk planter accepts stormwater from San Pablo Avenue. A small concrete curb wall helps provide grade separation and protection of existing signs and utilities. This will require acceptance and coordination of improvements with private owner.
- 5 An existing vegetated swale is modified to capture stormwater from both San Pablo Avenue and McDonald's parking lot. This will require acceptance and coordination of improvements with private owner.
- 6 Grated trench drains allow stormwater overflow to flow into a stormwater curb extension in San Pablo Avenue.
- 7 All existing trees are retained with streetscape improvements.
- 8 Boardwalk allows stormwater to follow under pedestrian pathway.

Water Spine Project

[new-Gen] |

Nevue|Ngan|Associates

QUADRIGA
landscape architecture and planning, inc.
sacramento | san jose | oakland

WILSEY HAM
ENGINEERING • PLANNING • SURVEYING

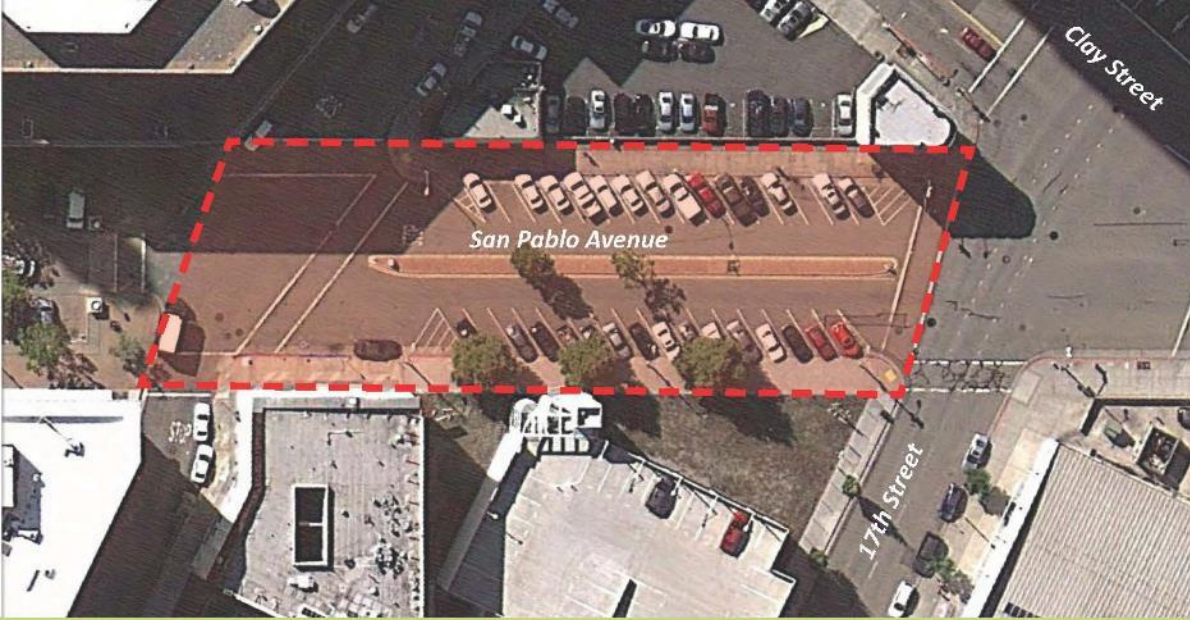
Berkeley Site - After



Oakland Site - Before

Conceptual Design

Aerial View



Improvement Concept Plan

Scale: 1"=20'
January 2013

- 1. Travel lanes remain as asphalt.
- 2. Proposed on both sides of the street.
- 3. Trees accept runoff from both San Pablo Avenue and adjacent property.
- 4. To access parking and sidewalks.
- 5. Parallel parking configuration allows for greater space efficiency along the street.
- 6. A 4.5' egress zone allows pedestrians to safely exit their vehicles and pay parking meters. The existing ADA marked parking stall is retained at this location.
- 7. The east side of San Pablo Avenue could be converted to mirror west side improvements in the future.

1 Opportunities:	Constraints:	Recommendation:
<ul style="list-style-type: none"> Proximity to city center provides high 	<ul style="list-style-type: none"> Parking demand is high and any loss 	<ul style="list-style-type: none"> This is the design team's f

Green Stormwater Spine Project



Oakland Site - After



El Cerrito Site - Before

Conceptual Design

Aerial View



1
LOCATION
Moeser Lane & San Pablo Ave

<p>Opportunities:</p> <ul style="list-style-type: none"> • Could potentially manage private stormwater along San Pablo frontage • Wide sidewalks and relatively low parking demand along San Pablo Avenue • Project site could potentially demonstrate multiple stormwater technologies for managing parking lot and street runoff 	<p>Constraints:</p> <ul style="list-style-type: none"> • Existing mature trees may limit the size and shape of stormwater planters • There needs to be agreement and coordination with private developer to manage stormwater along frontage • May need to remove upstream inlets in order to direct more stormwater to project site 	<p>Recommendation:</p> <ul style="list-style-type: none"> • The design team recommends this site in conjunction with Site # 2 due to low parking demand along San Pablo Avenue, the potential to manage private stormwater along the San Pablo Avenue frontage, and the potential to demonstrate multiple technologies for managing parking lot and street runoff
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San Pablo Avenue Green Stormwater Spine Project
City of El Cerrito, California (Urban Greening Site)

Stormwater Improvement Concept Plan

El Cerrito Site - After



El Cerrito (Urban Greening Site)
Moeser Lane and San Pablo Avenue

DESIGNED BY: **Nevue|Ngan** ASSOCIATES

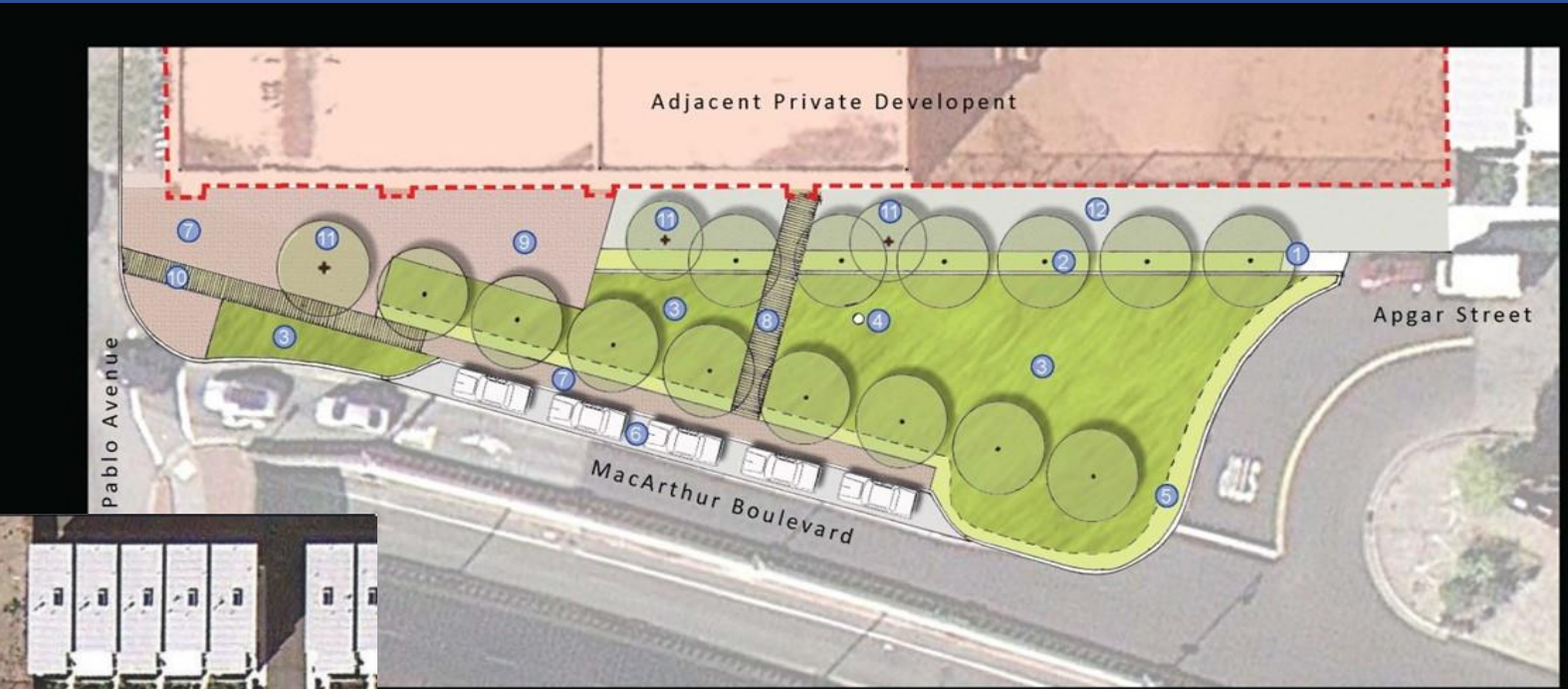
CONSTRUCTED BY: **QUADRIGA**

CONSTRUCTION MANAGEMENT BY: **WILBEY HAM**

Emeryville Site - Before

Conceptual Design

Aerial View



Movement Concept Plan

Scale: 1"=20'
January 2013

- 5 Side slope landscape transitions grade from street level to the basin's finished elevations.
- 6 On-street asphalt parking zone (Capacity is for five vehicles)
- 7 New sidewalk paving to match existing brick paving along San Pablo Avenue (by private development?)
- 8 Pedestrian boardwalk crossing over rain garden system.
- 9 Expanded sidewalk area overlooks rain garden cells and allow for addition space for cafe/plaza seating.
- 10 Overflow from rain garden system.
- 11 Existing street trees to remain.
- 12 Sidewalk zone to be paved with standard scored concrete.

Green Stormwater Spine Project



Emeryville Site - After



Emeryville Site
Aggar Street and San Pablo Avenue

NEWCO GROUP
Newco Group Associates

QUADRIGA
CONSTRUCTION MANAGEMENT

WILSEY
HARVEY
CONSTRUCTION MANAGEMENT

GREEN STREETS BLUE BAY

GREEN STREETS CLEAN POLLUTED WATER BEFORE IT DRAINS TO THE BAY

WHAT ARE GREEN STREETS?

When it rains, stormwater races off roof tops, sidewalks, and streets, picking up pollutants such as motor oil, heavy metals, pesticides, trash, and pet waste. The contaminated water typically flows untreated into storm drains, creeks, and ultimately into the San Francisco Bay.

Green Streets **collect** stormwater in specially designed basins, filled with carefully selected plants and soils. The plants and soil organisms **clean** the water by filtering and breaking down various pollutants. The cleansed stormwater **returns** to the storm drain system or soaks into the native soil (replenishing groundwater).

In addition to cleaning the water, Green Streets beautify the community, provide bird and insect habitat, and reduce localized flooding.

¿CUÁLES SON LAS CALLES VERDE?

Cuando llueve, las carreras de aguas pluviales fuera tejados, aceras y calles recogiendo contaminantes, tales como: aceite de motor, metales pesados, pesticidas, basura y desechos de mascotas. Esta agua contaminada normalmente fluye sin tratar en las alcantarillas, arroyos, y en última instancia en San Francisco Bay.

Calles Verdes **recoger** las aguas pluviales en las cuencas diseñadas especialmente llenos de plantas y suelos cuidadosamente seleccionadas. Las plantas y los organismos del suelo **limpian** el agua por filtración y romper varios contaminantes. El agua de lluvia limpia **vuelve** al sistema colector de aguas pluviales o empapa en los suelos naturales (agua subterráneas reposición).

Además de limpiar el agua, las Calles Verdes embellecer la comunidad, proveen hábitat de aves y de insectos, y reducir inundaciones localizadas.

EMERYVILLE GREEN STREET WATERSHED
Stormwater from the shaded 2 acre area indicated on the map is filtered and cleaned by the Green Street.

BEFORE THE GREEN STREET

SAN PABLO BAY
EMERYVILLE
SAN FRANCISCO BAY

Logos: SAN FRANCISCO ESTUARY PARTNERSHIP, natural resources center, STOPWASTE, OAKLAND

Challenges & Lessons

Major Lessons Learned

- **Integrate GSI into larger street improvement project rather than standalone retrofits**
- **Budget for utility investigations, coordination and accommodation!!!!**
- **Limit project to 2-3 separate jurisdictions!!!**
- **Need active participation & support from municipal partners!!**
- **Be flexible in project management: build low-hanging fruit projects earlier**
- **Communication with partners, funders, impacted businesses/residents is critical**
- **Any problem is solvable with enough time and money**



Thank You



San Francisco
ESTUARY
PARTNERSHIP

Have Questions?

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