

Stormwater Management Oversight Committee Meeting

April 18, 2018



Agenda

1. Minutes approval
2. Update on Green Stormwater Infrastructure Plan
3. Potential GSI projects in Palo Alto
4. FY 2019 Proposed Budget
 1. Proposed GSI tasks & budget
(long term and short term)
 2. Proposed CIP projects & budget
 3. Overall budget
5. Recommend approval memo on Proposed Budget





CITY OF PALO ALTO

GREEN STORMWATER INFRASTRUCTURE (GSI) PLAN

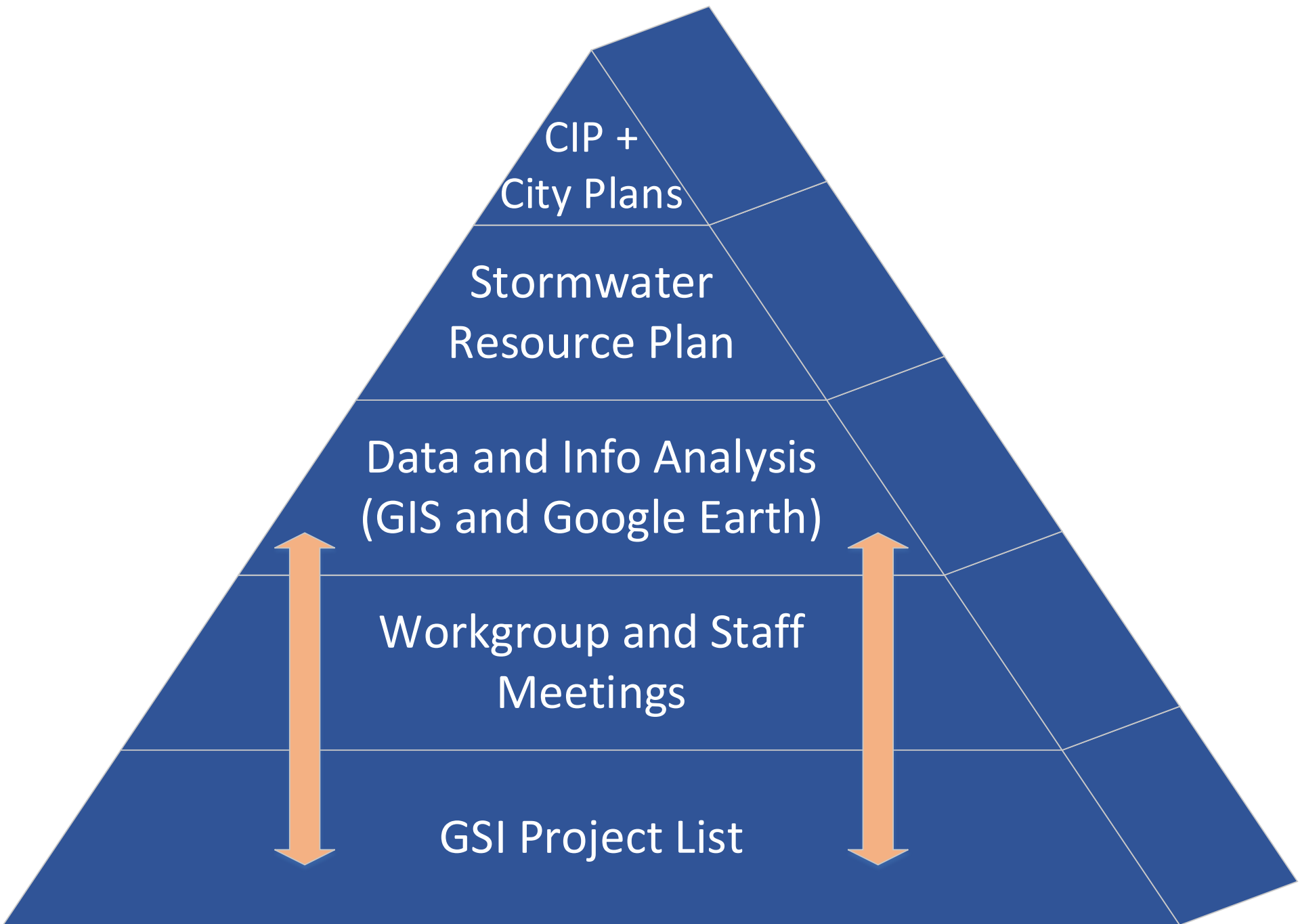
City of Palo Alto

Consultant Team:
EOA, Inc.
Schaaf & Wheeler
Olaunu

Presentation Overview

- (Current) Project Lists
- Prioritization Process
- Project Ideas
- Next Steps





Update on Stormwater Resource Plan

- Completed screening of public parcels for GSI opportunities
- Completed metrics analysis and prioritization of potential (screened and City-submitted) projects
- Selected subset of projects for hydrologic model analysis to quantify benefits and for possible conceptual design
- Preparing Administrative Draft SWRP
- Next stakeholder meeting – April 23, 1:30-3:30

Prioritization Methodology for Potential Projects

Points assigned
per metrics

Metrics - proxies for
effectiveness &
multiple benefits

Sum of points =
rank on list

Regional

Street

Parcel



Vetted SWRP list

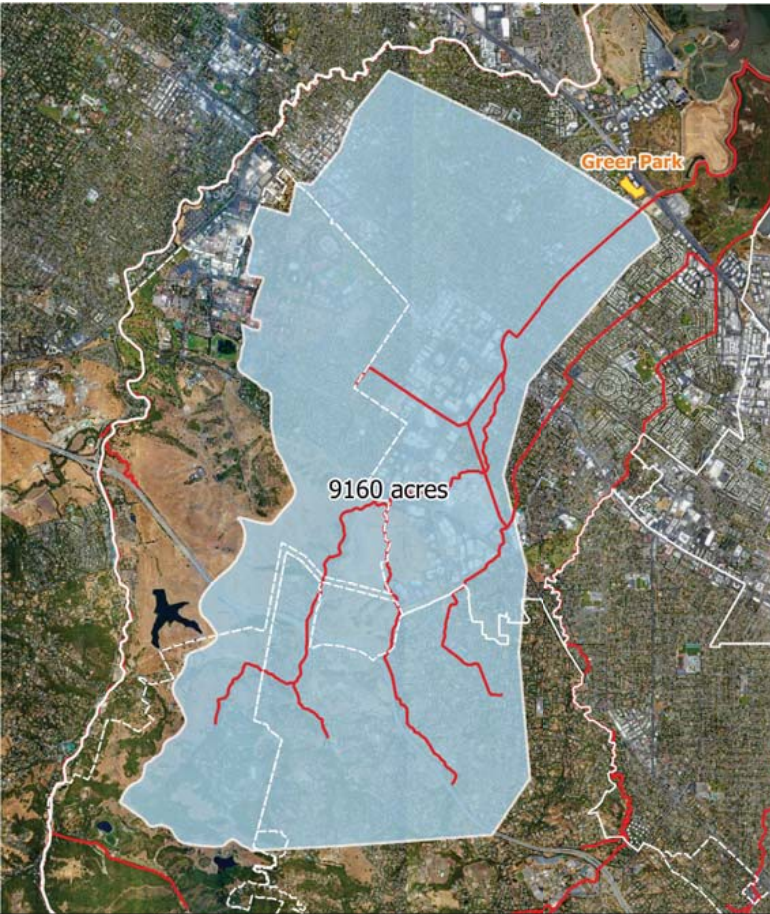
- Identified Capital Improvement Projects (CIPs)
- Potential redevelopment areas
 - Cal Ave. Priority Dev. Area
 - North Ventura Coord. Area Plan
- Surrounding properties: schools, parks
- Property ownership –public property ownership; added private property owners if leased by City
- Best Professional Judgement

High Priority Projects

- SWRP concept projects
 - Parks
 - Greer
 - Cornelis Bol
 - Green street
 - East Charleston b/wween
San Antonio & Independence Ave.
- GSI Plan project list
 - Top 10



Concept Project #1: Greer Park



Concept Project #1: Greer Park

Jurisdiction	Palo Alto	Los Altos Hills	Santa Clara County	TOTAL
Drainage Area (ac)	4,745	2,290	2,125	9,160
Imperv. Area (ac)	1,680	340	440	2,460
% Impervious	35 %	15 %	21 %	27 %

Concept Project #2: Bol Park



Concept Project #2: Bol Park

Jurisdiction	Palo Alto	Los Altos Hills	Santa Clara County	TOTAL
Drainage Area (ac)	1,360	1,720	845	3,925
Imperv. Area (ac)	215	220	50	485
% Impervious	16 %	13 %	6 %	12 %

Concept Project #3: E. Charleston Green St



Concept Project #3: E. Charleston Green St.

Jurisdiction	Palo Alto	Mountain View	TOTAL
Drainage Area (ac)	30	7.5	37.5
Imperv. Area (ac)	25.6	6.4	32
% Impervious	85 %	85 %	85 %

CIP +
City Plans

Stormwater
Resource Plan

**Data and Info Analysis
(GIS, Google Earth, City
data sources)**

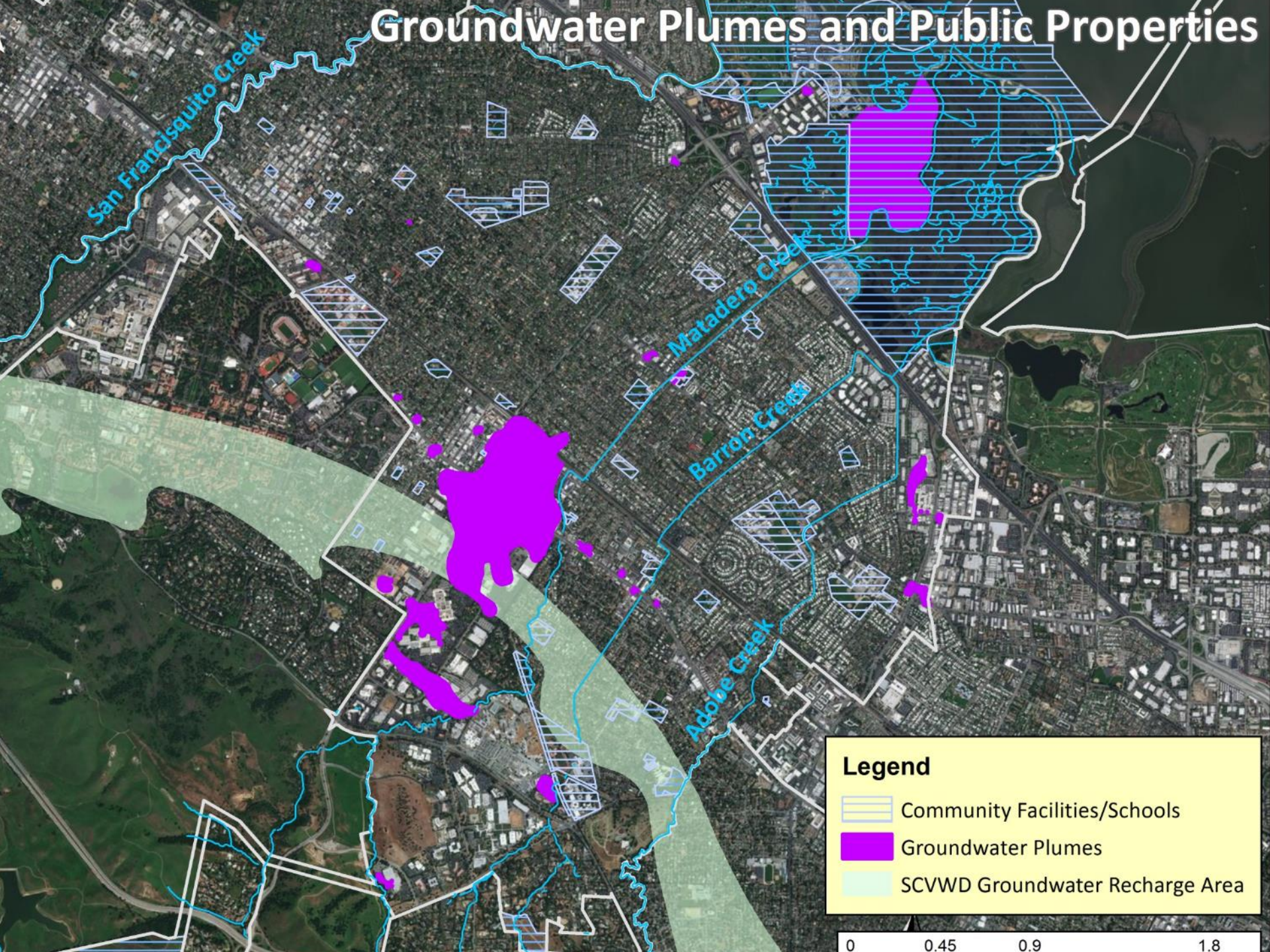
Workgroup and Staff
Meetings

GSI Project List




Suitability Mapping (Phase I)

- Using GIS to filter out projects
 - Slope ($\leq 15\%$)
 - Property ownership (public entities)
 - Speed limit (≤ 45 mph)
 - Groundwater plumes (no infiltration)

Groundwater Plumes and Public Properties



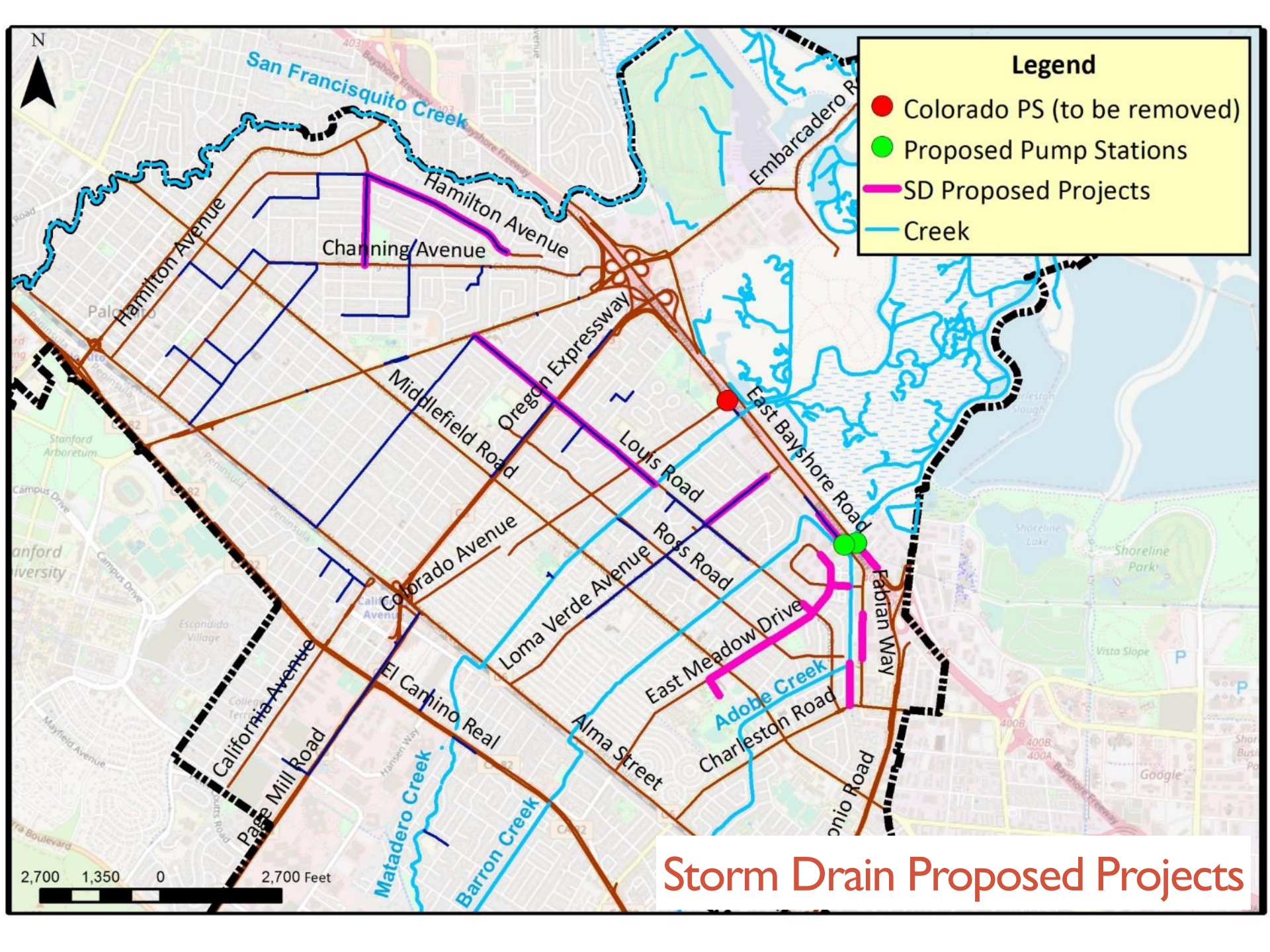
Legend

-  Community Facilities/Schools
-  Groundwater Plumes
-  SCVWD Groundwater Recharge Area

0 0.45 0.9 1.8

Prioritization Analysis

- Coordination with planned/proposed CIPs
- Street drainage issues (SDMP)
- Bike and pedestrian safety improvements
 - Safe Routes to School
- Potential redevelopment areas/Plans
 - Comprehensive Plan
 - Cal Ave. Priority Dev. Area
 - North Ventura Coord. Area Plan
- Pollutant of concern areas for PCBs & Trash
- Drainage area from SWRP
- Best Professional Judgement



Legend

- Colorado PS (to be removed)
- Proposed Pump Stations
- SD Proposed Projects
- Creek

2,700 1,350 0 2,700 Feet

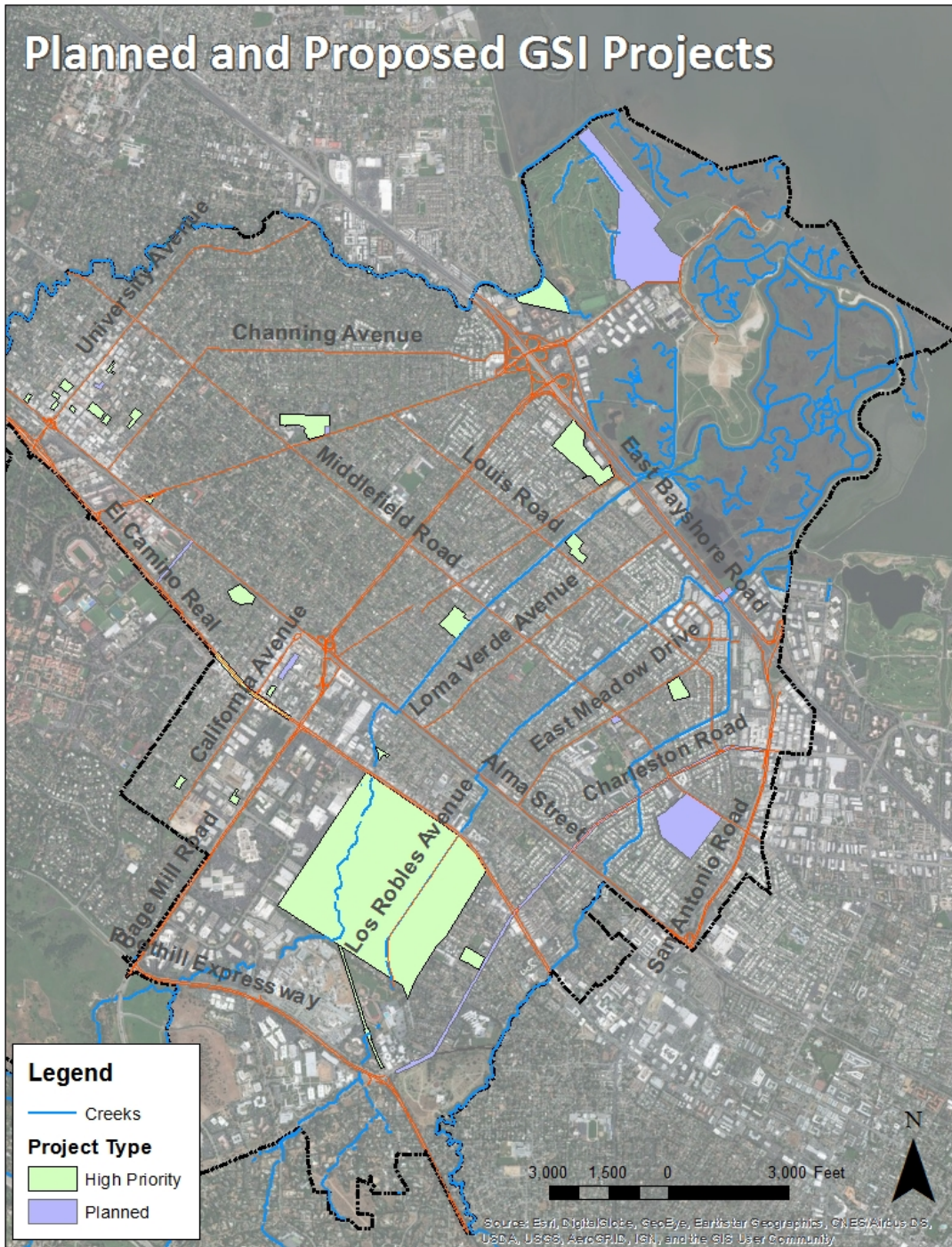
Storm Drain Proposed Projects

Feasibility Review

- Initiated field visits
- Meetings with staff
 - PWV Engineering
 - Parks re: maintenance needs/feasibility
 - Landscape Architect
- SWRP consultant support



Planned and Proposed GSI Projects



Planned and Proposed GSI Projects Northwest PA



Legend

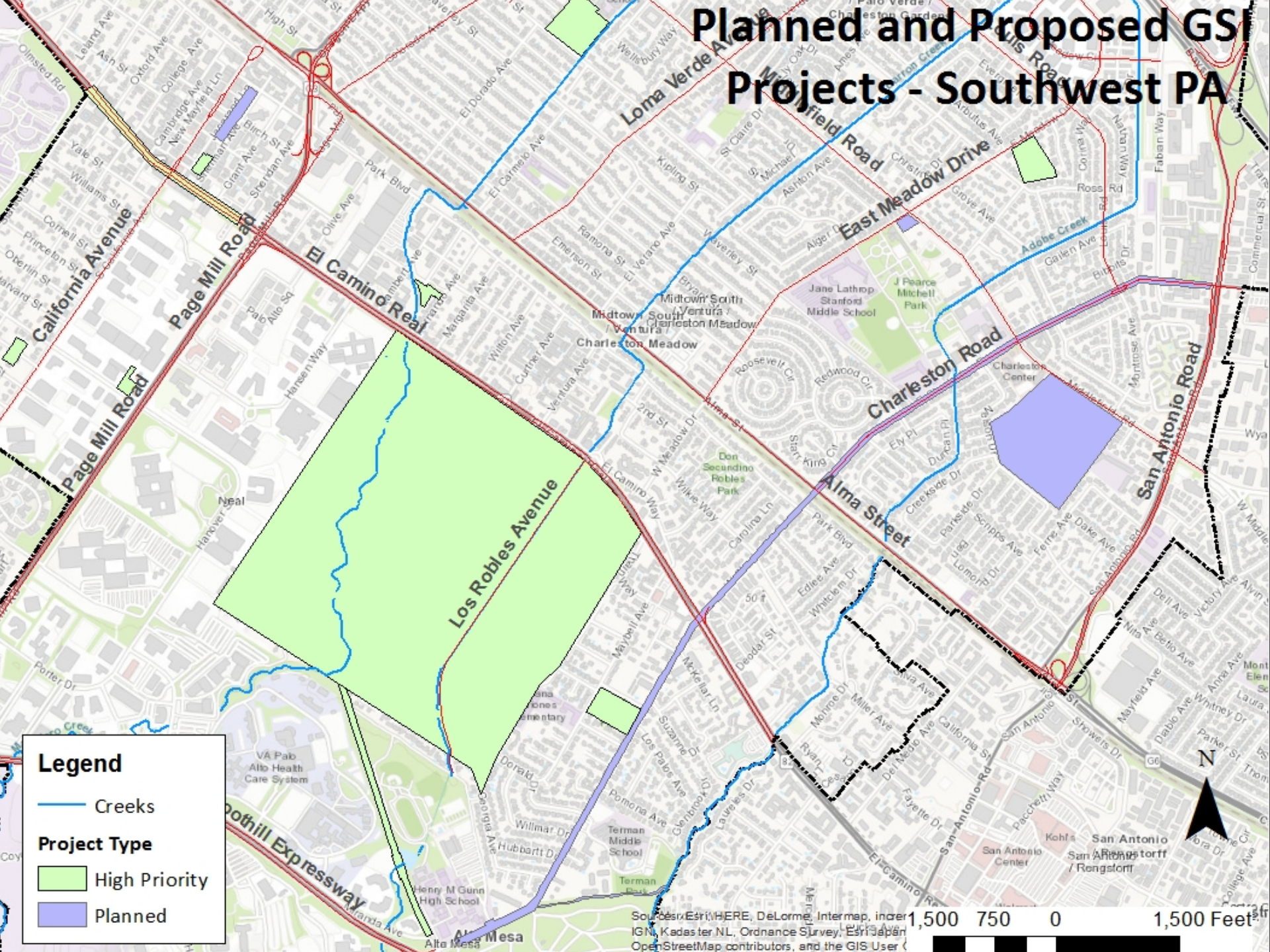
- Creeks
- Project Type**
- High Priority
- Planned

Sources: Esri, HERE, DeLorme, Intermap, increment P, IGN, Kadaster NL, Ordnance Survey, Esri Japan, IM, OpenStreetMap contributors, and the GIS User Community

910 455 0 910 Feet



Planned and Proposed GSI Projects - Southwest PA



Legend

- Creeks
- Project Type**
- High Priority
- Planned

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, United States National Imagery and Mapping Agency, Esri Japan, Swisstopo, Mapbox Contributors, and the GIS User Community

0 750 1,500 Feet

Planned and Proposed GSI Projects - Southeast PA

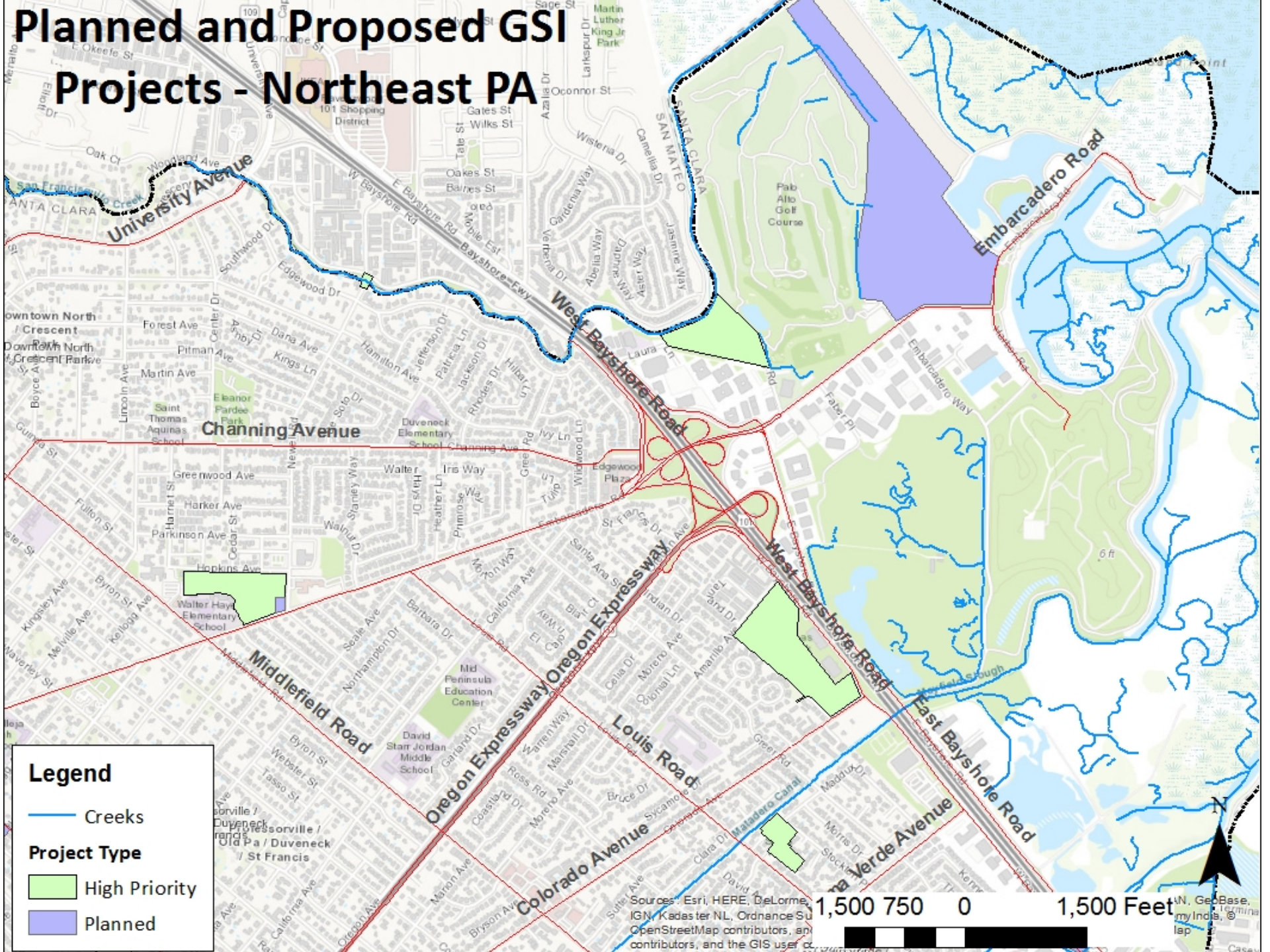


Legend

- Creeks
- High Priority
- Planned

1,000 500 0 1,000 Feet

Planned and Proposed GSI Projects - Northeast PA



Legend

- Creeks

Project Type

- High Priority
- Planned

Sources: Esri, HERE, DeLorme, IGN, Kadaster NL, Ordnance Survey, OpenStreetMap contributors, and the GIS user community

1,500 750 0 1,500 Feet

North Arrow

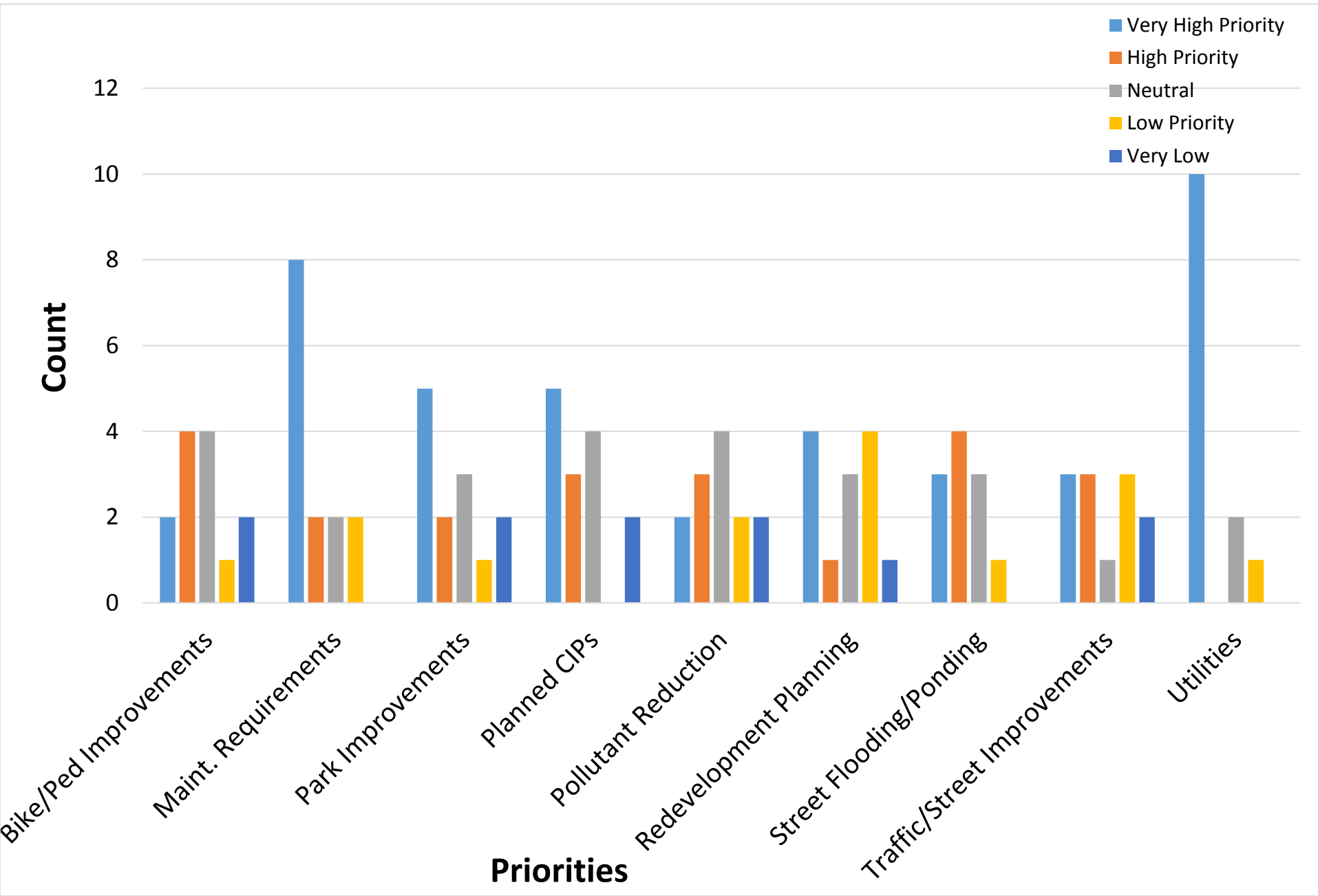
GSI Potential: To be explored

- North Ventura Coord. Area Plan
- Grand Initiative Ped/Bike Safety (El Camino Real between Stanford and Lambert)
- Barron Park neighborhood
- Downtown alleys
- Cloverleafs & landscape ROWs

Limited control

- Cubberley Community Center
- Railroad Grade Separation
- Oregon Expressway Underpass

Staff GSI Survey Results



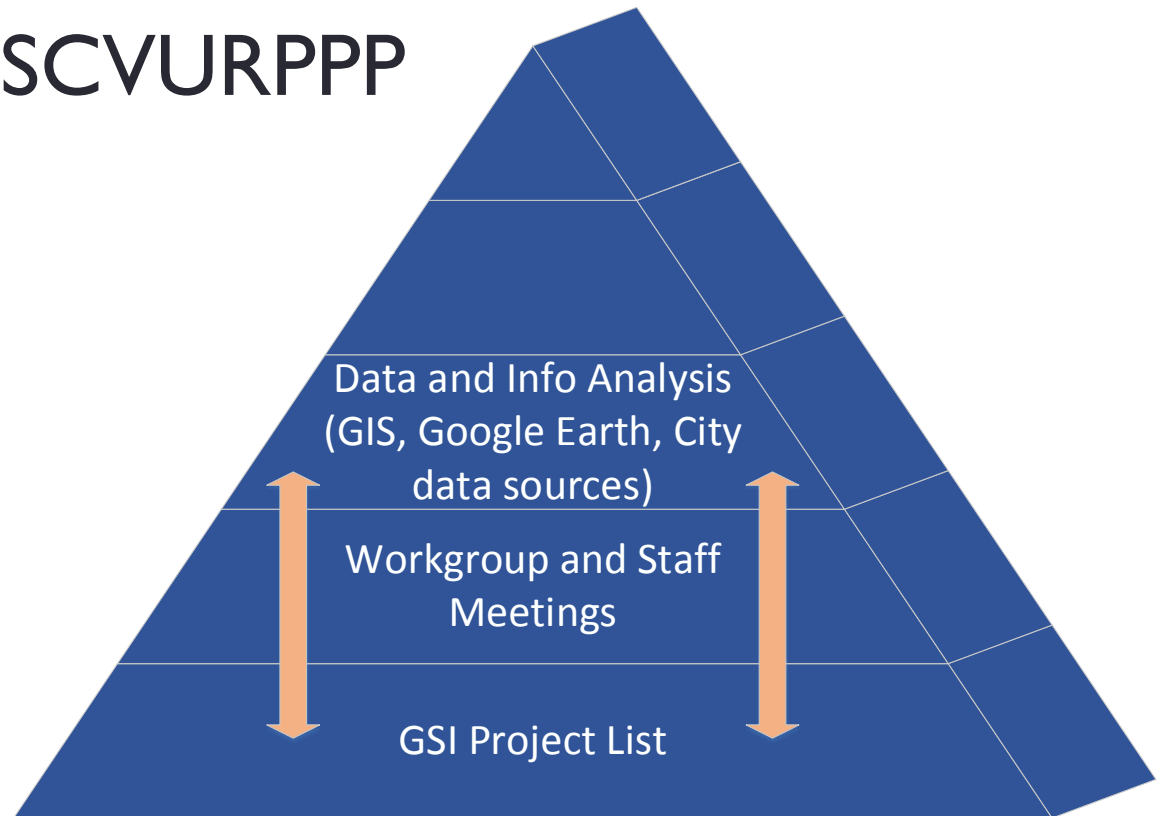
Next Steps

- Final draft list of projects
- Adjustments to SCVURPPP products
- 50% Plan
- Next Committee mtgs.
 - Mid August
 - Early December
- Feedback?



Next Steps

- Continuous update of project maps
- Adjustments to SCVURPPP products
- 50% Plan
- Feedback?



GSI Budget

- Long-term funding needs
- Short-term proposed costs

FY2019 Proposed Budget



- GSI Long-term funding needs
- GSI Short-term proposed budget
 - GSI
 - Innovative/Incentive
- CIP 5-year proposed budget
- Recommendation Memo

GSI Long Term Needs

Long-term Funding Need	Est. Cost
Grant writing consulting services	\$
Collaborating with requirements in other plans (e.g. Comp plan, Urban forestry plan)	\$
On-going maintenance at City facilities/green streets (currently estimated ~ \$100k/year)	\$
GSI Concept ideas/designs	\$-\$-\$
CIP GSI design	\$\$
New MRP requirements: GSI implementation-related	\$\$-\$\$\$
Pilot projects (e.g. Ventura - creek restoration)	\$\$\$
CIP GSI construction	\$\$\$\$

GSI Short Term Proposed Plan

	FY 2018 Adopted Budget	FY 2018 Projection	FY 2019 Proposed Budget	FY 2020 Projection
Green Stormwater Infrastructure	380	380	380	380
GSI - CIP Design/Construction	330 ^[1]	330 ^[1]	330 ^[1]	300
GSI - Consulting Services	35 ^[2]	35 ^[2]	50 ^[3]	40 ^[3]
GSI - Other unassigned tasks	15	15	0	40
Innovative Project	125	103	125	125
Innovative Project - GSI	0	0	30 ^[4]	35 ^[4]
Innovative Project - Rebates	125	3	95	90
Innovative Project - Other unassigned tasks		100		

^[1]Charleston / Arastradero CIP project GSI elements

^[2]Contract with EOA on development of GSI Plan

^[3]Contract service to develop GSI engineering spec document

^[4]Contract service to develop GSI maintenance and monitoring manual

Charleston/Arastradero Corridor

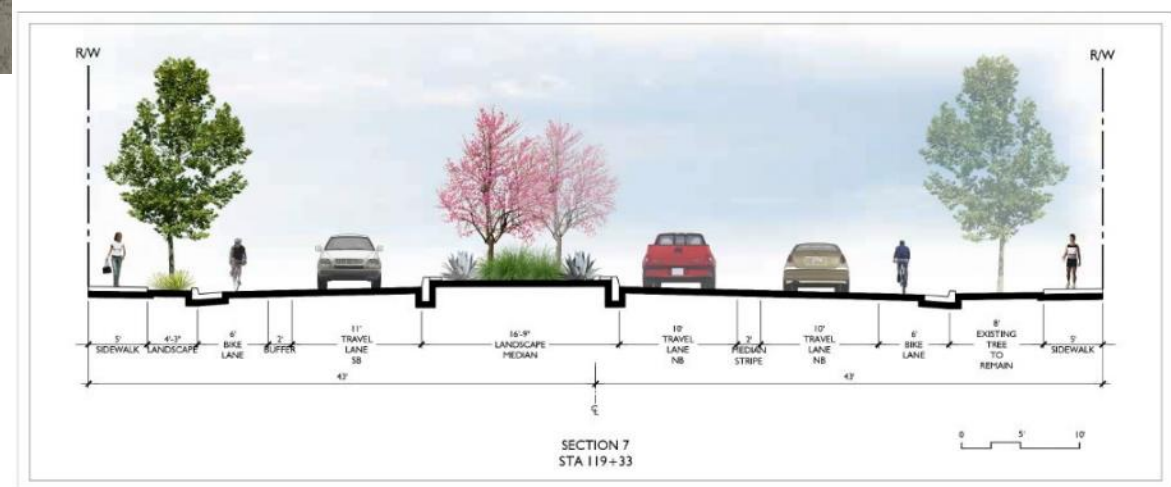
2.3 Mile Corridor from San Antonio Road to Foothill Expressway



Project Includes Installation of:

- 42,000 SF of landscaped medians, bulb-outs and bio-retention areas including 80 new street trees
- Widened sidewalks and bike paths
- ADA compliant curb ramps
- Traffic signal modifications and upgrades
- Street resurfacing and new pavement striping and markings

Charleston/Arastradero Corridor

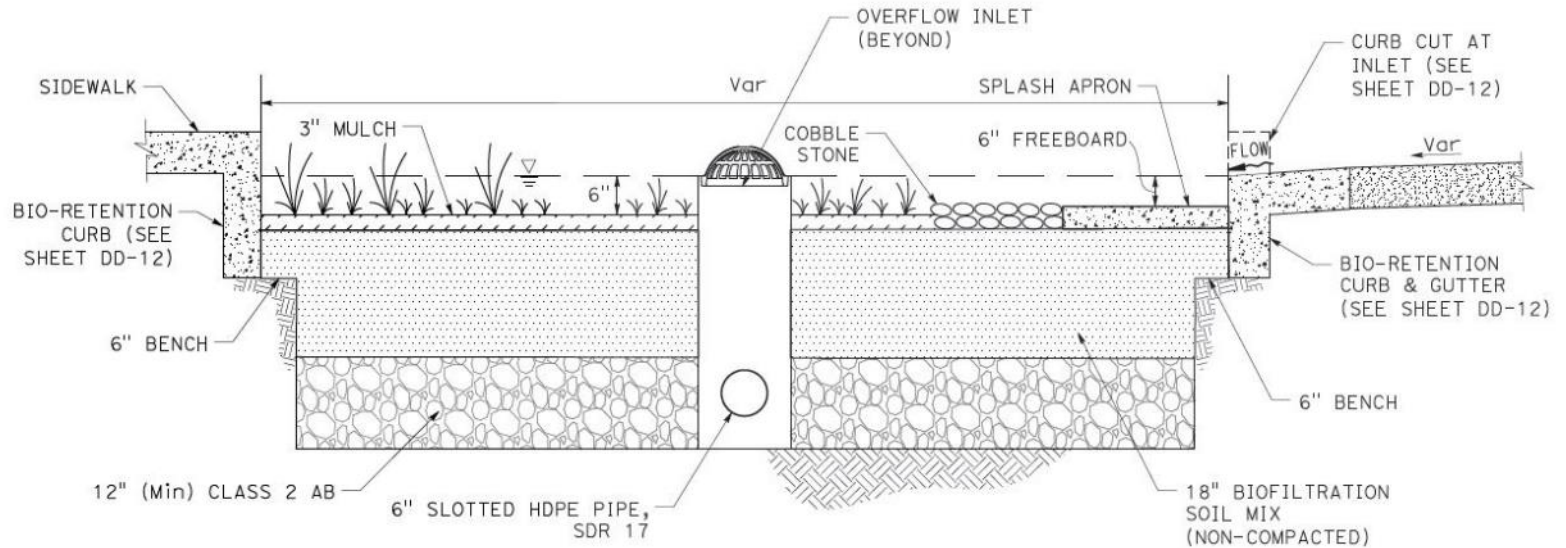


Charleston/Arastradero Corridor



- 8 bio-retention locations
- 4,500 square feet
- \$800K incremental cost vs. traditional landscaping

Charleston/Arastradero Corridor



**BIO-RETENTION PROFILE
(TYPICAL)**
NO SCALE

GSI Short Term Proposed Plan

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GSI Short Term Proposed Plan

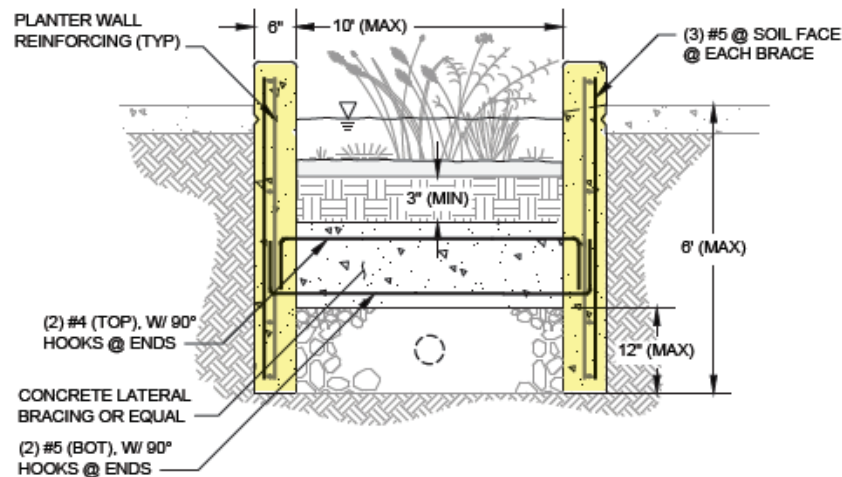


Maintenance and (Effectiveness)
Monitoring Manual

GSI Specifications (Engineering,
Utilities, Parks)

Design Guidelines

Concept designs



Planned CIP Projects

Recurring maintenance:

- Storm Drainage System Replacement and Rehabilitation

CIP in Ballot Measure

FY 2019

- Loma Verde Ave Trunk Line Improvement (#1)

FY 2020

- Corporation Way System Upgrades and Pump Station(#2)
- West Bayshore Road Pump Station (#4)

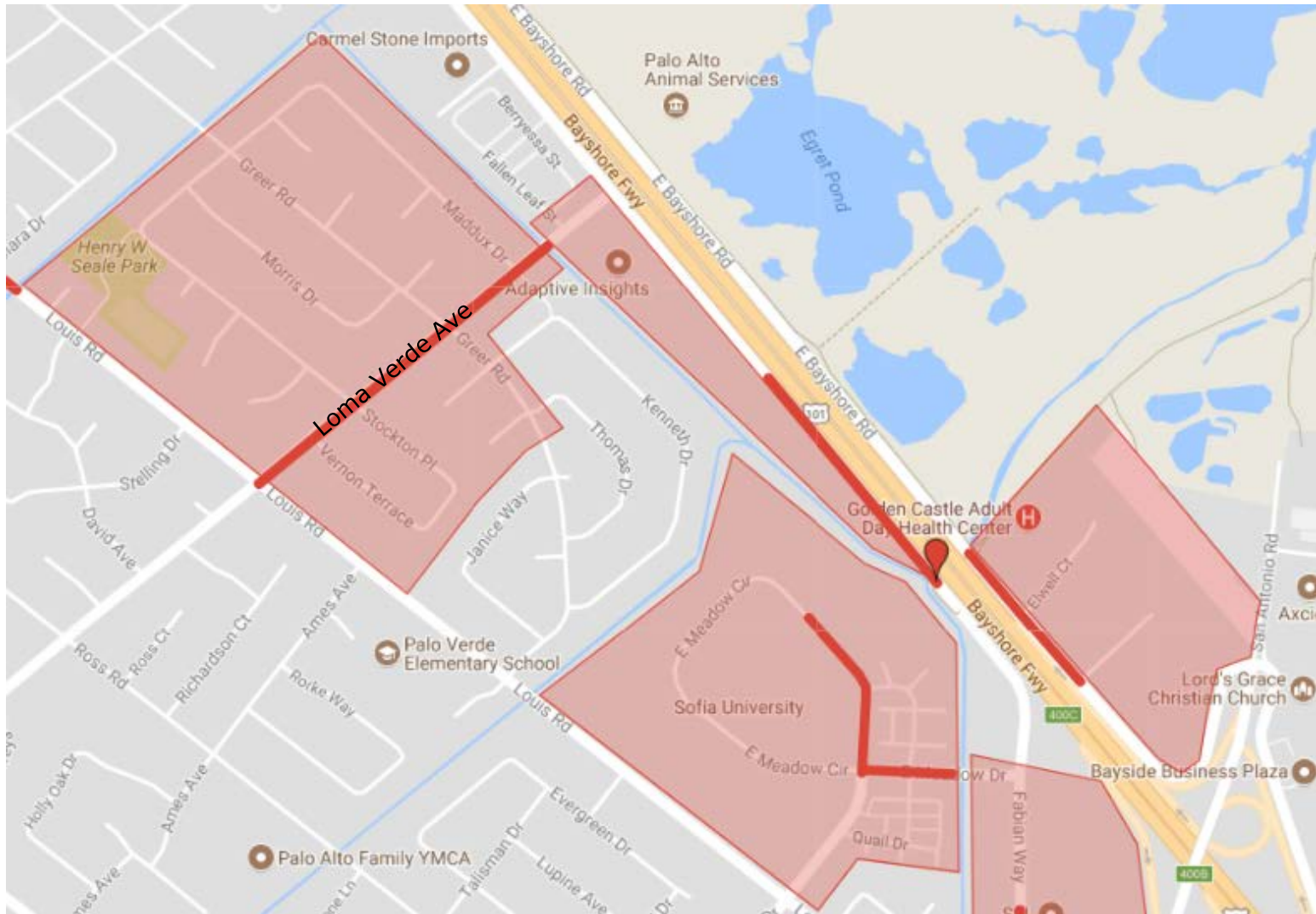
FY 2022

- East Meadow Drive System Upgrades (#7)

Planned CIP Projects

Capital Improvements Program (13)	FY 2019 Proposed Budget	FY 2020 Proposed Budget	FY 2021 Proposed Budget	FY 2022 Proposed Budget	FY 2023 Proposed Budget
SD System Replacement & Rehabilitation (SD-06101)	412	424	437	450	464
Projects identified from Ballot	2,200	400	1,840	1,620	1,892
Loma Verde Ave Trunk Line Improvements (#1, SD-19000)	2,200				
West Bayshore Road Pump Station (#4, SD-20000)		200	840		
Corporation Way System Upgrades and Pump Station (#2, SD-21000)		200	1,000	1,220	
East Meadow Drive System Upgrades (#7, SD-22000)				400	

Planned CIP Projects



FY2019 Proposed Budget

1. Questions
2. Draft Recommendation Memo

